Section 1
Nuclear Energy and Nuclear Weapons: An Introductory Guide

Nuclear Materials

All matter is comprised of basic building blocks, called atoms, which themselves contain 'sub-atomic' particles. These particles are of three types: protons, neutrons and electrons. Protons (positively charged particles), together with neutrons (uncharged particles) make up an atom's core or nucleus. Electrons (negatively charged particles) are usually identical in number to the protons but are found outside of the nucleus of the atom. All chemical elements are defined and distinguished from each other by the number of protons their atoms contain, termed their atomic number. Examples of atomic numbers are 1 for an atom of hydrogen and 94 for an atom of plutonium. The addition or removal of electrons from atoms is the fundamental process behind chemical reactions. However, the number of protons and neutrons in the nucleus cannot be altered by chemical processes.

Protons and neutrons have much greater mass than electrons, and the total number of protons and neutrons gives elements a property known as their mass number. While all atoms of an element must have the same number of protons, they may contain differing numbers of neutrons. These variants are called isotopes of the element. Each isotope has different nuclear properties and mass numbers, but their chemical properties are effectively identical: thus, they can only be separated by making use of their differing masses, and not by chemical means.

Isotopes are normally identified by their mass number – the total number of their protons and neutrons. Thus, 'uranium 235', often shortened to the notation '^{235}U' (or 'U-235') indicates the isotope of uranium that contains 235 protons (92) and neutrons (143) in the nucleus of each atom. 'Plutonium 239', or '^{239}Pu' (or 'Pu-239') indicates the isotope of plutonium that contains 239 (94+145) protons and neutrons in the nucleus of each atom. The total number of protons and neutrons and the ratio between them determine whether the isotope is stable. When the mass number gets too large, or the ratio of protons and neutrons strays from a stable range, the isotope becomes unstable and will undergo various processes to move towards stability. Many of these processes involve the emission of sub-atomic particles and/or energy, known as radiation. Unstable isotopes are thus radioactive, and the more unstable they are, the more rapidly they will emit radiation, through a process known as radioactive decay.

There are several definitions for nuclear materials according to the context in which the term is used. In general, the term nuclear material refers to materials which may be used in a nuclear reaction to achieve some desirable outcome, such as energy generation or an explosion. This contrasts with radioactive materials, which emit radiation but are not normally useful in nuclear reactions as defined below. Both types of materials have both peaceful and military applications, and thus must be suitably managed.

Nuclear Reactions

Fission

Nuclear fission is the splitting of the nucleus of an isotope into two or more parts. This is a process which normally only occurs when heavy elements, such as uranium and plutonium, are bombarded by neutrons under favourable conditions. Not all isotopes of these elements fission under such circumstances; those that do are called fissile materials. The most frequently used fissile materials are the isotopes uranium 235 (U-235) and plutonium 239 (Pu-239). Some isotopes are not fissile but can be converted to a fissile form under neutron bombardment. These isotopes are called fertile materials and include isotopes such as thorium 232 (Th-232), which, following the absorption of a neutron, will undergo radioactive decay to become the fissile isotope uranium 233 (U-233).

Fissile isotopes are not found in their pure form in nature. U-235 forms only 0.7 per cent of the uranium in natural ore, with the remainder being mostly made up of fertile U-238. Plutonium does not exist at all in nature and must be manufactured from uranium. This is done by placing it inside a reactor, where some U-238 nuclei will capture slow moving neutrons to form fissile Pu-239.

When a fissile material is bombarded with neutrons, it splits into atoms of lighter elements. This process releases large quantities of energy and neutrons. If these neutrons hit and split additional fissile nuclei, more neutrons are released to continue the reaction. If there is a sufficient concentration of atoms of fissile isotopes within a given space this reaction will be self-sustaining. This is a 'chain reaction'.

The smallest amount of material required for a chain reaction is known as a critical mass. This may be affected by variables such as the concentration of the fissile isotopes in the material; the purity of the material — the presence of other isotopes will increase the critical mass by reducing neutron re-absorption; its density — if it is compressed the critical mass is reduced; its physical configuration — a sphere or some other shape; and neutron leakage — this can be reduced if steps are taken to reflect escaping neutrons back into the mass.

Fusion

Fusion takes place when two nuclei of light elements such as hydrogen fuse together to make a heavier nucleus. While this process releases much larger quantities of energy than the fission process, it also requires large amounts of energy to initiate it. Nuclei have overall positive electrical charges due to their being composed of positively charged protons and uncharged neutrons. For fusion to occur, the electrical repulsion forces that arise between the positively charged protons in the two nuclei must be overcome, and temperatures of over 100 million degrees Celsius are normally required for this to occur. The most frequently used materials to generate fusion reactions are gaseous tritium (H-3), deuterium (H-2) and the solid Lithium-6 Deuteride (^{6}Li^{2}H), which when heated to the temperature of the fusion reaction breaks down into tritium and deuterium.

Nuclear Reactors

Fission Reactors

There are several features common to all fission reactors, which are more commonly known by the general term nuclear reactors.

The first of these is that they contain a core or mass of fissile material (the fuel) which may weigh from a few kilograms to tens of tons, within which energy is produced by sustaining a regulated chain reaction. The fissile material used varies between reactor types, but it may be natural uranium (which contains 0.7 per cent fissile U-235) or uranium which has been enriched to increase the percentage of U-235 to around 3-5 per cent. Commonly, this is in the chemical form of uranium dioxide (UO_2), rather than pure uranium, as this gives several advantages. Alternatively, plutonium 239 produced by the irradiation of U-238 in a reactor, or uranium 233 (U-233) produced from thorium 232 (Th-232) may be used, or a combination of these mixed with uranium (mixed oxide fuels or MOX). This fuel is usually in the form of small cylindrical pellets which are assembled into rods or pins and clad in a gastight containment material such as stainless steel or a zirconium-based alloy. Commonly, a number of these rods will be then manufactured into a larger fuel assembly or bundle, which will then be inserted into the reactor.

A second related feature is the presence of a means of regulating the chain reaction. This normally takes the form of control rods comprised of a material which absorbs neutrons, and which can be inserted into the core to reduce the rate of fission or to shut down the reactor. They are often manufactured from isotopes of boron, cadmium, hafnium or silver. Other methods of regulating the chain reaction include chemical shim control, where low concentrations of neutron absorbing elements are flowed through the reactor in liquid form, and liquid zone control, where tubes within the reactor can be filled or emptied or neutron absorbing liquid.

The fissile material of a reactor is usually surrounded by a third common feature, a moderator. This material is chosen for its ability to slow down faster neutrons so that these can more easily interact with fissile nuclei and initiate fission, and thus maintain the chain reaction. Common moderator materials include ordinary (or light) water, heavy water (deuterium oxide) and graphite. Moderators are used in almost

all operating reactors today, but a few so-called fast reactors have operated without moderation and these reactors have the potential to offer benefits in the future.

A fourth common feature is a means of removing the heat produced by the chain reaction from the core of the reactor. This cooling system can also provide the heat and steam to drive turbines and thus generate electricity. Common coolant materials include light water, heavy water and carbon dioxide gas, although some advanced reactor designs propose the use of helium gas, liquid metals and liquid salts.

Finally, there is a containment pressure vessel which serves to hold the radioactive core and other materials and contain the radiation emitted by the core, shielding personnel and equipment from the strong radiation field. Lining this vessel is a reflector which increases the efficiency of the fission process. In addition, a reactor will itself normally be surrounded by a further thick containment structure, often manufactured from several metre-thick reinforced concrete, whose purpose is to contain any release of radioactivity and prevent it escaping into the surrounding environment.

Reactors have been built to serve four broad purposes. First, a significant proportion of the reactors in the world are large units designed to produce steam to drive turbo-generators, and thus to generate electricity for civil uses. Second, there are smaller units of a similar type which are used in naval vessels, especially submarines and icebreakers, to generate electricity for propulsion purposes or to drive turbines. Third, there are many small materials testing and research reactors, which usually have no turbo-generators attached and are used mainly for experimental purposes. For many years these used small kilogram quantities of highly enriched uranium as fuel, but the proliferation potential of this material has led to a global attempt to replace it with fuel of lower enrichment. Finally, there are large units used by the nuclear-weapon states to produce plutonium for military explosive purposes, some of which do not have turbo-generators attached to them.

There exist five different major nuclear reactor technology categories, which are outlined below. These categories are not exhaustive, and some reactor designs are not captured here.

Light Water Reactors (LWRs)

This is the most widespread power reactor type found in the world today. It uses low enriched (3-5%) uranium as fuel, which enhances its efficiency as an electricity generator by enabling the fuel to remain in the reactor for a greater duration. It uses ordinary (light) water as both a moderator and coolant. There are two variants of this reactor type, Pressurized Water Reactors (PWRs) and Boiling Water Reactors (BWRs), the chief difference between them being in their method of producing steam to make electricity. Small LWRs are also used to power submarines and other naval vessels. LWRs are a costly and inefficient way of producing Pu-239.

Heavy Water Reactors (HWRs)

In these type of reactors, heavy water is used as both the moderator and coolant. Heavy water is differentiated from ordinary water in that it is formed from deuterium oxide (^2H_2O) rather than hydrogen oxide (H_2O). Heavy water absorbs so few neutrons that it permits the use of natural uranium as fuel. The most common family of HWRs are the Canadian CANDU reactors. Being unenriched, the fuel only remains in the reactor for a relatively short time before being discharged, and thus relatively large quantities of highly radioactive used fuel are produced. It is a good producer of plutonium, and this type of reactor has been used in the United States without any turbo-generators attached to produce materials for weapon purposes. When seeking to produce Pu-239, rather than to minimize electricity generation costs, fuel re-loading takes place more frequently, producing a product with greater isotopic purity. Thus, a distinction between civil and military use is the length of time the fuel remains in the reactor.

Gas Cooled Reactors (GCRs or MAGNOX)

These are moderated with graphite and cooled with carbon dioxide gas. Older designs use natural uranium fuel encased in a magnesium oxide-based cladding called MAGNOX. As this material corrodes if stored in water, it needs to be reprocessed for environmental and safety reasons. Its design originated in the reactors used to produce plutonium for military purposes in France, the United Kingdom and the USSR. More modern GCRs typically use enriched uranium oxide fuel clad in zirconium alloy or stainless steel but retain graphite moderators and carbon dioxide cooling.

High Temperature Gas Cooled Reactors (HTGRs)

The HTGR is cooled with helium gas and moderated with graphite. Highly enriched uranium is used as fuel (93 per cent U-235), though this may be mixed with Th-232. The attraction of this type of reactor is that much of the uranium in the fuel is burned up, requiring infrequent reloading, and the extremely high operating temperatures enable it to be linked to very efficient, modern turbo-generators when used to produce electricity. Novel fuel forms are being considered for this reactor type, such as spherical “TRISO” pebbles several centimetres in diameter, which will be loaded into the reactor core from above and gradually removed at the base, analysed, and either re-introduced if they are suitable for further use or disposed of.

Liquid Metal Fast Breeder Reactors (LMFBRs)

Breeder reactors normally have a core of highly enriched uranium or plutonium, which can produce enough surplus neutrons to convert U-238 in a blanket around the core into Pu-239 at a rate faster than its own consumption of fissile material. They thus produce more fissile material than they consume. They operate without a moderator and at very high temperatures. The coolant is normally a liquid metal, such as sodium, which allows for the rapid removal of heat. These reactors have traditionally been seen as a means of utilising the plutonium and separated waste materials produced by the other types of reactor but are also capable of producing plutonium ideal for use in weapons.

Fusion Reactors

Although many attempts have been made to produce a working fusion reactor, these only exist in experimental form. The temperatures at which fusion is achieved are so great that no known material will hold the fusing materials. Containment of the material is being attempted using magnetic fields. Fusion reactors are still at the stage of physics research, and it is likely to still be several decades before useful fusion energy systems are developed which consistently and reliably output more energy than they consume in a form suitable for connection to energy grids.

Nuclear Weapons

Fission Devices

A fission weapon or device is designed so that a critical mass of fissile material can be assembled and held together before the device blows itself apart. The yield of the weapon is determined by the amount of fissile material involved, the number of nuclei which undergo fission, and the number of generations of fissions that can be achieved before disassembly takes place.

A simple fission weapon design, also known as a first-generation nuclear weapon, can be of either the ‘gun barrel’ or ‘implosion’ type. A gun device involves bringing together rapidly two sub-critical masses of highly enriched uranium by propelling one of them with an explosive along a thick tube or gun-barrel so that it impacts with considerable velocity upon the other. This creates conditions for a chain reaction. This method is conceptually simple but the explosive power of the weapon tends to quickly force the fissile material apart so that little of the material goes through the fission process. It is therefore relatively inefficient in its use of fissile material. This method cannot be used with plutonium, as it will not assemble a suitable critical mass rapidly enough.

An implosion weapon works by compressing a sub-critical spherical mass of fissile material until it becomes critical. The fissile material is surrounded by a neutron reflector, usually of beryllium, and a heavy metal tamper of either U-238 or tungsten. Surrounding this assembly is a further hollow sphere of conventional explosives. If the conventional explosive can be detonated so as to produce a uniform, symmetrical implosion, the tamper is propelled inwards into the sphere of fissile material and compresses it into criticality. The forces generated by the conventional explosives then contain the gaseous sphere of fissile materials while many repetitions of the fissile reaction occur, and the full yield of the device is produced. The engineering required to design and construct a device capable of delivering an effective implosion is much more complex than that required for a gun-type device.

A sub-category of fission devices is salted fission weapons. These weapons include highly radioactive materials as part of their design,

with the objective of dispersing these materials over a target area and thus making it uninhabitable.

Boosted-Fission Devices

A fission device can be 'boosted' to increase its yield by placing within its core a small quantity of fusion material, such as tritium. At the great temperatures and pressures found within the gaseous core of an exploding device, this material fuses and releases an extra quantity of neutrons which, in turn, produce additional fissions in the uranium or plutonium used in the device. More of the fissile material is thus consumed than in a simple fission device, the efficiency of the fission process is improved, and a higher yield produced.

Fusion (Thermonuclear) Devices

The energy released by such a device, also known as a second-generation nuclear weapon, arises primarily from nuclear fusion in isotopes of hydrogen such as tritium and deuterium. A large energy source, such as a fission device, is needed to start a fusion reaction. A fusion weapon thus has at least two stages which contribute to the yield, the fission trigger or primary device and the thermonuclear secondary device. In addition, these two devices may be contained in a shell of U-238 which constitutes a third stage of the device. This material, whilst it cannot maintain a self-sustaining fission explosion, can be made to fission where there is a constant external supply of fast neutrons from other fission or fusion reactions. There can be any number of fission-fusion-fission-fusion steps, and so no limit in theory to the size and yield of a thermonuclear weapon. Given the need for at least one fission stage, and the need to contain and direct the energy of this fission stage into the fusion material prior to weapon disassembly, fusion devices represent a much greater technical challenge than fission weapons.

Nuclear Testing

Different types of testing are needed to develop and build an operational nuclear explosive device. It is possible to test the functioning of a nuclear weapon with a high degree of reliability not only in a full-scale nuclear explosion, but also through sophisticated tests conducted on a smaller scale. The implosion mechanism of a nuclear weapon can be studied with the help of hydrodynamic experiments (HDEs) where the fissile material in the core is replaced by non-fissile substances. The first stages of an explosive nuclear chain reaction may be observed in hydro-nuclear experiments (HNEs) where only a small amount of fissile material is placed in the core of a device, allowing it to sustain a nuclear chain reaction for a few generations only. Additionally, subcritical experiments and other laboratory experiments (e.g. nuclear fusion induced by laser ignition) can be used to get a better understanding of the physical processes involved in the development, design and construction of a nuclear explosive device. Equipment used in such testing is highly sophisticated, and international trade in this equipment is tightly controlled to prevent it being used for nuclear weapons development purposes.

Weapon-Grade Fissile Materials

The size of a fission device is directly related to the concentration of fissile isotopes in the material in the core. For purposes of producing a practical weapon, the minimum enrichment required for uranium is about 50 per cent. However, to enable compact, light designs to be produced, the present nuclear powers are assumed to use in their weapons about 10–25 kilos of uranium enriched to over 90 per cent U-235. This enriched uranium is produced in an enrichment plant (see below).

Plutonium is often preferred to uranium in weapon designs, as less plutonium than uranium is required to produce a given yield — about 5–8 kilos is assumed to be required for a simple device. Plutonium with 93 per cent or above Pu-239 constitutes weapons grade material, though there are claims that devices have been exploded using plutonium with much lower concentrations of this isotope. Such weapons, however, tend to have uncertain yields and give off dangerous radiation, so the higher concentrations are preferred.

Higher plutonium isotopes (e.g. Pu-240, Pu-241, etc.) are produced in reactors alongside Pu-239, and the Pu-239 isotopic purity decreases with neutron exposure, which is proportional to time spent in the reactor. All fission reactors produce plutonium, but reasonably pure Pu-239 can only be obtained by withdrawing the uranium fuel after a short period (2–6 months) in the core. Shorter time leads to greater purity, but lower product quantity. If the fuel is left in for a longer period, significant amounts of Pu-240 and other heavier isotopes will be contained in the plutonium, many of which are not fissile. Typically, Light Water Rectors (LWRs) will have plutonium in their used fuel which has a concentration of Pu-239 below 80 per cent. Plutonium is obtained from spent reactor fuel through a chemical process known as reprocessing.

Enrichment

Uranium must be enriched if it is to be used in certain reactor types and in weapons. This means that the concentration of fissile U-235 must be increased by physical, rather than chemical, means before it can be fabricated into fuel. The natural concentration of this isotope is 0.7 per cent, but a concentration of 3 per cent is necessary in order to sustain a chain reaction in an LWR. Some 90 per cent enrichment is required before use in the majority of submarine propulsion units or fission weapons. This process of enrichment is not linear, and as much enrichment effort, or 'separative work' as it is usually termed, would be required to produce 1 kg of enriched uranium by going from 0.7 to 13.5 per cent as from 13.5 to 90 per cent.

There are six main techniques for increasing the concentration of U-235:

Gaseous Diffusion

This was the first method of enrichment to be commercially developed. The process relies on a difference in the mobility of different isotopes of uranium when they are converted into gaseous form. In each gas diffusion stage, uranium hexafluoride gas (UF_6) is pumped under pressure through a semi-permeable membrane, such as a porous nickel tube, through which the lighter gas molecules containing U-235 pass more rapidly than those containing U-238. This pumping process consumes large amounts of energy. The gas which has passed through the membrane is then pumped to the next stage, while the gas which has not passed through is returned to lower stages for recycling. In each stage, the concentration of U-235 is increased only slightly, and enrichment to reactor grade requires a facility of approximately 1200 stages. The set of linked stages is known as a cascade. Enrichment to weapons grade requires a cascade of about 4000 stages. Industrial scale facilities of this type require electricity supplies of hundreds of megawatts of power, enough to justify an at least partially dedicated nuclear power plant to power them.

Gas Centrifuge

In this type of process, uranium hexafluoride gas is introduced into a series of rapidly spinning cylinders, or centrifuges. The heavier U-238 isotopes tend to move to and concentrate at the outer part of the centrifuge at a faster rate than the lighter molecules containing U-235, which concentrate closer to the centrifuge centreline. The gas at the centre is removed and transferred to the next centrifuge in the cascade, where the process is repeated. Gas from the outside is recycled to earlier stages of the cascade to extract remaining U-235. As it moves through a succession of centrifuges, the gas becomes progressively richer in the U-235 isotope. Electricity requirements for this process are relatively low compared with gaseous diffusion, and as a consequence this process has been adopted for most new enrichment plants.

Aerodynamic Separation/Becker Process

The Becker technique involves forcing a mixture of uranium hexafluoride gas and either hydrogen or helium through a nozzle at high velocity and then over a surface in the shape of a curve. This creates centrifugal forces which act to separate the U-235 isotopes from the U-238. Aerodynamic separation necessitates fewer stages to achieve comparative enrichment levels than either gaseous diffusion or gas centrifuges but consumes much more energy.

Laser Enrichment

The laser enrichment technique involves a three stage process: excitation, ionization and separation. There are two techniques to achieve these effects, the 'Atomic' approach, and the 'Molecular' approach. The Atomic approach is to vaporize uranium metal and subject it to a laser beam at a wavelength that excites only U-235 molecules. The vapour is then exposed to a second laser beam that ionizes the U-235 atoms, but not the unexcited U-238 atoms. Finally, an electric field sweeps the U-235 atoms onto a collecting plate. The

Molecular approach also relies on differences in the light absorption frequencies of uranium isotopes and begins by exposing molecules of uranium hexafluoride gas to infrared laser light. U-235 atoms absorb this light, thereby causing an increase in their energy state. An ultraviolet laser can then be used to break up these molecules and separate the U-235. This process has the potential to produce very pure U-235 with minimal energy requirements but has not yet advanced to an industrial scale level of production.

Electro-Magnetic Isotope Separation (EMIS)

The EMIS process of enrichment is based on the fact that an electrically charged atom, known as an ion, travelling through a magnetic field will move in a circle whose radius is determined by the ion's mass. EMIS is achieved by creating a high current beam of low energy ions and allowing them to pass through a magnetic field created by powerful electro-magnets. The lighter isotopes are separated from heavier isotopes by their differing circular movements and collected separately at the end of their arc of travel. EMIS devices are sometimes known as Calutrons.

Chemical Separation

'Chemical Separation' is something of a misnomer as the differing isotopes of an atom are chemically identical. This form of enrichment exploits the fact that ions of these isotopes will travel across chemical 'barriers' at different rates because of their different masses. There are two methods to achieve this: the method developed in France of solvent extraction; and the process of ion exchange used in Japan. The French process involves bringing together two immiscible liquids in a column in a process known as solvent extraction, giving an effect similar to that of shaking a bottle of oil and water. The Japanese ion exchange process requires an aqueous liquid and a finely powdered resin which slowly filters the liquid.

Reprocessing

This is a process whereby the uranium, plutonium and other heavy elements in spent fuel discharged from a reactor are separated from one another and from 'fission products' by chemical means. Fission products are the fragments left behind when a fissile atom splits. The uranium and plutonium may then be recycled into reactor fuel or, in the case of plutonium, may be used in weapons. As over 90 per cent of the mass of spent fuel is uranium which has not undergone fission, reprocessing allows separation of the small quantities of highly radioactive material for safe disposal. However, most economic analyses indicate that reprocessing is not cost effective, and so few states employ reprocessing in their nuclear energy systems unless choosing to do so for other reasons. Reprocessing is usually carried out using mechanical and solvent extraction techniques and occurs in three steps:

Dissolution

After a period of storage to reduce their radioactivity, the fuel assemblies are cut into short sections in what is termed the 'head-end' stage. These pieces are then placed in a nitric acid solution to dissolve the fuel out of the cladding material. This acid solution containing the nuclear material is filtered to remove undissolved solids and chemically treated in preparation for the separation process.

Separation

In the separation stage, the 'Plutonium Uranium Recovery by Extraction' (PUREX) method may be employed, with the solution being fed into solvent extraction columns and mixed with various chemicals, most notably tributyl phosphate (TBP), which extracts the uranium and plutonium from the acid solution. The plutonium and uranium emerge from this in the form of nitrates.

Purification

The third stage involves purifying the recovered materials. Recovered uranium can be recycled into new fuel, although sometimes this involves further enrichment. Recovered plutonium may be used as fuel in breeder reactors, to make mixed oxide (MOX) fuel or, if of a suitable isotopic composition, to make weapons. Other materials not recovered include highly radioactive fission products and non-fissile heavy elements, such as actinium and neptunium, which can be disposed of.

Section 2
The Evolution of the Nuclear Non-Proliferation Regime, 1945-1970

Introduction

In the mid-1960s, it was assumed by many knowledgeable commentators that as information on the design and manufacture of nuclear explosives became more accessible, and supplies of uranium increased, the number of states possessing nuclear weapons would rise. However, both superpowers, the United States (US) and the Soviet Union (USSR), were motivated to prevent this if they could. The US was concerned that it might be dragged by nuclear-armed allies into a catastrophic war that it could not control. The USSR had realised following the first Chinese nuclear test that unlike the US, several nuclear-weapon states (NWS) could soon border its territory.

The two most recent nuclear proliferators were France (1960) and China (1964): those regarded as technically equipped to follow them within the next ten years were either allies of the United States (Australia, Canada, the Federal Republic of Germany, Italy and Japan); states pursuing policies of armed neutrality (Sweden and Switzerland); or states involved in acute regional conflicts (India, Israel, the Republic of Korea and Taiwan, Province of China). Perceptions of technological determinism held by many contemporary commentators suggested that "those who could, would". Confronted by this threat, the two superpowers sought to change these expectations by erecting a consensual, political and institutional barrier to further nuclear proliferation building on their intermittent negotiations since 1945 to limit their own nuclear arms race and engage in nuclear disarmament.

Attempts to Control Nuclear Weapons, 1945-1965

In June 1946 the US had submitted the Baruch Plan to the UN Atomic Energy Commission. Its remit was to make proposals for both the elimination of nuclear weapons and the implementation of international control over the exploitation of all aspects of nuclear energy. This plan proposed international managerial control or ownership over all potential weapon-related nuclear facilities, as well as powers to licence and inspect all other atomic energy activities. The USSR responded by submitting a plan based on national, rather than international, ownership and control over nuclear facilities. Neither plan was to be implemented. The US meanwhile passed legislation imposing rigorous national controls over the transfer of nuclear-related information and materials, believing that there was a 'secret' surrounding atomic weapons which could be denied to others.

In September 1949 the USSR exploded its first atomic explosive device, and in October 1952 the United Kingdom followed. These events demonstrated that the 'secret' of creating a fission explosive was no longer the exclusive monopoly of the US and, could be acquired by the indigenous efforts of other states. In parallel, newly discovered uranium deposits in Canada, the US and Australia indicated that the ability of existing Belgian–Canadian–UK–US arrangements to monopolise world supplies and trade in uranium ore could not last. In parallel, any increased global supply of uranium would open the way to the use of nuclear energy as a civil power source. Moreover, such facilities could be operated to both produce civil power and weapon-usable plutonium, as the UK was doing at Calder Hall, its first nuclear power station, opened in 1956.

These developments, among others, led US President Eisenhower to make his 'Atoms for Peace' speech to the UN General Assembly in December 1953. This proposed that the NWS should assist other states in developing the peaceful uses of atomic energy. This would be accomplished by the US and USSR making matching transfers of weapon-usable fissile material to an international nuclear agency, which in turn would supply it to others for peaceful uses.

Negotiations on the creation of this agency started in 1954, based upon the USSR's 1946 concept of national ownership and management of all nuclear activities within a state. This was to be overlaid by international arrangements providing assurances that these activities were not being used for military explosive purposes. They culminated in a multilateral conference on the statute of the new International Atomic

Energy Agency (IAEA), held in New York during September and October 1956. This agreed the details of a legal statute giving it the power to start its work in Vienna in July 1957. It had a triple remit of assisting in the development of nuclear energy for peaceful purposes; providing assurances that facilities and materials for such purposes were not being diverted to other uses; and providing early warning if they were.

By then, the US had embarked on two related bilateral activities made possible by changes contained in its Atomic Energy Acts of 1954 and 1958.. The first was the negotiation of Agreements for Co-Operation in the Peaceful Uses of Atomic Energy with many states. These, legitimised transfers of information, technology and materials forbidden by earlier legislation. The second was the passing of specific information on its nuclear weapon designs to allies to facilitate the procuring of equipment to enable them to use their own aircraft and missiles to deliver US-owned nuclear bombs and warheads in times of war.

The first of these arrangements undermined the launch of the IAEA. States preferred to seek assistance and materials bilaterally from the US, rather than multilaterally through the IAEA, and arrangements to assure the agreed use of this US assistance were made on a bilateral, rather than multilateral, basis. As a consequence it was 1959 before the IAEA was given the opportunity to exercise its safeguarding powers over nuclear materials through an agreement for it to supply Canadian uranium to a Japanese research reactor.

There were several motivations behind the arrangements for supplying technical information on US weapons to allies. One was reduce the costs to the US of providing the West's nuclear deterrent capability. Another was to head-off the active national nuclear weapon programmes of its allies, with the French one being the most advanced. The hope was that potential US "nuclear sharing" would freeze these programmes. The nuclear weapons earmarked for transfer to allies were to be stored under US military custody in the countries involved, and no formal transfers were to occur unless hostilities were well established.

The US Atomic Energy Act of 1958 also made arrangements for collaboration with nuclear-weapon state allies which had made 'substantial progress in the development of atomic weapons' It authorised collaboration in the development and manufacture of nuclear weapons to occur with such countries, but no transfer in peacetime of complete nuclear devices. At the time, only the United Kingdom qualified for this. In the 1970s similar arrangements were made with France .

An additional complication for the development of the IAEA's functions was the establishment in January 1958 of a regional nuclear organisation within the framework of the European Communities (EC), the European Atomic Energy Community (EURATOM). This was tasked with co-ordinating EC nuclear energy development and implementing a regional safeguards system to ensure that materials were not diverted 'to purposes other than for those which they are intended'. These safeguards were based on ideas similar to those in the Baruch Plan, with EURATOM having legal ownership over all the fissile materials in member states, except those in the French, and later the UK, military programmes. It dealt directly with the enterprises involved, rather than the governments within whose jurisdiction they were situated. The US negotiated an Agreement for Co-operation with EURATOM, and accepted that it, and not the IAEA, would safeguard materials and facilities transferred under this Agreement..

During the early 1960s, several developments relevant to nuclear non-proliferation were therefore occurring in parallel. One was the slow evolution of the IAEA and its international safeguarding activities; the second the implementation of plans to provide allies of the United States with nuclear weapons; a third the dissemination of nuclear knowledge to a wide range of states to enable them to develop the peaceful applications of nuclear energy; and a fourth the development of a nuclear disarmament negotiating process.

In 1961, spurred on by the request from Japan, the IAEA had promulgated its first set of arrangements for implementing Agency safeguards on nuclear materials and facilities, known by the number of their IAEA information document, Information Circular (INFCIRC) 26. This was soon superseded by INFCIRC/66. In its final form in 1968 this incorporated a set of technical principles and procedures for the verification of compliance with safeguards agreements. It covered research and power reactors, spent fuel reprocessing plants, fuel fabrication and conversion plants and fuel and materials storage facilities, but excluded uranium enrichment plants or production facilities for the heavy water used as a moderator in some nuclear reactors.

After 1962 the US started to transfer to the IAEA responsibility for monitoring the civil nuclear transfers it had made under its bi-lateral Agreements for Co-operation.. In addition, as orders started to be placed for nuclear power reactors by states in Western Europe and elsewhere, a condition for their supply by the US and the United Kingdom became acceptance of INFCIRC/66 safeguards over their operations, thus further strengthening the authority of the Agency.

Nuclear disarmament negotiations between the US, the USSR and some of their allies were initiated in the mid-1950s when the theoretically unlimited destructive capacity of thermonuclear, as against atomic, weapons started to be fully appreciated. The aim was to first halt the nuclear arms race, and then reverse it through the dismantlement of existing nuclear weapons. Halting the nuclear arms race was seen to involve two distinct activities: the qualitative one of preventing further testing of nuclear devices, in order to freeze nuclear weapon development at its existing levels; and the quantitative one of halting the production of fissile materials for military purposes, thus limiting the numbers of nuclear weapons that could be built by the existing nuclear weapon states. Two other activities were also taking place on a wider, multilateral basis. In 1959 an attempt was made to reach agreement on measures to prevent the emplacement of nuclear weapons in a specific geographical area through the Antarctic Treaty, while in 1958 Ireland had initiated moves within the UN General Assembly to highlight the dangers posed by additional states acquiring nuclear weapons. Its efforts culminated in 1961 in the 'Irish Resolution' being adopted by the UN General Assembly. This called for agreed measures to prevent the transfer of nuclear weapons to additional countries (dissemination) and for all states to refrain from the transfer or acquisition of such weapons (proliferation).

Although negotiations on a comprehensive ban on nuclear testing (CTBT) sustained a test moratorium by the three existing NWS from 1958–61, they failed to produce agreement on a treaty. Irreconcilable differences existed over the intrusiveness of its verification system. In 1961 the USSR resumed testing, followed rapidly by the US. In 1963 the attempt to agree a CTBT immediately was abandoned in favour of a treaty which banned tests in all environments except underground, the Partial Test-Ban Treaty (PTBT). In the next year the attempt to reach an agreement on a cut-off of the production of fissile material for military purposes was shelved in the light of the increasing numbers of nuclear power plants under construction in the NWS. This appeared to make it impossible to provide credible assurances on compliance, especially in states such as the USSR where the state owned all its nuclear facilities, making the distinction between military and civil use somewhat arbitrary. This decision was communicated through unilateral statements on measures to limit their future production of fissile materials for military purposes made by the leaders of the three initial NWS in the Spring of 1964.

The demise of active attempts to place quantitative and qualitative limits on the existing nuclear arms race coincided with a more comprehensive attempt to address nuclear disarmament through the medium of UN negotiations on General and Complete Disarmament (GCD). This arose from NATO's commitment to fighting a ground war with nuclear weapons. Underpinning this was the Warsaw Pact's perceived qualitative superiority in conventional weaponry, and the realisation that agreement on nuclear disarmament would only be possible if both conventional and nuclear weaponry were addressed in parallel. In 1962 a set of guidelines for future nuclear disarmament negotiations was agreed, known as the Macloy-Zorin principles. It was also recognised that negotiating GCD as a single package was impractical, and that the most practical way forward was to disaggregate its elements and conduct work on them sequentially. The result was a new work-plan, the Decalogue, which started with a CTBT and moved on to agreements on termination of the production of fissile material for military explosive purposes (a Fissile Material Cut-off Treaty or FMCT) and a nuclear weapon non-dissemination and proliferation agreement. While these actions might not reduce the global numbers of deployed warheads, they would create a nuclear disarmament process and improve confidence between those involved in it.

The development by the US in the later 1950s of bombers with intercontinental range, ballistic missiles (ICBMs) with similar ranges and submarine-launched ballistic missiles (SLBMs) had generated concern among its Western European allies that a decoupling was imminent in the minds of US leaders between the collective defence of Europe and the unilateral defence of the US homeland. The Europeans therefore

sought enhanced guarantees from the US that any USSR aggression in Europe would meet with a nuclear response. These focussed on the idea of creating a NATO or Western European strategic nuclear force, capable of both striking at Moscow and giving Western European governments direct involvement in its operation and decision making.

Initial proposals were for a mixed-manned force of surface vessels equipped with US Polaris ballistic missiles (the multilateral force or MLF). Later proposals included the creation of an Allied Nuclear Force (ANF) through which the UK and some US strategic forces would be committed for use by SACEUR. The USSR and its allies strongly opposed these proposals, and favoured the idea of negotiating a nuclear-weapon-free zone in Central Europe as proposed by the Polish Foreign Minister,(The Rapacki plan).

The Negotiations on the NPT

It was in this international context of stalled nuclear disarmament negotiations, acute tensions over the nuclear aspects of European security, and proposals for delimiting specific geographical areas as nuclear-weapon-free zones that serious discussions, and then negotiations, started on a treaty on the Non-Proliferation of Nuclear Weapons (NPT). Both the US and the USSR had mutual interests in pursuing this item in the Decalogue, and after considerable informal consultations the 1965 UN General Assembly adopted Resolution 2028 containing guidelines for negotiation of such a Treaty. These stated:

- it should be void of any loopholes which might permit nuclear or non-nuclear weapon states to proliferate nuclear weapons in any form;
- it should embody an acceptable balance between the mutual responsibilities and obligations of the nuclear and non-nuclear weapon states;
- it should be a step towards the achievement of GCD, and more particularly nuclear disarmament;
- it should have acceptable and workable provisions to ensure its effectiveness; and
- nothing contained in it should adversely affect the right of any group of states to conclude nuclear-weapon-free zone(NWFZ) treaties.

In early 1966, the multilateral negotiating forum for disarmament agreements was the Eighteen Nation Disarmament Committee (ENDC). This contained several leading non-aligned states, as well as a number of allies of the two superpowers and was linked to, but not part of, the United Nations system, although it met in UN premises in Geneva. The US and USSR were co-chairmen, but the negotiations made relatively slow progress.

In the autumn of 1966 the US and USSR started bilateral discussions on how to word the sections of the treaty dealing with nuclear transfers from the NWS and the non-acquisition of such weapons by the non-nuclear weapon states (NNWS). This wording had to permit the continuance of existing US–UK collaboration, as well as existing NATO arrangements for the transfer of nuclear weapons in the event of hostilities. From a USSR perspective, the key issue was to prevent any MLF type of arrangement being authorised by the treaty. Early in 1967 language was agreed between the two states on these issues (articles I and II of the Treaty), based on the contemporary US nuclear energy legislation. This prohibited the transfer by its government of complete nuclear explosive devices to any other state or international entity in peacetime, and foreclosed on any move by the alliance to adopt multilateral nuclear-weapon sharing. It also meant that the NPT had no provision to explicitly prohibit the storage and deployment of NWS nuclear weapons in a NNWS.

Debate within the ENDC then focused throughout the remainder of 1967 on how to create an effective verification system for the Treaty. Although all parties to the negotiations were agreed that the IAEA should be responsible for its operation, there was disagreement over EURATOM. Several of the Western European states had no national systems for the monitoring and control of their nuclear energy activities, relying on EURATOM for this. The USSR considered this a form of self-policing, rather than independent monitoring, and argued that it did not offer it and its allies adequate assurances that Western European states, in particular West Germany, would uphold their non-proliferation obligations. It wanted full IAEA safeguards to apply to all states. The US's NNWS allies by contrast were arguing that any verification system should be as non-intrusive as possible, and above all offer no commercial advantages to the NWS who were not to be the subject of safeguards.. The dispute was settled in early 1968 through wording for Article III which to allow EURATOM to make an agreement with the IAEA over how Agency safeguards were to apply to EURATOM states.

The text of Article III eventually agreed left two issues undecided or ambiguous: the detailed nature of its IAEA verification system and the obligations of parties to the treaty in respect of transfers to non-parties. While the text indicated that the safeguards system was to focus only on materials, not facilities and materials as was the case with the INFCIRC/66 arrangements, the details were left to the IAEA Board of Governors to decide. In the case of the latter issue, it was unclear whether transfers to non-parties were permissible if the recipient state had an INFCIRC/66 safeguards agreement with the Agency, or whether it also had to accept safeguards over all nuclear materials within its jurisdiction (known variously as NPT, full-scope or comprehensive safeguards) before any transfer could be allowed.

Article IV was also open to differing interpretations. On the one hand it stated an obvious fact related to the nature of state sovereignty, namely that all states had an 'inalienable right' to economic development, and thus to 'develop research, production and use of nuclear energy for peaceful purposes'. On the other, the implementation of this right should be 'in conformity with Article I and II of this Treaty'. Thus although NPT NNWS parties were committing themselves voluntarily to conditions on the exercise of their peaceful right to nuclear energy, the Treaty also recognised the apparently contradictory fact that their rights to peaceful uses were intrinsically 'inalienable'.

Two further articles of the eventual treaty, Article V dealing with peaceful nuclear explosions and Article VII dealing with NWFZ proved relatively uncontroversial. In order to prevent any state acquiring a nuclear weapon under the guise of it being a device for use in a civil engineering project, all work by its NNWS parties on any type of nuclear explosive device was banned. However, Article V permitted the supply of such devices for 'peaceful' purposes by existing NWS. Negotiation of detailed arrangements for this was again left to the IAEA In the case of NWFZs, Latin American states had decided by 1967 to go ahead with their own regional treaty, partly motivated by a belief that early agreement on an NPT was unlikely. The resultant Treaty of Tlatelolco opened for signature in February 1967 and prohibited the acquisition, storage and deployment of nuclear *weapons,* rather than nuclear *devices*,. However, it had its own regional verification system, which included provisions for challenge inspection, and a secretariat, OPANAL.

Two other elements of the draft Treaty continued to generate significant problems throughout 1967: Article VI and related parts of the Preamble; and Articles VIII and X. The debate over Article VI and the Preamble was essentially over the commitments that would be made by the three nuclear weapon states negotiating the Treaty to engage in nuclear disarmament. Neither China nor France was involved in the negotiations. Among other things, both regarded them as aimed at rolling-back their newly acquired nuclear weapon status.

The debate over the Preamble centred on attempts by the NNWS, particularly India and Mexico, to set out a clear list of priorities for future nuclear arms control negotiations, starting with a CTBT. This would determine the strength of the commitment by the NWS to move towards nuclear disarmament; what other related objectives they were to seek to achieve; and what priority might be attached to them. The outcome was that the achievement of a CTBT was listed first in the preamble, followed by references to the cessation of the manufacture of nuclear weapons, the liquidation of existing stockpiles and the elimination from national arsenals of nuclear weapons and their means of delivery.

By contrast, Article VI emerged as a commitment that:

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

This text left opaque whether it was to be read as a listing of priorities, or whether each action had equal priority. Also, it committed the NWS to 'negotiate in good faith' on such measures, but not agree or implement them.

The debates over Articles VIII and X were almost entirely conducted

through bi-lateral consultations between the US and West Germany and the US and Italy, and in NATO forums. The uncertain nuclear security situation perceived to exist by some of these US allies; a lack of belief on their part in the permanence of the existing US nuclear extended deterrence commitments; and an unquestioned belief in the durability of the USSR nuclear threat made them unprepared to give up permanently the option of acquiring their own nuclear weapons. Although the draft treaty text contained provision for a state to give three months notice of withdrawal if '...extraordinary events, related to the subject matter of this Treaty, have jeopardised the supreme interests of its country...', this was not seen to cover situations where gradual changes in the international environment and in US policy made such withdrawal seem prudent. What was therefore sought by West Germany and Italy was a text giving all parties the right to withdraw from the Treaty at the end of fixed periods of time. Also, states would have to make positive decision to continue in membership, rather than this being automatic. This would allow the parties to review their security situation at these dates and decide to make a conscious decision to continue to accept the Treaty's constraints on acquiring nuclear weapons or making a decision, purposeful or otherwise, to abandon them.

Not unnaturally, the US and USSR were both opposed to the weakening of the text implied by such wording. However, the US was concerned that if these concerns were not addressed by the treaty some of its major NNWS allies, such as Italy, West Germany and Japan, might refuse to sign it. By a scheduled NATO summit at the end of 1967, a compromise west-west arrangement had been negotiated consisting of two elements. One was the insertion into Article VIII of a paragraph mandating the three NWS, who were also to be the depositary governments for the treaty, to convene a conference to review the implementation of the treaty five years after its entry into force. If the parties so chose, they could then request the convening of further review conferences at five year intervals. The second was an addition to Article X of paragraph 2, which stated:

> twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

The intent of these elements was to offer the allies of the US the opportunity every five years to collectively review the security context for their non-possession of nuclear weapons. After twenty five years it gave them the possibility of making at a collective decision to terminate the Treaty by agreeing that its duration should consist of a further short, fixed term or alternatively a series of renewable fixed periods.

In these circumstances, it was not surprising that the non-aligned members of the ENDC found their concerns less than fully reflected in the final text of the Treaty. Although their right to develop nuclear energy for peaceful purposes was emphasised, and partial commitments were made on nuclear disarmament, no mention was made in the text of a further issue they regarded as very significant: nuclear security assurances. Since both superpowers were providing their alliance partners with extended nuclear security guarantees, they argued that they should also provide the non-aligned states with similar legally binding commitments through the new treaty until such time as nuclear disarmament made them irrelevant. Specifically, they were seeking negative assurances that the NWS would not attack them with nuclear weapons, and positive ones that they would go to their aid if they were attacked with such weapons.

Such an insertion would have undermined the existing NATO doctrine of being prepared to initiate the use of nuclear weapons against the territory of the NNWS allies of the USSR in a European ground war. It could thus not be contemplated by the US or its allies. Positive assurances were equally difficult to contemplate, as they implied an open-ended commitment to aid all NNWS parties in all circumstances. More specifically, they would place the US in a difficult situation if Israel *in extremis* threatened its neighbours with such weapons. A further issue was whether the assurances should only apply to NPT parties, or to all states. As a consequence, the treaty text which the two co-chairmen submitted to the ENDC on 11 March 1968 contained no reference to such assurances. This omission was one reason, among others, why India indicated that it was not prepared to sign this text. However, the three NWS did give practical recognition to these non-aligned concerns particularly those of the Arab states, by passing through the UN Security Council on 19 June 1968 resolution 255, whereby the Security Council and 'above all its nuclear weapon State permanent members, would have to act in accordance with their obligations under the United Nations Charter' in the event of a nuclear attack upon a NNWS.

This resolution was passed a week after the co-chairmen's draft treaty, with further amendments, had been passed to the UN General Assembly for its commendation. As a consequence of the Assembly passing a resolution to this effect, the NPT was opened for signature on July 1 1968. It was signed that day by the three depositary states, and came into force on 5 March 1970 when the required 40 states had ratified it.

The NPT that eventually emerged in 1968 had several unique characteristics. One was that it recognised the existence of two classes of state, NWS and NNWS. The former were defined as those which had exploded a nuclear device prior to 1 January 1967. The two classes of state had different rights and duties under the Treaty. Thus non-proliferation was tacitly accepted as a positive objective even if nuclear disarmament continued to be a future goal.. A second was that the Treaty contained a delicate balance between three sets of commitments: the nuclear non-proliferation ones made by the NNWS; the nuclear disarmament ones made by the three NWS depositary states; and the 'inalienable' rights of the NNWS parties to develop or acquire all types of peaceful nuclear technology, in return for acceptance of IAEA safeguards over all fissile materials within their jurisdiction. This meant that it was open to any of its parties to place paramount or exclusive emphasis on any one of these aspects. A third was that while it prohibited the acquisition of all types of nuclear explosives by NNWS, its negotiating history indicates that in 1968 it was not the intention of the US, the UK and their western allies that the Treaty should proscribe the stationing of a NWS's nuclear weapons on the soil of an NPT NNWS; to prohibit plans for their transfer in the event of war; or to prevent assistance by one NWS to another.

Section 3
A Short History of the NPT Review Process, 1970-2000

Introduction

The entry into force of the NPT was a new departure for policies towards nuclear proliferation and non-proliferation. National policies of technology denial were being reinforced by international policies involving co-option of, and collaboration with, potential proliferators. Although national technological denial activities and policies of offering security guarantees and transfers of conventional arms continued, the NPT provided a vehicle for states to make a binding legal commitment not to proliferate. This offered a solid basis for co-ercive action against them if, having made that commitment, they disregarded it. It also implied that the proliferation of nuclear weapons to an increasing number of states was no longer inevitable. The Treaty's effectiveness was, however, crucially dependent upon the number of states which became parties.

At first, attempts to persuade states to ratify the Treaty focused upon allies of the US, in particular West Germany and Japan. By 1977 both had become parties, along with other states on the potential proliferation lists of the early 1960s, such as Sweden, Switzerland and Australia. Attention then moved to bringing the large numbers of non-aligned states in Latin America, Africa and Southeast Asia into the Treaty. Numbers of parties slowly increased: 97 at the end of 1975; 114 at the end of 1980; 133 at the end of 1985 and 141 at the end of 1990. From 1990 onwards events moved swiftly, with China and France acceding as NWS in 1992, and two of the six contemporary 'suspect' nuclear-weapon states, South Africa and Argentina, in 1991 and 1995 respectively. Since Brazil had committed itself in 1994 to bring the regional NWFZ Treaty of Tlatelolco fully into force, this meant that it too had made a legal commitment not to acquire nuclear weapons. By 1995, only three states with nuclear capabilities, India, Israel and Pakistan, had made no legally-binding nuclear non-proliferation commitments.

The NPT was a framework treaty, and once it had entered into force efforts commenced to create agreements on the details of its implementation. The resulting collection of norms, rules, behaviours, institutions and arrangements is usually described as the nuclear non-proliferation regime.

NPT Safeguards

The first task facing the international community once the NPT had been signed was to negotiate and implement its detailed safeguarding /verification system. As the Treaty gave the IAEA responsibility for verifying that nuclear materials in NPT NNWS were not being used for nuclear explosive purposes, Agency officials had to draft, and gain agreement on its detailed arrangements from the IAEA's Board of Governors. This system was to focus upon accounting for the presence and use of all fissile material within the jurisdiction of the NNWS parties to the Treaty. It was based on NNWS States Parties declaring to the Agency their initial inventories of such materials, and any subsequent changes in their location and size due to transfers between and within states, operations of existing plants or the opening of new plants. Agreement was reached on this in April 1971, and it was known thereafter as INFCIRC/153. This was the number of the IAEA information circular containing details of the model agreement between the IAEA and all NPT NNWS. EURATOM states negotiated a collective agreement of this type, enabling the IAEA to safeguard activities within those states independently of EURATOM.

The INFCIRC/153 system was a compromise between those industrial NNWS which desired as little interference in the operation and cost of their nuclear power systems as possible, and those states wishing to have effective early warning of any diversion from a civil fuel cycle. It focused its activities on the misuse of declared materials and known facilities, rather than searching for undeclared materials and plants. As a result, most of its inspection effort focused upon Canada, West Germany and Japan, even though by the 1980s they appeared increasingly to be unlikely nuclear proliferators. Also, the three NWS made 'voluntary offers' to place elements of their civil industry under IAEA safeguards in order to participate in an exercise of 'equality of misery' with industrial NNWS by shouldering some of the burdens of accepting IAEA safeguards.

One consequence of these compromises became apparent in early 1991 when Agency activities mandated by the Security Council uncovered the full extent of Iraq's clandestine attempts to manufacture fissile material for nuclear weapons, despite its NPT non-proliferation commitments. The result was that member states sought to change some of the Agency's existing safeguarding procedures to enable it to handle future NPT renegades. This culminated in proposals by the Agency Secretariat, initially labelled 93+2, for additional measures specifically geared to detecting undeclared activities and materials.

One key point in the process of strengthening the implementation of safeguards after 1991 was the recognition that although some desirable changes could be made to the existing system of 'comprehensive safeguards' to move its focus from the 'correctness' of a state's declaration to its 'completeness', others would require new legal authority. The changes that did not require further authority included voluntary reporting on all nuclear activities within a state; analysis of open source and other information concerning a state's nuclear activities; and the use of environmental sampling and remote monitoring equipment at sites declared to hold nuclear material. Other changes were the subject of extended negotiations, and it was not until May 1997 that a 'Model Additional Protocol' incorporating them was approved by the IAEA Board of Governors.

The basic concept behind all these changes was that the Agency should provide indirect, as well as direct, assurances that a state's material declarations were complete by auditing *all* activities within a state, both nuclear and non-nuclear, that could indicate the presence of undeclared nuclear materials. The Additional Protocol (known as INFCIRC/540) provided the authority for these indirect activities. It covered information about mining and waste activities; comprehensive state declarations concerning all their nuclear activities; analysis of and comparisons between these state declarations and other sources of information available to the Agency, including open sources such as commercially acquired satellite images; environmental sampling covering the whole of a state's territory; and the right of access to other locations to confirm the status of decommissioned facilities and to resolve inconsistencies between a state's declarations and other information available to the Agency. States which had this protocol in force were described as under 'integrated safeguards'. These centred upon frequent reviews of individual country profiles to provide assurances that no evidence existed of a state diverting declared nuclear materials or being in possession of undeclared nuclear material or engaged in undeclared activities. The stated aim of this new safeguards system was to offer the optimum combination of all safeguards measures and achieve maximum effectiveness and efficiency within the Agency's available resources.

Export Controls

National export controls were not specifically mentioned in the text of the NPT, but India's 'peaceful nuclear explosion' of 1974 stimulated supplier states into action on this matter. As the materials for the explosive device had been manufactured in a Canadian-supplied research reactor, attention became focused on two distinct issues: the conditions surrounding the export of nuclear materials and equipment to states that were not parties to the NPT; and whether technology holders should withhold all exports of nuclear equipment which might assist in the production of nuclear weapons if a state decided to proliferate.

The oil crisis of 1973 and the entry of France and West Germany into the market for the export of nuclear technology created acute commercial competition in an expanding and apparently lucrative market. This raised fears that fuel reprocessing and uranium enrichment plants, termed 'sensitive technologies' in this context, would be provided to NNWS customers to enhance the attractiveness of a vendor's civil technology.. Moreover, some interpretations of the text of the NPT suggested that it did not prohibit exports of 'sensitive technologies' to either other NNWS parties to the Treaty or to non-parties. One consequence was that alarm started to be voiced, particularly in the US, that the normative and legal constraints contained in the Treaty were inadequate to deal with the opportunities for proliferation presented by an expanding global civil nuclear industry. This was reinforced by relatively few of the states of contemporary non-proliferation concern having signed and ratified the NPT at that point.

The solution to these evolving concerns was sought through international efforts to co-ordinate export policies; to agree on common guidelines for triggering IAEA safeguards on exports from NPT states; and in US domestic legislation. However, all these activities generated major West-West frictions between the US and its industrialised allies.

The attempt to co-ordinate export policy, and in particular agree a common policy with France and West Germany to prevent transfers of 'sensitive technologies', started with an East–West meeting of major technology suppliers in London in 1974. At French insistence, this and other initial meetings of this 'London Suppliers Club', later renamed the Nuclear Suppliers Group (NSG), were conducted without publicity. This resulted in suspicions in some quarters, particularly among the non-aligned states not members of this group, that this was a conspiracy to deny then the 'inalienable right' of access to all nuclear technology. After months of discussion, agreement was reached among participating states on a set of guidelines for nuclear transfers 'to any non-nuclear-weapon state for peaceful purposes'. They did this by creating 'an export trigger list and ...common criteria for technology transfers'. These guidelines were made public in February 1978 in the form of an IAEA information circular, INFCIRC/254.

This INFCIRC listed those plants and their components which the adherents agreed should in future require a licence before a state would permit their export. Adherents were also expected to ensure that their export control legislation conformed to the guidelines, which stated that suppliers 'should exercise restraint in the transfer of sensitive facilities, technology and weapons-usable materials'. The effect of the first was to make all nuclear transfers positive acts of state policy, thus highlighting the right of any state to refuse to sanction them if it believed they might be used to assist in nuclear proliferation. This, the suppliers argued, was necessary to implement their commitments under the NPT not to assist any state to proliferate. The effect of the second was to create a tacit understanding among all those we were parties to the NSG (as against "adherents"), that in future they would refrain from exporting any reprocessing or enrichment technology. One result was that France halted its assistance in the construction of reprocessing plants to both Pakistan and South Korea. Another that West Germany, constrained its efforts to transfer enrichment and reprocessing technology to Brazil.

The NSG guidelines of 1978 represented the high point of consensus in the later 1970s among the technology supplying states. Elsewhere, irreconcilable views existed over the interpretation of Article III.2 of the Treaty text. This stated that exports by NPT parties to non-parties were

only to take place 'subject to the safeguards required by this Article'. Canada and the US argued that in this context 'safeguards' meant INFCIRC/153 safeguards (i.e. safeguards on all nuclear materials within the recipient state). Others argued that it meant INFCIRC/66 safeguards on exported items alone.

Little further movement took place to revise or strengthen the NSG guidelines until 1991, given the political sensitivities over claims by non-aligned states that its operations involved discriminatory activity and were non-compliant with Article IV of the NPT. In that year the revelations about Iraq's clandestine weapon activities led the Netherlands to organise a meeting of parties and adherents to the NSG guidelines to consider their revision. This created several working groups to consider the weaknesses in, and limitations of, the existing guidelines. These included engineering firms in Germany and elsewhere with no previous connections with the nuclear industry being used by Iraq to manufacture materials or components for their clandestine programme. In April 1992 agreement was reached amongst these states on significant amendments to the existing NSG guidelines, INFCIRC/254/Rev.1/Pts.1 and 2 published by the IAEA in July 1992.

These amendments included new guidelines covering exports of items of technology having both nuclear and non-nuclear uses (dual-use items). Also, NSG members agreed to consult with a central information point provided by the Japanese mission to the IAEA in Vienna before making such exports and to automatically reject export requests if another NSG state had recently done so. Finally, all members agreed to make comprehensive IAEA safeguards a condition for supply to non-NPT parties (they already were in respect of NPT parties). It was also agreed that the NSG would meet annually in future, and make positive attempts to expand its membership.

NSG activities were conducted entirely independently of the IAEA. However, Article III of the NPT gave the Agency the specific task of determining which items and materials supplied to non-NPT parties should be subject to IAEA safeguards. The first version of this 'trigger list' of items, known as the Zangger List, was published in September 1974, and updates were subsequently made on a regular basis. These updates were consolidated into an amended document, INFCIRC/209/Rev.1 of November 1990, the content of which was very similar to the list of NSG guidelines items, though in theory the two lists remained independent of each other and performed different functions.

While the NSG guidelines and the Zangger lists went some way to limiting the nuclear proliferation dangers arising from the anticipated global expansion of nuclear power plants and their associated reprocessing and enrichment facilities US legislators believed that more action was needed. They introduced domestic legislation which both banned the reprocessing of nuclear fuel for civil purposes within the US and halted its national fast-breeder reactor (FBR) development programme, which providing a technical justification for such activities. Their Nuclear Non-Proliferation Act of 1978 mandated the administration to renegotiate the existing bi-lateral agreements for co-operation between the US and other states, and with EURATOM, to bring them into line with US policy. The consequence of these actions and of the election of President Carter in 1976, who had made new initiatives over nuclear non-proliferation a major campaign goal, was acute friction among the leading Western industrialised states over their nuclear energy and industrial policies.

The core disagreement was whether the types of civil nuclear power programmes being pursued by the allies of the US and their technologies , sometimes termed the 'plutonium economy', constituted too great a proliferation risk to be acceptable. No agreement could be reached on this divisive issue, and in October 1977 the International Fuel Cycle Evaluation (INFCE) was initiated to try to reduce these tensions. This was a technical and analytical study, based in Vienna, of the risks involved in the expanded nuclear power programmes. The hope was that this should arrive at some conclusive recommendations on the optimum fuel cycle when viewed from a non-proliferation perspective. By the time it reported in February 1980, however, the issue had become less pressing as the spate of new orders for nuclear power plants which had followed the 1973 oil crisis had peaked. However, the argument that all states should follow the lead the US had given in its domestic nuclear policies was to persist as an intermittent, if usually latent, source of disharmony with several of its major allies, such as Belgium, France, Japan and the UK, who had made significant investments in nuclear fuel cycles involving fuel reprocessing and plutonium recycling.

Disarmament

When the NPT was signed in 1968, multilateral negotiations to cap the nuclear arms race and reduce nuclear weapon inventories had lost most of the momentum they possessed in the late 1950s. However, a new route to these goals was starting to emerge: direct bilateral negotiations between the US and USSR. These led to the SALT I Treaty of 1972 limiting certain types of strategic armaments; a treaty to limit ballistic missile defences (the ABM Treaty of 1972); agreements to limit both the yield of nuclear weapon test explosions (the Threshold Test-Ban Treaty of 1974) and all underground nuclear explosions for peaceful purposes (the Peaceful Nuclear Explosions Treaty of 1976); a further treaty limiting strategic offensive arms (the SALT II Treaty of 1979); a treaty banning short- and intermediate-range nuclear missiles (the INF Treaty of 1987); and two treaties to reduce the numbers of strategic nuclear warheads and launchers deployed by the US and USSR (later the Russian Federation) (START I of 1991 and START II of 1993). In addition, from 1978 to 1980 there was a trilateral attempt by the United Kingdom, US and USSR to negotiate a CTBT, without any positive result.

There was thus a continuing, if at times haltering, effort from 1968 onwards to negotiate nuclear disarmament agreements between the two superpowers, with a focus on reducing numbers of delivery systems. However, in the absence of limits on the numbers of nuclear warheads to be carried on individual delivery systems, the numbers of such warheads in the US and USSR arsenals continued to increase until the early 1990s. Also, all attempts to make progress in multilateral nuclear disarmament negotiations were blocked, with no attempts to negotiate a FMCT and negotiations on a CTBT taking place for only a limited period of time.

With the end of the US–USSR ideological confrontation and the disintegration of the USSR in December 1991, the nuclear arms race between them ceased to exist. One of the direct effects was to stimulate both states into unilaterally retiring and then dismantling large numbers of their existing nuclear warheads. Two other NWS, France and the UK, also pursued similar policies. More negatively, the situation created a new proliferation challenge. Although all USSR tactical nuclear weapons had been moved to the Russian Federation before its collapse, strategic missiles and bombers, together with their nuclear warheads and bombs, remained operational in Belarus, Kazakhstan and the Ukraine. However, by 1994 arrangements had been made to move all these warheads to the Russian Federation, and for all other states emerging from the demise of the USSR other than the Russian Federation to accede to the NPT as NNWS parties.

The end of the East-West ideological confrontation had several other important effects. One was to assist in making possible a change in regime in South Africa. This in turn enabled it to dismantle its clandestine programme for the production of nuclear devices, join the NPT as a NNWS and then in 1993 reveal details of its former weapon programme. Another may have been to cause the regime in the Democratic Peoples' Republic of Korea (DPRK) to push ahead with the separation of weapon-usable plutonium from indigenously produced reactor fuel, leading to a long confrontation from 1992 onwards between it, the IAEA and the US during which the DPRK gave notice of its intention to withdraw from the NPT, and then 'suspended' that decision. The confrontation was eventually resolved through a framework agreement negotiated between the US and the DPRK in October 1994 under which two large power reactors were to be supplied to the DPRK. In return, the DPRK agreed to freeze all activities involving its indigenously constructed nuclear facilities, and eventually dismantle them.

A further effect was to facilitate progress towards the disarmament objectives the non-aligned states had been seeking to achieve through the NPT. In January 1994 negotiations started in the Conference on Disarmament (CD) in Geneva on a CTBT, while a mandate was also agreed by the UN General Assembly for the negotiation of an FMCT. CTBT negotiations were completed in September 1996 with the signature of a Treaty. However, although the verification organisation associated with the Treaty, the CTBTO, had been brought into being in Vienna by 2000, the refusal of the US Senate to ratify the CTBT, along with several other states whose signature and ratification was necessary before it could come into force, meant that the existing informal moratorium on tests could not be given legal backing. Moreover, completion of negotiations on a CTBT did not lead to negotiations on an FMCT as had been planned, and since 1996 disagreement has persisted within the CD on the mandate and priority to be assigned to this measure, as against at least two other activities.

Security Assurances and NWFZ

In 1968 an attempt was made by the three NPT depositary states, through Security Council resolution 255, to meet the demands of non-aligned states, particularly Egypt, for positive security assurances. However, the form in which they were offered (three national statements and a resolution which referred to them) was regarded by some states as no more than a restatement of commitments that already existed in the UN charter. Moreover, no attempt had been made at that point to provide NPT NNWS with collective negative security assurances. Pressure for them continued and in 1978 they were provided, though in a form that was again regarded by NAM states as inadequate. In that year the first United Nations General Assembly Special Session on Disarmament (UNSSOD) was held, with all five NWS making unilateral statements on negative security assurances. China's statement was an unconditional one; the French one was limited to states in NWFZ's; that of the USSR covered all states that renounced the production and acquisition of nuclear weapons and did not have them on their territories. The UK and the US made a commitment not to attack or threaten to attack a NNWS with nuclear weapons, but excluded from it NNWS allied with a nuclear-weapon state. At the next UNSSOD, in 1982, France provided NNWS with a broadly similar commitment to the UK and US.

As the numbers of non-aligned NNWS party to the NPT increased, so too did their pressure on the NWS to offer enhanced security assurances. Two states took the lead on this issue: Egypt on positive assurances and Nigeria on negative ones. Four types of enhancement were being sought: a common assurance given collectively by all the NWS, rather than a collection of differing unilateral statements; one that was in a legally binding form, rather than just a statement of intent (this implied either an independent agreement or treaty, or a protocol attached to the NPT); one applying to all states, but if this was not forthcoming to all NPT NNWS parties; and one that contained no reservations. However, despite this issue being on the agenda of the CD and being discussed actively at NPT review conferences, where both Egypt and Nigeria made positive proposals for such enhancements, it was not until 1995 that further changes were made to the existing multilateral security assurances.

The first change was that a new Security Council resolution, 984, was passed on 11 April 1995. This was similar to the 1968 one, in that it based itself on a series of national statements made in letters to the Secretary General on 5-6 April 1995, but it differed in encompassing both negative and positive assurances. Like previous assurances, they were not in treaty form, though some state representatives argued that Security Council Resolutions were legally binding, as therefore these commitments were too. The second change was that although China maintained its unconditional negative security assurance, the other four NWS modified theirs to bring them broadly into line with each other. However, several obstacles were still perceived by the western NWS to stand in the way of an unconditional assurance. One was a reluctance to give up the element of deterrence through uncertainty inherent in conditional negative security assurances. A second was a concern that such a commitment would unnecessarily inhibit a NWS faced with a threat of use of chemical or biological weapons from a NNWS, and indeed might even encourage such a threat.

The NWS also provided security assurances in two other contexts during this period. The first was that as part of the process of transferring to the Russian Federation the USSR's strategic nuclear weapons deployed in Belarus, Kazakhstan and the Ukraine, nuclear security assurances were provided to all of them on 5 December 1994 by the Russian Federation, the UK and the US; on the same day by France to the Ukraine; and in February 1995 by China to Kazakhstan. These commitments were in line with those later contained in Security Council Resolution 984.

The second context was that of NWFZs. The first of the NWFZ treaties covering inhabited areas (the 1967 Treaty of Tlatelolco) contained two additional protocols that were open to signature by states outside the region. The first was for states with dependent territories within the zone: the second was for signature by the NWS. The first effectively prevented any stationing of nuclear weapons within the zone, while the second provided the zonal states with unconditional security assurances. As all the NWS had signed this protocol by the end of 1979, all zonal states had been given unconditional negative security assurances in binding legal form through this route. However, until the 1990s US policy was negative towards the creation of further NWFZs as, among other things, it regarded them as threatening limitations on its freedom to deploy nuclear weapons on a global basis. By 1993 the only additional group of states that had negotiated a similar zone were those in the South Pacific through their Treaty of Rarotonga of 1985. Here, part of the motivation for negotiating the NWFZ was French nuclear testing in the area. As a consequence France, the UK and the US refused to sign any of the three protocols to the Treaty, one of which provided the zonal states with unconditional negative security assurances.

With the end of the global East-West confrontation, the US started to take a more positive view of NWFZs. As a consequence of this, and more importantly the change of regime in South Africa, rapid progress was made from 1993 onwards on the drafting of an African NWFZ treaty containing a protocol on negative security assurances. This work was completed in the summer of 1995, with the official signing ceremony for the document itself, known as the Treaty of Pelindaba, taking place in April 1996 in Cairo. By then a further NWFZ treaty, the Treaty of Bangkok, had been drafted and signed covering Southeast Asia, which also incorporated a protocol containing unconditional negative security assurances from the NWS. However, this protocol has yet to be signed by the NWS, for reasons connected with the wording in the Treaty and its protocols.

NPT Review Conferences

Article VIII.3 of the NPT mandated that 'Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held ....in order to review the operation of this Treaty...'. The first of these review conferences took place in Geneva in 1975. Although it was a conference of the parties to the Treaty, not a UN one, it hired UN facilities and secretariat personnel for its meetings, as well as adopting rules of procedure based upon those of the UN. It set itself the task of reviewing the implementation of the NPT over the previous five years, rather than the text of the Treaty itself or the global nuclear proliferation and non-proliferation situation *per se*. It created a standard format for future conferences of starting 1-2 years before the event with several short sessions of a Preparatory Committee (PrepCom) tasked with identifying conference officers and agreeing the agenda and other procedural and administrative arrangements, and then moving on to a main meeting of four weeks duration.

The organisational template used for the Review Conferences involved three phases of work by delegations. The first phase saw heads of delegation of participating state parties making plenary speeches, often drafted in capitals, outlining their initial positions on the issues they felt should be addressed by the Conference. In the second phase, the NPT text was divided between two Main Committees for detailed consideration of its implementation, and for the negotiation and drafting of a text reporting on the scope of a Committee's deliberations and its conclusions. The final phase involved attempts to integrate these Committee texts into a Final Declaration (later Document) of the Conference with the aim of having it agreed by consensus. Formally, this task was assigned to the Drafting Committee, though it also involved other, more *ad-hoc*, groupings and meetings of representatives of groups of interested parties convened by the President of the Conference. Finally, a central structural element of the 1975 conference and its successors was the existence of three Cold War caucus groupings, similar to those found within the UN structure: the Western European and Others Group (WEOG); the Eastern Group; and a Neutral and Non-Aligned Movement (NAM) one.

In the years through to 1995, it became accepted as standard practice that review conferences would be held every five years. The US delegation succeeded in persuading the parties to operate through three main Committees rather than the initial two, *inter alia* to allow a representative of each of the caucus groups to chair a Main Committee, with the President nominated by the NAM. At later conferences, a new informal grouping based in Vienna started to emerge, sometimes called the 'white-angels', which consisted of smaller western states who wished to take a more active part in the proceedings than the caucus system allowed, and who performed a limited mediating role between those groups, especially over peaceful uses of nuclear energy. However, despite the existence of the 'white angels', the main issues tended to be addressed on an inter-group basis. Finally, Presidents of specific Review Conferences tended to take a differing view of their role, ranging from a non-interventionist and neutral perspective at one end of the spectrum, to drafting the Final Declaration and attempting to impose it on the conference at the other. In addition, they made differential use of informal consultative groupings centred upon themselves, in one case making extensive use of the 'Friends of the President' and in another no discernable attempt to create and use such a group at all.

The outcomes of the conferences also differed significantly, though the content displayed great consistency despite the gradual increase of the parties attending. At the first conference in 1975 a short Final Declaration was agreed by consensus, partly as a consequence of the strong leadership displayed by the Swedish President. In 1980, under Iraqi presidency, no such document could be agreed. In 1985, with an Egyptian president operating an effective informal consultative system, a final declaration was agreed by consensus, even though differences of view on a key issue was apparent within in. In 1990, under a Peruvian president, irreconcilable differences emerged over the CTBT that a last minute attempt at Presidential leadership could not overcome.

The content of the conference remained relatively static from 1975 through 1990, This was the only Treaty in which the NWS had made a legal commitment to negotiate on nuclear disarmament. The NAM states therefore regarded the NPT review conferences as major forums within which the NWS could be pressurised into moving forward on the disarmament agenda first articulated in the 1950s. As a consequence, action to negotiate a CTBT became the litmus test for them in evaluating compliance with the NPT by the NWS, and the one around which consensus was most likely to break down.

Other issues which had been prominent in the negotiation of the Treaty continued to have a significant role in the review conferences. Enhanced Security Assurances were demanded from the NWS, with little visible effect before 1995. Export Controls proved controversial, especially in 1980 when differences within the WEOG, and between members of it and the Eastern group on the one hand and members of the NAM group on the other, combined to make this a difficult issue to handle. IAEA safeguards also provided a fertile ground for limited disagreements, especially over whether INFCIRC/153 type arrangements should be a condition of supply to non-NPT parties. NWFZ and peaceful nuclear explosives, however, generated less friction, with the latter increasingly been seen as an obsolete element of the Treaty which was best ignored.

Insofar as accusations of non-compliance with, and non-implementation of, the non-proliferation articles of the Treaty were concerned, debates on these matters focused on what were euphemistically described as 'regional issues'. These were triggered by the concerns Arab states had over Israel's nuclear capabilities, and African states over those of South Africa. Both regional groups viewed NPT conferences as relevant forums to highlight and debate these issues, and ventilate accusations that the Western NWS were aiding Israel and South Africa's alleged military nuclear programmes. The existence of these two regional nuclear proliferation concerns also served to bind the NAM group of states together, as each regional group had a mutual interest in providing the other with support. However, due to the political make-up of the NAM, these parties had little incentive to raise the issue of other potential proliferators, such as Argentina, Brazil, India and Pakistan, despite attempts by certain WEOG states to widen these regional discussions on 'suspect states' to a global level. Finally, acute conflicts between Middle Eastern states also generated complications for the negotiation of a Final Declaration on at least two occasions. In 1985 Iran accused Iraq of attacks on its nuclear facilities, while in 1990 Iraq's attack on Kuwait generated significant complications, although the conference took place before the UN became aware of Iraq's clandestine nuclear weapon programme. Disagreements over the credentials of delegations also played a persistent, if minor, role in such conferences, in particular whether the Palestine Liberation Organisation (PLO) should be granted observer status.

By 1995 NPT review conferences were thus operating within a well-established procedural and substantive pattern, based largely on East-West structures and concerns. Yet the international security and political environment had changed significantly. The 1995 Review and Extension Conference therefore not only had to deal with the issue of the further duration of the Treaty created by the existence of Article X.2; it also had to operate in a substantive context where the proliferation and disarmament debates were changing rapidly.

The 1995 NPT Review and Extension Conference (NPTREC)

The NPTREC was preceded by the normal series of PrepCom meetings, though in this case the final one did include some discussion of substantive issues. The objective of achieving agreement on an indefinite duration for the Treaty was the subject of intensive and systematic lobbying by the US, the EU states and other members of the Western Group and their associates. By contrast, members of the NAM were being urged to reject this in favour of more limited periods of extension, in the belief that this would generate periodic opportunities to force the NWS into political concessions over disarmament. At the same time, South Africa had been developing ideas on how to move debates over disarmament away from political rhetoric and towards gaining commitment from the NWS to an incremental process of nuclear disarmament, while Canada had been working on plans for making all the parties more accountable for their actions.

The consequence of these activities, and of perceptions that ultimately it was the NNWS that had more to gain from the NPT in security terms than the NWS, was a lengthy process of negotiations at the Conference on outcomes that would offer gains to most parties. These involved recognising that the majority of the parties favoured the Treaty having an indefinite duration; that a set of agreed *Principles and Objectives for Nuclear Non-Proliferation and Disarmament* should be accepted and implemented; and that *Strengthening of the Review Process for the Treaty* should be achieved through changes in the workings of the existing review process to provide for regular and more effective monitoring of the implementation of the *Principles*.

The overall objective of this unspoken bargain was seen by some of the NNWS involved in the negotiations as the achievement of 'permanence with accountability'. At a late stage in the negotiations, however, the Arab group of states indicated that they were dissatisfied with the outcome, which appeared to have deprived them of the option of threatening to terminate the Treaty if states parties failed to take collective action against Israel's alleged nuclear capabilities. This issue was eventually resolved by the three depositary states (the Russian Federation, the UK and the US) agreeing to sponsor a *Resolution on the Middle East* advocating *inter alia* that it be converted into a zone free of all weapons of mass destruction, and that all states in the region should be NPT parties and accept full-scope IAEA safeguards. Implicitly, the three depositaries could be argued to have committed themselves to implement this resolution. Thus the indefinite duration of the Treaty was paralleled by all states making commitments to specific substantive actions and to a 'strengthened' review process covering their implementation.

In parallel with the negotiations on the duration of the Treaty, the normal review proceedings had also been taking place, though the main focus for heads of delegation until the final two days was the duration decision. As a consequence, no Final Declaration was forthcoming from the Conference, despite the DPRK and Iraq being in non-compliance with their safeguards agreements with the IAEA during the review period.

The Strengthened Review Process, 1997-1999

One effect of the decisions in 1995 was to create a set of general guidelines for the 'strengthened' NPT review process, though its detailed modalities remained to be addressed. One key change was that sessions of the PrepCom for a Review Conference were to be held in each of the three years preceding it, rather than immediately prior to it. Each session was instructed to consider 'principles, objectives, and ways to promote the full implementation of the Treaty, as well as its universality'. In order to do this, it was to consider specific matters of substance, with particular reference to the *Principles and Objectives* decision document, including 'the determined pursuit by the nuclear weapon States of systematic and progressive efforts to reduce nuclear weapons globally.' The PrepCom was also instructed to take into account the *Resolution on the Middle East*.

The Chairman of the 1997 PrepCom session modelled its structure on that of the Review Conferences, with a Plenary and then three 'cluster' discussions, whose focus closely resembled that of their three Main Committees. An attempt was made at this first meeting to develop two documents: a consensus 'rolling text', which some believed was intended to form the basis for recommendations to the Review Conference, and a compendium of proposals made by states parties during the session. In addition, it was proposed that 'special time' should be allocated to three specific topics at the 1998 PrepCom session. Ultimately, a report was agreed on all these issues for transmission to the next session.

The 1998 PrepCom session implemented the proposal for 'special time', though this was allocated within the clusters rather than separate from them as some states were concerned, *inter alia*, that this would set a precedent for the creation at the Review Conference of the 'subsidiary bodies' which had been mentioned in the 1995 document. However, the session itself was beset by conflicts over the implementation of the *Resolution on the Middle East* and the powers of

the PrepCom sessions, in particular whether their discussions and recommendations had to be limited to issues relevant to the Review Conference or could also involve current but transient events. One consequence was that although very limited progress was made on updating the compendium of proposals and developing the "rolling text", the parties were unable to agree on a consensus report to the next session.

Consequently, the Chairman of the 1999 session was confronted with no formal guidelines from the previous sessions on how to generate recommendations to the Review Conference, or how to structure the meeting. However, the parties rapidly agreed an agenda and work plan, and also to the discussions on recommendations being based upon an amended version of the 1997/8 rolling text. All negotiations on the wording of the recommendations to the Review Conference all took place in plenary. No recommendations could be agreed either on substantive issues or the establishment of Review Conference subsidiary bodies, as had been mandated by the 1995 document. One result was that the PrepCom did not comment on the nuclear tests of India and Pakistan that had taken place immediately following the 1998 PrepCom, or the self-declared nuclear status of these states. Thus, although the sessions facilitated regular monitoring of the regime, they failed to achieve many of the objectives set for them in the 1995 documents, or produce consensus recommendations on urgent non-proliferation issues.

Section 4
The 2000 NPT Review Conference

The Negotiations

The 2000 RC opened positively. Presidential consultations had produced agreement on creating two 'subsidiary bodies', SBI on Disarmament within Main Committee I (MCI) and SBII on Regional Issues within Main Committee II (MCII). The three MCs and the two SBs started work In the middle of the first week, after the United States and Egypt agreed that the *Resolution on the Middle East* would be handled as a regional question in SBII, whose remit also included Israel and Iraq, as well as India, Pakistan and the DPRK.

After private negotiations in the margins of the CD in Geneva, and then in New York, all five NWS presented a joint statement to the RC at the start of the second week, signalling their willingness to shelve their differences on nuclear weapon issues in the interests to facilitate a consensus Final Document. The second week of the Conference was spent collecting ideas in the MCs and SBs, and converting them into draft texts. At the end of that week the President convened an informal plenary on possible changes to the implementation of the strengthened review process, proposals ranging from the third PrepCom session alone being required to produce recommendations to its RC; the creation of an NPT Management Board; and halving the time allocated for PrepCom sessions but convening an additional session in the year following a Review Conference.

Main Committee reports were scheduled for completion at the end of the third week. As all five reports contained sections of non-agreed text, the chairs of four of the five bodies were asked to continue seeking clean texts, while the President took over the task of producing a clean MCI text. Three types of activities then took place in parallel. MCII and III met in open informal session to seek clean texts of their reports. The President convened a meeting of a group of 'representative countries' to identify agreed language for the text of the MCI report, but by mid-week this activity had been abandoned. Also, private negotiations were convened at the request of the President of the Conference to address disagreements over the text on regional issues being negotiated in SBII.
In addition, private negotiations were initiated between the NWS and the NAC by mutual agreement outside the UN building. These concentrated on achieving agreement on a forward-looking document on disarmament. When their existence was discovered by accident by a television crew they were 'legitimised' by moving them into the UN building. By the Wednesday evening these discussions had become stalemated, though a core document did exist. When they reconvened on Thursday the UK and the US indicated that they were prepared to accept the document as it stood if the NAC would do so. Despite reservations over its content, Russia indicating it was prepared to go along with the UK – US proposal, and France followed its lead. China remained unhappy about a paragraph on transparency, but eventually accepted the text.

Negotiations on a backward-looking text between the NWS and the NAC, now joined by Indonesia, Germany and the Netherlands, continued throughout Thursday, and it was agreed to reconvene early the next morning. At that point the UK proposed that those involved should agree to accept the text that then existed as the consensus backward-looking document on disarmament, with some balanced amendments and deletions. France indicated its support for this approach and the specific proposals made by the UK. South Africa, speaking for the NAC, confirmed that they were in broad agreement with the UK approach, but made a counter-proposal for some modifications to the UK package. These were accepted by France, Russia, the UK and the US. Both China and Indonesia, representing the NAM in this context, were thus confronted with a *fait accompli*, which they eventually accepted. A consensus text had thus been agreed for both the forward- and backward-looking disarmament documents, the area that in the past had been the main stumbling-block to a consensus Final Document.

At this stage, the roadblock to a consensus Final Document became language on Iraq's non-compliance with the Treaty. Tortuous negotiations between US, Iraq and others, both in New York and capitals, eventually resulted in agreement on a text by mid-day on Saturday (the clock having been stopped late Friday). The Drafting Committee then produced the text of a Final Document. This included a text on recommended changes to the review process, which up to that point had neither been formally presented nor discussed by delegations. The impetus to agree a text placed states under intense pressure to cut-out disputed language, and agreement was reached on the Final Document late on the Saturday afternoon, though several states indicated in their closing speeches their dissent over specific aspects of the consensus document...

Substantive Issues and Products of the Conference

i. Universality

The 2000 RC named for the first time all those states (Cuba, India, Israel and Pakistan) which were non-parties to the Treaty. It also 'deplored' the Indian and Pakistan nuclear test explosions, declaring that 'such actions do not in any way confer a nuclear-weapon State status or any special status whatsoever'. Universality also generated difficulties in the areas of technical co-operation with non-parties and the creation of reporting mechanisms. Some NAM states wished to see a total cessation of all nuclear-related assistance to non-parties, even though this appeared contrary to the text of the Treaty. The result was that that full scope (FSS) IAEA safeguards as a condition of material or equipment supply to such states was absent from the text. Although formal dialogues were proposed with non-parties, no agreement was possible, though all States Parties were requested to report on their efforts to realise the goals and objectives of the 1995 *Resolution on the Middle East*.

ii. Non-Proliferation

Two parties to the Treaty were the subject of allegations of non-compliance with Articles II and III of the NPT: the DPRK and Iraq. As the former was absent, a text could be agreed noting that the IAEA had been unable to verify its initial declaration of nuclear material and thus could not conclude that no diversion had occurred. By contrast Iraqi delegates were present and it had been certified by the IAEA to be non-compliant with its safeguards agreement prior to 1991, though the IAEA had reported that all clandestine activities had been accounted for and a regular IAEA inspection had taken place in Iraq in early 2000. This led Iraq to argue that it had been fully compliant with the Treaty since 1995, and that its non-compliance with UNSC resolutions, including the non-implementation of the comprehensive system for monitoring WMD activities within Iraq, was irrelevant.

Some states, however, regarded it as unacceptable to say nothing about Iraq, especially given a statement by an IAEA representative that 'in all the years between 1991 and 1999, the Agency has not been able to conclude that Iraq complied with its safeguards agreement'. The compromise language eventually agreed noted that a regular inspection had been carried out in January 2000 of the material subject

to safeguards and reaffirmed 'the importance of Iraq's full continuous cooperation with IAEA and compliance with its obligations'.

iii. Disarmament

The debate over disarmament centred upon whether the NWS should make an unconditional commitment to disarm, and the practical steps that should be taken in the next five years to further this objective. On the first issue, two statements were agreed. One was an 'unequivocal undertaking by the nuclear weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under Article VI'. The second was a reaffirmation that 'the ultimate objective of the efforts of States in the disarmament process is general and complete disarmament under effective international control'. Those arguing that the first statement was unconditional pointed to it being number six in a list of thirteen points, with the second statement at number eleven. Those arguing it was conditional upon general and complete disarmament pointed to the wording of Article VI, which calls for the pursuit of negotiations on 'nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control'. Their argument was that the latter was legally binding whereas the 2000 document was only politically binding, and it mandated that both objectives had to be pursued in parallel.

On practical steps,, negotiations focused on how to enhance the 'action plan' contained in paragraphs 3 and 4 of the 1995 *Principles and Objectives* document. The forward-looking document that eventually emerged, usually termed 'the 13 steps', was much more comprehensive and wide ranging than that agreed in 1995. It was a practical and comprehensive nuclear disarmament agenda, containing a mixture of unilateral, bilateral and multilateral activities, in contrast to the Treaty's focus upon engaging in multilateral negotiations and agreements. It also offered an incremental vision of how to move towards nuclear disarmament, in contrast to the 'time-bound framework' proposals prominent before 2000.

The backward-looking element of the disarmament debate concentrated on whether its pace had been satisfactory, and how to evaluate the significance of the numbers of nuclear weapons remaining; the proposal by the UN Secretary General for the convening of a conference on eliminating nuclear dangers; on the significance of the 1996 ICJ advisory opinion on *Legality of the threat or use of nuclear weapons*; on the inability of the CD to initiate negotiations on an FMCT; and on the significance of the de-targeting declaration contained in the joint statement by the NWS.

iv. Nuclear-Weapon-Free Zones (NWFZ) and Security Assurances

The states parties found little difficultly agreeing language on the general desirability of additional NWFZ; on the need for relevant ratifications to bring existing treaties into full operation; and on welcoming and supporting efforts to set up a NWFZ in Central Asia. Arab states wanted Israel to be urged by name to take the steps needed to implement a NWFZ in the Middle East. This issue was resolved by restricting the naming of Israel to the regional issues part of the Final Document. .Although it had been anticipated that security assurances would be a major issue at the RC, the Final Document merely called for recommendations on this to be made to the 2005 Review Conference..

v. IAEA Safeguards and Export Controls

IAEA safeguards generated considerable controversy, both in their own right and because of their links to regional issues. Some states argued for this Protocol to become an integral part of Agency safeguards. Other wanted to continue to conduct trade with non-parties on the basis of INCIRC/66 safeguards alone. NAM countries wanted language calling for 'the total and complete prohibition' of the transfer of nuclear related equipment and materials, and of technical assistance, to non-parties (i.e. Israel). Other states argued that such acts would be contrary to the language of the Treaty. None of these differences were resolved.

Language on both the work of the Zangger Committee and the NSG was opposed by NAM states who claimed they were barriers to economic development. Iran also contested the right of the United States and others to refuse nuclear-related transfers to states whose non-compliance with the Treaty had not been verified by the IAEA.

vi. Peaceful Uses

Debates on this topic centred upon the implementation of the 'inalienable right' of states to enjoy the peaceful benefits of nuclear energy. Issues here included whether all states, not just States parties to the Treaty, should enjoy these benefits and the role of nuclear energy in sustainable development.

Some Implications of the Conference

As the products of the meeting started to be examined, questions emerged about what had actually been agreed; what the commitments in the 'programme of action' contained in the Final Document actually meant; and how they could be implemented.

i. The Treaty and the Review Process

The messages for the Treaty and its review process contained in the Final Document of the 2000 RC were at best confusing. On the one hand, the outcome suggested that among the elements that generated success were effective chairmanship of the MCs and SBs; a President who pursued a non-interventionist policy and left the resolution of key issues to the parties to the Treaty; and one who held his nerve in the end game and was not panicked into accepting a suboptimal result. On the other hand, the problems encountered over the issue of Iraq's non-compliance with the Treaty pointed to an inherent flaw in the nature of the rules of procedure for RCs: those accused of non-compliance with the Treaty cannot be denied their voting rights, and thus can veto any statements about their actions they disagree with.

On a more specific level, some of the changes introduced into the review process in 1995 seemed to have been vindicated. The two SBs did focus attention on key issues at the Conference. What did not occur, however, was any conscious and visible updating of the 1995 *Principles and Objectives* document. While the contents of this 1995 document were reaffirmed, the amendments to it were spread throughout the text. In addition, the contents of the 1995 Document were not used in any conscious way as yardsticks for assessing performance over the previous five years. As a result, the ties binding the ongoing review process to the 1995 document were partially cut, making it more open to change at future Review Conferences.

Perhaps more significantly, the PrepCom process was given little further guidance by the Final Document. Although the concept of the PrepComs preparing the ground for the RCs, other than in a very general way of educating participants about the issues, had not been implemented any effective way in 1997–99, the 2000 amendments offered little hope that this would occur in future. For they did not require the parties to arrive at any consensus recommendations for transmission from the first two PrepCom sessions to the third (their product was now to be a factual summary of the discussions). However, the third was still expected to provide draft recommendations to a Review Conference, though some new reporting commitments were created in areas such as disarmament and the *Resolution on the Middle East*.

iv. The Caucus Groups

While the three Cold-War caucus groups (NAM, Western and others and Eastern) appeared indispensable for allocating conference offices, one was a hollow shell and the others had predominantly information, rather than policy co-ordination, functions. As a consequence, regional and interest based groupings played a more significant role than before. In the case of the NAM, Arab and other regional groupings sought to pursue their specific interests through its consultative mechanisms, but agreed NAM positions were often coupled with contradictory regional and interest based ones. Interest based regional and global groupings also abounded: the NATO-5; Finland and Sweden; the Vienna-based G-10; Australia and Japan; the South Pacific States (SOPAC) and the Caribbean Island States (CARICOM). It was the seven states of the NAC, however, which stood out as the completely new and highly significant player in this context. They formed an interest based coalition, seeking agreement on an expanded range of commitments on disarmament, while also pulling together the traditional groupings over this issue on language they had proposed. To do this they had to negotiate with the loosely-linked grouping of the five NWS. It was in this context that the key issues of the forward-and backward-looking language on disarmament were resolved.

Section 5
The 2005 NPT Review Cycle

The First PrepCom Session, 2002

This took place after 9/11 the US decision to give notice to the Russian Federation of its withdrawal from the ABM Treaty.

Administrative and Procedural Matters in the 2002 Session

The 'cluster' discussions took place on the basis of the areas addressed by the three main committees at Review Conferences, with 'special time being allocated to:

i) the implementation of nuclear disarmament;
ii) regional issues, in particular implementation of the 1995 Resolution on the Middle East; and
iii) safety and security of peaceful nuclear programmes.

The first week of the session saw no agreement on the indicative timetable, due to a refusal of France and the US to accept any version referring to the commitments on reporting contained in the disarmament and regional issues sections of the 2000 Final Document. This threatened to derail the session before it had started. The conference then proceeded on the basis of the existing draft timetable, and a compromise was reached on the Agenda at the end of the first week by omitting specific reference to the controversial activities.

The 2000 Review Conference Final Document had mandated that the 2002 PrepCom discussions be factually summarised and the results transmitted to the next PrepCom session for further discussion. However, guidance was lacking on who should write the report; whether and how the Chairman would consult delegations on its wording; and whether there should be an attempt to have it accepted as a consensus document.

The chairman resolved these issues late in the session by indicating that he was proposing to issue the text on his authority alone as an annex to its formal report, and that while he would consult informally on its substance it would not be open to negotiation or amendment. This text was issued to delegations late on the penultimate evening of the session. Although several states regarded it as unbalanced for a variety of reasons, all were prepared to accept that it should be 'transmitted to the next session for further discussion'.

Substantive Issues in the 2002 session

The 'discussions' at this session mainly focused upon providing information on the policies and attitudes of states parties towards a well-established and familiar range of topics. What was new was the decision, heavily influenced by the events of 9/11, to schedule 'special time' for a discussion on the safety and security of the nuclear fuel cycle (i.e. nuclear terrorism).

The 66 statements delivered during the general debate, including those of the EU, the NAM and the NAC, mainly concentrated on re-stating familiar positions rather than offering new ideas**.** Although spokespersons for the United States argued that the Bush Administration was committed to nuclear disarmament, there was a widespread perception that its actions suggested otherwise, as did leaked elements from its still classified Nuclear Posture Review (NPR). No discussion occurred on recommendations on legally binding Security Assurances. This led to complaints of backtracking by some of the NWS on their existing unilateral nuclear security assurances provided to NNWS though the NPT and NWFZ treaties, triggered by statements from UK and US government ministers and officials that their existing commitments not to use nuclear weapons against NNWS might be inoperative in certain circumstances (i.e. Iraq).

Vigorous statements about Iraqi non-compliance with the NPT drew equally combative responses from their representatives, but, in the absence of a DPRK delegation, there were no similar interchanges over their actions. Israel was also discussed, but overt disagreements were avoided. Similarly concern was expressed over the delicate nuclear relationship between India and Pakistan, and the impact of the 'war on terrorism' upon this.

Statements on IAEA safeguards mainly focused upon the need for those parties that had not done so to sign and implement an INFCIRC/153 safeguards agreement, and for those who had done so to sign and implement an Additional Protocol. However, some states in the Middle East made it clear that they regarded Israeli signature of an INFCIRC/153 type safeguards agreement as having a greater priority than the acceptance of the Additional Protocol by other states in the region. The discussions on peaceful uses covered several new NPT issues, not least those relating to nuclear and radiological terrorism and theft. This gave a new dimension to discussions on physical protection and the sea transportation of nuclear waste, as well as raising the profile of ideas for a Convention on Nuclear Terrorism.

The reporting issue cloaked significant differences over how the disarmament provisions of the 2000 Final Document should be implemented, and the proposition that in 1995 the 'permanence' of the Treaty had been exchanged for 'accountability'. Some states, clearly regarded reporting to a common format at every NPT PrepCom session or Review Conference as a new core NWS commitment, and thus considered it to be a substantive, rather than purely procedural, issue. For their part, the NWS understood their reporting obligations in much less specific terms, with no standard format and 'regular' not necessarily meaning 'at each meeting'.

The Second PrepCom Session, 2003

This took place in the context of several events which posed major challenges to the nuclear non-proliferation regime, including the DPRK's January 2003 NPT announcement of its intention to withdraw from the Treaty; U.S. allegations of undeclared Iranian nuclear activities; the December 2002 publication of the U.S. National Security Strategy; and the U.S.-led invasion of Iraq.

Administrative and Procedural Matters in the 2003 Session

The 2003 session opened with the Hungarian Chairman using the procedural device of retaining the DPRK's nameplate in his custody to prevent any debate on whether or not it had met the necessary legal conditions for withdrawal from the NPT. The 2002 session had created a precedent for the 2003 document, and the Chairman's factual summary was appended as a draft annex (annex II) to the formal report of the session. Its text borrowed heavily from that of 2002, with many paragraphs being identical. Close reading of the text revealed, however, an attempt to distinguish between issues on which there was some consensus and those where it was lacking. During the session, the US prioritized allegations of Iranian non-compliance and undeclared nuclear activity. In contrast to 2002, the only direct reference to Iraq was in connection with progress in establishing a NWFZ in the Middle East.

Substantive issues in the 2003 session

The 2003 PrepCom session again served to provide information on the policies and attitudes of states parties towards a well-established range of issues, the majority of which had already been addressed by the first PrepCom session. However, there were some new issues, many of them generated by the Iran and DPRK nuclear programmes and their implications, and some arising from the discussions at the 2002 session.

Several NNWS expressed scepticism of the NWS commitment to implement the '13 steps' agreed in 2000. The NWS for their part offered individual accounts of the progress that had been achieved in this direction in differing formats, and argued that expecting progress in all areas was unrealistic. The US and Russia highlighted their ratification of the Moscow Treaty/Treaty on Strategic Offensive Reductions (SORT), while the UK made a presentation of their research on verification of nuclear weapon dismantling and decommissioning. France described the progress of its plans to dismantle its fissile material facilities and nuclear weapons testing site. China criticized specific activities of other NWS, such as the development of low-yield nuclear weapons; failures to ratify the CTBT; and the weaponization of outer space. Although the Moscow Treaty was generally welcomed, it was argued that reductions in deployments and levels of operational readiness could not substitute for irreversible cuts in nuclear weapons. The continued deployment and development of non-strategic nuclear weapons was an issue singled out for condemnation by an increased number of states compared with 2002, including Austria, Germany, the NAC states and the Netherlands.

NNWS delegations such as those of Australia, Malaysia, Norway, the

NAM, and several OPANAL states stressed the need for unconditional negative security assurances and no-first use policies. Malaysia, the NAM and Norway in particular reminded the session of the previous proposals for drafting a legal instrument and the recommendation that a subsidiary body be established within Main Committee I at the 2005 RC. The NAC states went further by submitting a working paper *(NPT/CONF.2005/PCII/WP.11)* containing a detailed draft protocol on this subject, similar in most respects to that submitted by South Africa during the 1999 PrepCom *(NPT/CONF.2000/PC.III/9)*.

The perceived threat from nuclear terrorism resulted in great emphasis being placed on strengthening the safety and security of the nuclear material and facilities used in peaceful applications. Statements were also made by Australia, Japan and the United Kingdom concerning the maritime transport of nuclear material, which had relevance in both a safety and regional context.

Export controls were linked into discussions on both the peaceful uses of nuclear energy and the prevention of terrorist access to fissile material. Some states highlighted the importance of efficient export control organisations, especially the work of the NSG and Zangger Committee, in denying unauthorized access to fissile material. Iran argued that unilaterally enforced export control regimes contravene the NPT text and prevent developing states accessing nuclear materials and equipment for peaceful purposes.

The issue of universality generated both positive and negative reactions. While appropriation of the DPRK's nameplate limited debate on the issues surrounding its January 2003 withdrawal announcement, some felt this illustrated the NPT parties unwillingness to confront non-compliance with the Treaty. Calls for all the remaining non-NPT states (India, Israel and Pakistan) to accede to the Treaty as NNWS continued to be articulated.

The accession of Cuba to the Treaty of Tlatelolco and the NPT was widely welcomed as a positive development, particularly as it meant the NWFZ in Latin America and the Caribbean had become universal. Less obvious was the severing of the implicit linkage between condemnation of Iraq's activities and the naming of Israel that some regarded as underpinning the 2000 NPT Review Conference Final Document.

Procedural efforts to facilitate implementation of the Treaty continued to be a background issue during the session. Varied arguments were advanced for the need for greater transparency and accountability, and methods of reporting remained a source of considerable friction, particularly over the implementation by the NWS of the '13 practical disarmament steps'. The assumption that this would be an effective means of assessing disarmament implementation gave it significant substantive implications. In addition, attempts were made at instituting interactive exchanges on substantive matters, particularly on disarmament issues.

The Third PrepCom Session, 2004

This meeting took place following the emergence of a series of new challenges to the nuclear non-proliferation regime, including the gradual unveiling of A.Q. Khan's clandestine nuclear procurement network based in Pakistan; the implications of Libya's decision to dismantle its clandestine WMD programmes; and the admissions of major failures in assessments of intelligence by the US and other states over alleged Iraqi WMD activities. It again saw the Chairman retaining the DPRK's nameplate in his custody. After the opening of the cluster discussions in closed sessions as had been the rule since 1997, the Committee agreed on its fifth working day of to allow NGO observers to attend the remaining meetings as observers and receive documents from these sessions.

No agreement was possible on the indicative timetable for the session until its fourth working day. The delay resulted from disagreements over the allocation of special time for security assurances (which was seen by some as a precursor to a subject being allocated subsidiary body status in the RC). Agreement was eventually achieved by allocating special time to discussions on disarmament; regional issues (including discussions on the 1995 Middle East resolution); and safety and security of peaceful nuclear programmes (but not to security assurances). However, the session failed to reach agreement on many of the procedural arrangements previously deemed necessary for a smooth start to a Review Conference, including its agenda and the provision of background documentation for delegations. This arose from the implicit linking by some delegations of the draft wording in these procedural decisions with several substantive issues, in particular the authority, status of, and significance to be attached to the 2000 Review Conference Final Document (and the "13 steps" therein). Also, it was not possible to agree recommendations on specific substantive matters as mandated in the decision on *Strengthening the Review Process for the Treaty* in 1995. Neither was there an agreed recommendation on the subsidiary bodies to be established within the Review Conference's Main Committees. Finally, no recommendations were agreed on legally binding security assurances, as mandated by the 2000 RC.

All that emerged from the session was a short, largely administrative, final report which made recommendations on those procedural issues which would allow planning for the 2005 Review Conference to proceed. The Chairman on his own initiative produced a factual summary of the substantive debates which generated considerable criticism, and there was no agreement on annexing it to the report of the session, as had happened in 2002 and 2003. Instead, a slightly amended version was issued as a working paper of the session on the Chairman's own authority. In a new development, US criticisms of the original text were also included in the official records as a working paper.

Substantive issues in the 2004 session

While the NWS collectively continued to defend their progress in implementation of the 2000 '13 practical steps', the US and France attempted to exclude any prioritisation of them in recommendations to the Review Conference, and thus any recognition of these as commitments of indefinite duration. This stance contributed significantly to the lack of consensus on the final report and the Chairman's summary of the session. As in previous sessions, NNWS continued to stress the general importance of regular reporting by NWS, and their specific commitment to submit specific and regular reports to each PrepCom and RevCon session on their implementation of the '13 practical steps'.

A working paper, submitted jointly by Belgium, The Netherlands and Norway called for the periodic submission by NWS of 'the aggregated number of warheads, delivery systems and stocks of fissile material for explosive purposes in their possession'. The NAM argued that reporting by the NWSs should provide information on future intentions and developments. . Canada suggested that reporting on the progress on disarmament could be complemented by comprehensive reporting by all states on the implementation of the Treaty in its entirety.

The PrepCom had been tasked with making recommendations to the 2005 RevCon on legally binding security assurances. This issue proved so contentious that opposition to NAM demands for the allocation of 'special time' to the subject in 2004 not only delayed the adoption of the session's timetable, but also prevented any recommendations being sent to the 2005 Review Conference. Whilst some statements called for the adoption of an unconditional, legally binding legal instrument, others stressed the need to establish a subsidiary body on this at the 2005 RC. all stressed the importance of security assurances in addressing the concerns of NNWS and in strengthening the non-proliferation regime.

Brazil, Japan, and Nigeria all commented on the importance of compliance with both non-proliferation and disarmament commitments, and that the success and credibility of the regime rested on the reciprocal bargain between the NWS and NNWS over these issues. Many NNWS argued that they had an 'inalienable' right to develop and pursue peaceful uses of nuclear energy, and that this was equally important to the other two pillars of the NPT, disarmament and non-proliferation.

By contrast the US, and others argued that compliance with Article II provisions should take precedence over all other issues; be the criteria for providing assistance for peaceful nuclear programs; and that the standards for judging and enforcing non-compliance should be re-assessed and adjusted to prevent proliferation break-outs. They advocated limiting nuclear enrichment and reprocessing facilities to NPT states parties 'in good standing already in possession of such facilities that are full-scale and functioning'. France outlined seven conditions for the export of sensitive materials and equipment, including 'the highest standard of nuclear security and safety,' and 'an analysis of the stability of the country and the region' Germany suggested that the role of the UN Security Council in judging and addressing acts of non-compliance should be strengthened and proposed the establishment of a 'Code of Conduct' with automatic provisions for responses to such acts, as well as including in supply agreements statements 'that the items delivered should remain under IAEA safeguards if the recipient

state withdraws from the NPT'

Several States Parties argued for ratification of an Additional Protocol being a condition for all future nuclear transfers.. By contrast, the NAM state parties argued that the 'efforts towards achieving universality of comprehensive safeguards' should not 'wither in favor of pursuing additional measures and restrictions on non-nuclear weapon states' In addition, the US argued that states parties under investigation for non-compliance should not vote on their case in hearings before the Agency's Board of Governors or any NPT Special Committee that might be created in future to consider compliance and verification matters

States parties emphasized the importance of strengthening physical protection measures applicable to nuclear material and facilities, including enhanced national legislation on physical protection; improved border controls; supporting IAEA efforts in this area; and amending the extending the Convention on the Physical Protection of Nuclear Material to go beyond nuclear material in transit. The US also proposed that domestic legislation should be passed by all states in response to the provisions of UN Security Resolution 1540. For their part, the NAM expressed concerns over nuclear waste dumping and called for 'effective implementation of the Code of Practice on the International Transboundary Movement of Radioactive Waste of the IAEA'.

In its working paper, the League of Arab States called for states 'to refrain from entering into any agreement with …[Israel] in the nuclear field' as well as for the submission by states parties of 'reports on the steps taken by them for the implementation of the 1995 resolution on the Middle East'. There were also various calls for Iran to provide full and transparent cooperation with the IAEA to resolve any outstanding non-compliance questions, as well as for its prompt ratification of the Additional Protocol. The need for continuation of the Six-Party talks in order to achieve a peaceful resolution of frictions and a nuclear weapons free Korean peninsula through regional dialogue was also stressed.

Many state parties continued to emphasise the importance of measures to strengthen existing nuclear export controls. Germany suggested the need for the IAEA 'to define the minimum standard of export controls in the nuclear field that is necessary to achieve the non-proliferation goals of the NPT'. It also proposed that the IAEA should have a larger role in assisting NPT member states to improve the effectiveness of their nuclear export control arrangements.

The 2005 NPT Review Conference (May 2-27, 2005)

Organisational and Procedural Matters

The president again took custody of the DPRK's nameplate to limit discussion on its status. No state sought to prevent the initial plenary debate from starting, but it was accepted that until outstanding issues from the 2004 PrepCom (the Agenda and the number and focus of the subsidiary bodies) were resolved meetings of the MCs could not proceed. An initial proposal was reportedly rejected by the Iranians, as it contained references to reviewing "recent" events. An attempt was then made to split the problem it into two components. The first was to develop the agenda discussed in 2004 by stripping it of all references to the products of previous RCs, which would remove the objections of the US and France. The second was for the president to make an explanatory statement for the summary record which would contain "coded language" sufficiently opaque to be acceptable to these two states, but reflecting the NAM position on the agenda.

Efforts then became focused on agreeing the wording of this presidential statement, with Egypt insisting initial drafts were inadequate because they contained no overt reference to the 2000 Final Document. Proposals for allowing state parties to make their initial MC statements informally failed to generate support as they could not be included in the summary records. Attention therefore switched to extending the initial plenary debate to allow states to make their MC statements in that context.

Following intensive and extensive discussions among the regional groups, the president believed at the end of the first week that agreement was possible on the wording of both the agenda and his explanatory statement. However, when he presented these to the plenary, the Egyptian delegation objected to the wording of his statement and offered alternative language. Consultations then had to start anew on a revised version of the two-component mechanism, in an atmosphere of enhanced friction and accusations of bad faith.

By Wednesday afternoon of the second week the president announced that agreement existed on the president making his statement, followed by a statement from the Malaysian chair of the NAM group and the UK chair of the Western European and Others Group (WEOG) explaining their interpretations of his statement. (While this agreement to disagree resolved the immediate impasse, it became apparent in the final week of the RC that no clear understanding existed between the regional groups on how these statements were to be reflected in any Final Document).

Three hurdles still prevented an immediate start on the work of the MCs: procedural decisions on their allocation of work; the numbers and subject matter of their subsidiary bodies; and who would chair them. Their resolution only proved possible through an integrated package. This took another five working days to agree. The core problem was the allocation of subjects to the subsidiary bodies within the three MCs. Seven topics had been put forward as possible subjects: negative security assurances (NSAs); the 1995 Middle East Resolution; regional issues; disarmament; the NPT's institutional deficit; Article X and the process of withdrawal; and nuclear disarmament education.

An initial agreement was that there should be only one subsidiary body attached to each MC. SBI would cover both disarmament and NSAs; SBII would focus on regional issues (including the Middle East), as in 2000; while SBIII would focus on both Article X issues and the institutional deficit. The WEOG and Eastern Groups were largely supportive of this proposal, but the NAM argued for SBs on both disarmament and NSAs, the limitation of SBII to the Middle East Resolution, and no SB on Article X or the institutional deficit.

Discussions continued informally over the second weekend, but with little discernable result. Pressure was meanwhile building to find some way of starting the discussions normally undertaken through the MCs. A plenary meeting as convened on Tuesday, 16 May, to enable the 38 conference documents and 37 working papers then in existence to be introduced formally. Five states introduced a range of papers, either on their own behalf or groups. At that point, Iran intervened to complain that the debate was extending into the areas normally covered by the MC debates and suggested this would make agreement to move forward into MC discussions impossible.

That afternoon, two documents that had been circulating informally since the previous Thursday were tabled, and all main groupings and states parties indicated they were reluctantly prepared to go along with them. The need for continued consultations within and between elements of the NAM as a result of their internal disagreements resulted in no final decisions being made for another 24hrs, at which point the president announced that unless the issue of the MCs and SBs was resolved that day, he would offer the conference an alternative way forward as it could no longer hope to complete its work using the traditional procedures. At the same time he proposed an indicative timetable giving the majority of the remaining available time to the subsidiary bodies in line with the NAM negotiating position.

The plenary then heard a series of statements nominally to introduce conference papers, but in practice papers prepared for the MCs. At the end of the afternoon the president announced that arrangements had been agreed to permit the MCs and SBs to start their work the next morning, Thursday, 18 May. This involved accepting the documents first circulated five days previously on the allocation of work, with the president declaring his understanding that "each of the MCs will allocate within themselves time to their SBs in a balanced manner on the basis of the proportions used in the last conference". The subsidiary bodies were "Nuclear disarmament and negative security assurances" (SBI), "Regional issues, including with respect to the Middle East and implementation of the 1995 Middle East resolution" (SBII), and "Other provisions of the Treaty, including article X" (SBIII). The time remaining left these bodies with an impossibly short work period for an inherently difficult task. The three MCs and their SBs were allocated six sessions each instead of the possible seventeen that would have been available on the original schedule.

Friction continued to be visible over how time was to be allocated within the subjects assigned to SBI and SBII. Draft reports from chairs of the MCs and SBs had to be circulated before all parties had stated their positions. Also, there was no time in some instances for any discussion before decisions were made on whether these reports were to be forwarded to the Drafting Committee. All draft reports had square brackets around either sections of text not agreed or the whole text.

The first report to be considered for forwarding to the Drafting Committee was from MCII and SBII on the afternoon of Tuesday, 24 May. The chair of MCII reported that as it was not possible to produce

consensus reports from either body, and as two states (Egypt and Iran) had made it clear they would only allow consensus texts to go forward, he had no option but to send a short technical report to the Drafting Committee with no texts attached (the precedent from all previous Review Conferences was to allow such texts to be passed through to the final stages of the drafting process).

On Wednesday morning the reports from MCI and SBI came up for final consideration in parallel with those from MCIII and SBIII. The former received different treatment than that given to MCII and SBII. Those states that had opposed non-consensus texts from MCII being sent to the Drafting Committee were prepared to allow them to go forward from MCI and SBI, as they were in favour of texts on disarmament and security assurances being given a prominent status in the conference report. These reports were agreed first, there being no objection to the attachment of non-consensus texts .

In the case of MCIII and SBIII, which was taken last, it was argued that this text should not go forward as there was no consensus over it, due in part to an Egyptian tactic of tabling at a late stage a paper on another "provision" of the treaty. The MCIII text was much closer to a consensus document than any of the others, as it was strongly supported by the European Union (EU) and many industrialized states, though opposed by Iran and Egypt. However, the chair was prevented from trying to push the text through the committee by a last-minute objection from the United States. The only texts on substance that were sent forward to the Drafting Committee were thus those attached to the technical report from MCI/SBI.

As the Drafting Committee could use only the products from the committees to produce a Final Document, there was no substantive product from the conference. The only option that remained was for the president to put his own document to the conference, as had happened in 1975. This option had been discussed informally for some days, but he chose not to do so, no doubt influenced by indications from an Iranian diplomat at a Track II meeting the previous weekend that even the blandest of final declaratory statements would be opposed.

On Friday, 27 May 2005 the conference agreed on a technical report on its activities, with the MCI/SB1 non-consensus drafts attached, whilst a range of states seized the occasion to make statements reflecting on what had happened.

Section 6
The 2010 NPT Review Cycle

The First PrepCom Session, 2007

Administrative and Procedural Matters

In the light of events at the 2005 RC, the chairman made extensive efforts to agree the agenda for this meeting in advance. The situation was complicated, however, by ongoing negotiations and IAEA/UNSC activities to constrain Iran's indigenous nuclear enrichment and reactor programmes. When the meeting started the chairman believed he had agreement on his proposed agenda from all of the main players in 2005. This contained inclusive wording in its para.6, which read:

> *Preparatory work for the review of the operation of the Treaty in accordance with article VIII, paragraph 3 of the Treaty, in particular consideration of principles, objectives and ways to promote the full implementation of the Treaty, as well as its universality, including specific matters of substance related to the implementation of the Treaty and Decisions 1 and 2, as well as the resolution on the Middle East adopted in 1995, and the outcomes of the 1975, 1985, 2000 and 2005 Review Conferences, including developments affecting the operation and purposes of the Treaty, and thereby considering approaches and measures to realize its purpose, reaffirming the need for full compliance with the Treaty.*

This formula satisfied Egyptian wishes to highlight the issue of Israel's reputed nuclear weapon programme. It also covered the 13 practical disarmament steps of 2000 and at the same time accommodated US and French wishes not to see implementation of these steps singled out for special attention. It also allowed for discussions of current non-proliferation issues, including the situation over Iran and the DPRK.

During the chairman's consultations, Iran had voiced objections to the elements relating to 'developments affecting the operation of the Treaty' and the reaffirmation of 'the need for full compliance with the Treaty'. However, when he asked the PrepCom to adopt this draft agenda, the Iranian delegation responded by proposing changing the final phrase from 'reaffirming the need for full compliance with the Treaty" to 'reaffirming the need for full compliance with all articles of the Treaty', wording taken from the agenda agreed for the 2002-4 PrepCom cycle, in order to remove what they argued was its anti-Iranian focus. At least one key delegation regarded the two formulations as having the same meaning. Others were not prepared to accept any changes to the chairman's compromise agenda. The chairman therefore adjourned discussion of this issue to allow for further bilateral consultations.

By Thursday the general debate had concluded, and as in 2005 some delegations were discussing moving forward to the cluster discussions within the context of an extended plenary meeting. Pressure for starting the cluster sessions within the plenary continued to rise, as expectations increased that Iran was seeking to block any product arising from the meeting in order to prevent the record and products of the session containing any adverse statements about its nuclear policies.

At a plenary late on Friday intended to enable work to start in the clusters the following Monday. Iran refuse to change its position. South Africa then proposed that the PrepCom should keep the chairman's language for the agenda, but adopt a decision that it understood the contested language to mean 'full compliance with all the provisions of the Treaty'. Cuba, then chairing the NAM, indicated that they were not prepared to proceed with the substantive debate without agreement on the agenda, while Algeria raised the issue of how precisely the South African proposal would be documented. When participants reassembled on the Monday morning, many delegations were debating whether an early closure of the session was becoming inevitable. Even if there was a rapid agreement on the agenda, there might be further delay before a schedule of work could be agreed. Delegations therefore started to turn their attention to converting their planned cluster speeches into working papers to record their views in the formal report from the meeting. When the PrepCom reconvened in plenary on the Monday afternoon, it took a decision on the dates and venue for the next session, thus guaranteeing this event would occur. Meanwhile,, informal discussions had became focussed on how to handle the anticipated choice between having too little time for effective cluster discussions and closing the session early without them.

Late on the Tuesday morning, the chairman re-opened the plenary session, and proposed that the meeting accept the South African compromise wording, and also take note of an indicative timetable allocating one 3hr session for each of the three cluster and three special time sessions. The special time items were to be on the topics covered in the subsidiary bodies established for the 2005 RC. Iran asked for the floor and complained about a number of aspects of the proceedings, but stated that in a display of good will, its government could accept the agenda if it included the footnote to item 6 of the provisional agenda that had been proposed by South Africa. The meeting then accepted the chairman's proposed agenda and noted his revised indicative timetable.

The three days of cluster debates that ensued proved to be very constructive in a number of ways. The collective will and positive atmosphere generated by the long-drawn out process of agreeing the agenda led to the chairman's proposal that speeches remain within time limits of 5 minutes for states and 8 minutes for groups being adhered to. This resulted in 30-36 speeches being delivered at each session. In some cases, this even left time at the end for spontaneous and unprepared interactions between states. It also made for sharper and more focussed debates. Due to the earlier delays the number of working papers reached a record 74 (including one for the first time from Palestine), greatly increasing the costs of the conference as many had to be sent to New York for translation.

The chairman was left with 75 minutes on Friday to finalise his factual summary of the proceedings, and distribute it to delegations. This proved to be an incisive, lengthy and balanced document. As was expected, many complained about its detail, but almost all states were prepared to support it given their collective determination to reverse the lack of visible agreement from the 2005 Review Conference, and the problems crteated by Iran over the agenda..

Caucus meetings were then held over how to handle both the substance of the report and the formal procedure for handing it on to the 2008 session. Some states had difficulty with annexing the summary to the formal report from the meeting as had happened in 2002 and 2003, but they were prepared to give it the status of a working paper from the conference, as had happened in 2004. Iran, however, was not prepared to accept this compromise. This threatened to prevent any product emerging from the session, including the placing on the record of the agreement reached on the current and future PrepCom agendas. After some hours of argument and both bilateral and multilateral meetings between the chairman and key states and caucus group chairmen, Iran was persuaded to go along with a compromise consensus view that the formal report contained the future agenda and the chairman's factual summary be recorded as a working paper of the PrepCom session

Substantive issues at the 2007 PrepCom Session

See *First Session of the Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. Chairman's Working Paper (NPT/CONF.2010/PC.1/WP.78),* reproduced in Part II, Section B, pp8-11 below.

The Second PrepCom Session, 2008

The political context of this meeting included the continued stand-off between Iran and other parties over its enrichment programme and the contested existence of an alleged Syrian reactor built with DPRK assistance that had been attacked from the air by Israel.

Administrative and Procedural Matters

As the Agenda for this PrepCom session had been agreed in 2007, and no state sought to re-open the issues which had arisen over it, there were no procedural delays in moving from the plenary to the cluster discussions. The result was that an indicative timetable was adopted of: three sessions for general debate; one session for NGOs to address the PrepCom; two sessions to debate "cluster 1" issues; two sessions to address nuclear disarmament and security assurances; two sessions on "cluster 2" issues (i.e. IAEA safeguards and nuclear weapon free zones); two sessions on Regional issues including the resolution on a Middle East Nuclear Weapon Free Zone; two sessions for "cluster 3" issues including nuclear energy for peaceful purposes and its safety and security; and two final sessions on "other provisions of the treaty including article X" and the right to withdraw from the treaty, and issues such as UN Security Council Resolution 1540.

The chairman's uncontested decision to operate under the same speaking rules as in 2007,(i.e. 5 minutes for individual statements by states party), maximised the time available for interactive debate and resulted in the meeting finishing its detailed work by the middle of the second week, well ahead of its indicative timetable. The time made available did however enable a number of key procedural decisions to be made including the location and date of the 2009 PrepCom; its chairman; the location and date of the 8th Review Conference; and the Secretary-General of the Conference. Questions were also raised regarding how the presidency of the 2015 RC should be decided though there was no challenge to the NAM nominating the president from one of its regional groups in 2010. Tthe cumulative problems arising from states parties not paying their contributions to NPT, resulted in a request that the UN provide a report on outstanding contributions.

Although the atmosphere of the meeting had been relatively low key and harmonious, in contrast to 2007, the soundings taken by the chairman indicated that he was unlikely to gain a consensus for his factual summary to be annexed to the formal report of the meeting as had happened in 2002 and 2003. He therefore decided to issue his summary as a working paper, as in 2007. This attempted to represent the views of the parties in a balanced manner, and as had become normal at such meetings, a number of states made final statements highlighting their disagreements with it.

Substantive issues at the 2008 PrepCom Session

See *Second Session of the Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. Chairman's Working Paper (NPT/CONF.2010/PC21/WP.43),* reproduced in Part II, Section B, MCIS CNS NPT Briefing Book 2010 Edition, pp19-23

The Third PrepCom Session, New York, May 4-15 2009

The political context of this session included the continued stand-off between Iran and other parties over its enrichment programme and the ongoing attempts by the IAEA to clarify whether a building in Syria destroyed by Israeli military action had contained an undeclared nuclear reactor. Also, the entry into office of US President Obama and his April 5 Prague speech about nuclear disarmament was seen to herald a new US willingness to engage constructively on this issue, thus improving the atmospherics of the meeting.

Administrative and procedural matters at the 2009 PrepCom Session

The Chair's proposals for the Agenda of the 2010 Review Conference and on specific issues to be addressed by Main Committees I, II and III of the RevCon were agreed on the third day of the meeting, thus guaranteeing that there would be no repeat in 2010 of the prolonged lack of agreement on these issues and the delay in starting committee discussions experienced by the 2005 RevCon. Furthermore, the states parties reached agreement on almost all the outstanding procedural and administrative issues. The only procedural issues left undecided were the subject matter of the Subsidiary Bodies within the three Main Committees, and whether there would be a single Final Document from the conference or more than one.

States parties also engaged in discussions in the PrepCom's three "clusters" and the special time within them, on the basis of the "5 minute Rule" introduced in 2007. The resultant focussed and fast-moving discussions enabled the Chair to circulate a set of draft substantive recommendations to delegations towards the end of the first week. During the second week the Chair engaged in discussions on these among interested parties, which led to a revised version being issued in the middle of that week. Requests were made to the Chair that he produce a final version to see if it was possible for the PrepCom to accomplish something which none of its predecessors since 1995 had managed to achieve: sending a consensus set of recommendations to the RevCon. However, when this third version was opened to debate on the final morning of the session it rapidly became clear that some parties wished for further textual changes. At that point the Chair judged that no further progress was possible, and moved to gain agreement on the formal report from the meeting and close the session

Substantive issues at the 2009 PrepCom Session

See the three versions of the Draft Recommendations to the 2010 NPT Review Conference (*Final Draft Version of Chair's Recommendations to the 2010 NPT Review Conference;, Draft Recommendations to the Review Conference – Revision 1; and Draft Recommendations to the Review Conference*). in *Part II,* Section B, MCIS CNS NPT Briefing Book 2010 Edition, pp 4-10

The 2010 NPT Review Conference (May 3-28, 2010)

International Context

The atmospherics of the 2010 conference were much more positive than in either 2000 or 2005. Its three preparatory meetings had been held in a generally co-operative atmosphere, and many states and commentators had emphasised their concerns over the negative consequences for non-proliferation of a 'failed conference', and the global significance of it producing a positive result. In stark contrast to 2005, the preparatory process had left only one immediate procedural issue to be resolved: the subject matter of the Subsidiary Bodies (SBs) attached to each of the three Main Committees (MCs).

The Obama Prague speech; his convening of a nuclear security summit at heads of state level; the Russia-US agreement on a follow-on to START I; the constructive public actions of both the French and UK governments in making their nuclear stockpile numbers more transparent ; and the early presentation of a P5 statement all indicted that the nuclear weapon states (NWS) were prepared to engage seriously on nuclear disarmament and warhead reductions. They had made significant efforts to discuss with Egypt and the Arab states possible steps to implement the 1995 Resolution on a Middle Egypt Nuclear Weapon Free Zone, while Egypt and the Arab states had offered practical ideas on how an ongoing process of engagement on this issue might be started. However, the IAEA had highlighted alleged nuclear activities in the DPRK, Iran and Syria as sources of concern, suggesting that consensus on any references to them in a Final Document from the Conference would be difficult to achieve.

Substantive Issues

As was to be expected, the process of creating bargaining positions

during the initial weeks of the conference led to considerable friction and several polarised positions and apparently irresolvable policy differences. Key issues that emerged for both the review of the treaty and any forward-looking action plan included:

- non-compliance with treaty obligations;
- a time-bound framework for disarmament, and starting work on a Nuclear Weapons Convention to replace the NPT;
- de-legitimising nuclear weapons on both human rights and legal grounds; giving them a diminishing role in security policies; and reducing their operational status;
- transparency by NWS of their nuclear weapon capabilities, including inventories of weapons; implementation of confidence building measures; and development of nuclear disarmament verification systems;
- CTBT ratification and entry into force;
- moratoria on the production of fissile materials for weapons and starting FMCT negotiations within the CD:
- NATO nuclear "sharing" and the stationing of US nuclear weapons outside national territories;
- nuclear security assurances and no first use commitments;
- ratification of NWFZ protocols and removal of their conditionality;
- a NWFZ in the Middle East;
- India, Israel and Pakistan becoming members of the treaty as NNWS, and the DPRK situation;
- the voluntary/mandatory status of the IAEA additional protocol, both as a an integral part of the safeguards standard for NPT parties and a condition of exports to non-parties;
- enhancing technical co-operation over peaceful uses with developing states;
- the 'Renaissance' of nuclear power and its consequences, including the need for a new generation of proliferation resistant reactors;
- multilateral approaches to the nuclear fuel cycle;
- nuclear security and the Washington nuclear security summit;
- a legally binding instrument to outlaw attacks on nuclear facilities;
- NPT institutional reforms;
- universality of the treaty; export controls; and new supply arrangements , including the US-India deal and nuclear assistance to non-parties (i.e. Israel); and
- Article X and the legal consequences of withdrawal, including continuation of safeguards, the role of the Security Council and the inclusion of dismantling/return clauses in supply contracts.

Decision Making Processes and Conference Products

One of the first decisions of the President was to repeat the tactic used in all NPT meetings since 2003 of avoiding discussion of the DPRK's NPT status by taking custody of its nameplate. Agreement was then reached in the middle of the first week on the subject matter of the Subsidiary Bodies, with SBI focussing on Nuclear Disarmament and Security Assurances; SBII on Regional Issues, including the Middle East and the Middle East Resolution; and SBIII on Other Provisions of the Treaty (Articles IX and X) and Institutional Issues. These bodies were to operate in informal session, with representatives of NGOs and international organisations excluded, in contrast to the situation with the Main Committees.

Iran played a major pro-active role both before and during the conference, in an apparent effort to prevent adverse wording on its policies appearing in any written output. It's game plan over the first three weeks appeared to be to prevent any consensus on the draft documents produced by the Main Committees and their Subsidiary Bodies by insisting that initial NAM positions should not be changed. In parallel, it was able to exclude any direct or indirect criticism of its enrichment programme in written drafts, and to focus attention on Israel's failure to accede to the NPT. It also argued for a totally transparent and inclusive decision-making process at the conference, thus allowing it to maximise its control over the drafting of any final document. When the deadline for the Main Committees to report was reached at the end of the third week of the conference, Friday 21 May, its representatives insisted that all Committee and Subsidiary Body Chairs should report to the President that a) there was no agreement on their existing draft texts, and b) none of those texts should be forwarded to him, thus giving them no formal status and seeming to block any consensus product emerging from the traditional reporting channels.

At that point in the proceedings, Iran had to go along with the President's decision that the Committees and Subsidiary Bodies would continue their work for a further day, and accept the circulation at midnight on Monday 24 May of an annotated "Draft Presidential Final Declaration" based on previous committee work. They clearly were unhappy when the President started to work through this text section by section in plenary late on the morning of Tuesday 25 May and, having failed to prevent this move, indicted that they wanted to be free to challenge this procedure and any documents emerging from it later. Aided by others, they then responded by seeking to insert a large number of amendments into the Presidential draft. One result was that this read-through process continued into the afternoon of Wednesday 27th May.

At its conclusion, the President requested that three informal groups should restart negotiations over wording on nuclear disarmament; peaceful uses; and Article X and institutional change, with a deadline of submitting agreed language by 1300 on Thursday 28th. In all these discussions, the Iranians ensured no agreed texts resulted for report to the President. In parallel, negotiations including Iran had been taking place in private in the Egyptian mission among 16-20 key delegations on wording on key issues in the outcome documentation.

Late on Thursday afternoon a plenary was convened at which the President's "Draft Final Document" was circulated. This was in two parts. The first was a non-consensus report on the review of the treaty containing language describing the nature of disputed evaluations of the implementation of treaty commitments, with a footnote in an extremely small font indicating that "The review is the responsibility of the President and reflects to the best of his knowledge what transpired with regard to matters of review". The second section entitled "Conclusions and recommendations for follow on-actions" was intended to be a consensus document, given that the footnote to the first implied it only covered the review of the Treaty.

This separate section covered 64 "Actions" in the three NPT issue areas (pillars) of Nuclear Disarmament (22), Nuclear Non-Proliferation (24), and Peaceful Uses of Nuclear Energy (18). It also contained a 10 point document on "The Middle East, particularly implementation of the 1995 Resolution on the Middle East" containing five "practical steps", with a final paragraph on "other regional issues" to address the DPRK situation. (The non-consensus report also contained six action statements, three of which duplicated ones in the Action plan and three of which were unique to it). The President then announced that the conference would meet one final time the next day to either accept his text as the Final Document from the conference, or reject it.

This final Plenary eventually met on Friday afternoon, being held up, it was suggested, by the need for the Iranians to receive instructions from Tehran, President Obama having already signed off on the document.(even though it contained no negative comments about Iran's activities). At this meeting the President justified the non-consensual nature of the review of the treaty by reference to the precedent set in 1985, when the issue of completing a CTBT had been treated in this way. Iran chose not to block acceptance of the document circulated the previous night, as the Arab states had made it clear that they were satisfied with the 10 point document on the Middle East Resolution incorporated within it, and would not support any attempt by Iran to place this in jeopardy. This enabled the "Final Draft Document" to be agreed without opposition (i.e. by consensus) for inclusion in the Conference final report. (In the Final Document placed on the UN website after the Conference, the non-consensual view was stated to have been "noted" by the Conference, while the consensual part was "adopted".) However, Iran did make its disappointment clear over the limited movement on nuclear disarmament in its explanation of vote afterwards, as did a number of other states.

The unique structure of the 2010 Final Document was important, as for 35 years NPT parties had been constrained by the procedural understanding of always seeking a mandatory consensus document as the product of an NPT Review Conference. The clear division made in 2010 between the review of the operations of the Treaty, which

contained "some think this, some think that" language to handle areas of acute disagreement and was not a consensus document (but was agreed by consensus), and the consensus forward looking action plan covering all pillars of the Treaty, is a precedent that could be adopted in future years. This would enhance the chances of arriving at future outcomes that can be characterised as successful. Indeed this may prove to be the main "institutional change" generated by this Review Conference. Suggestions for more extensive changes only resulted in a proposal in the review section of the document for the creation of a dedicated NPT post within the UN Office of Disarmament Affairs. Voluntary funding will be required for this, and its implementation is to be addressed in the next review cycle.

Any text of 28 pages agreed in 20 working days of negotiation and bargaining with little prior preparation will inevitably have drafting flaws, repetitions and omit language that many regarded as desirable: it will be a compromise. The 2010 Final Document is no exception. For example, the language in the action section of the document lacks precision in many areas over which states are being enjoined to act in relation to the recommendations. The words "all states" and "nuclear weapon states" are frequently used without qualification as to whether it is "all UN states" or "all NPT states parties", while the term "nuclear weapon states" often fails to distinguish between "NPT nuclear weapon states" and non-NPT "nuclear weapon states". The result is that some actions appear to be the responsibility of states with no legal obligation to carry them out (i.e. those states non-parties to the Treaty).

For the first time, the review document covered implementation of all articles of the Treaty by including Article X on withdrawal. Although this did not translate into an element in the action plan, the precedent it set for further attempts to clarify how this article should be translated into practical actions (and the concerted actions by Iran to have it removed when at one point it appeared the text would imply that all fissile material created before withdrawal from the treaty should remain under safeguards in perpetuity), may also prove to be significant in future.

In the same context, it should be noted that whereas in 2000 the principle of irreversibility was to apply to "nuclear disarmament, nuclear and other related arms control and reduction measures", this has now been widened to all parties being committed to apply through Action 2 "the principles of irreversibility, verifiability and transparency in relation to the implementation of their treaty obligations". Arguably, this moves the States parties closer to having IAEA safeguards continue to apply in perpetuity to all materials and facilities acquired or created before a withdrawal from the NPT.

However, it is Action 5 which displayed the most significant changes compared with the 2000 text. It committed individual P5 states to ***engage*** with each other bilaterally or multilaterally on disarmament issues. As these are the only NPT states with nuclear weapons, this approach offers a more practical and realistic chance of progress than previous commitments made within the larger inclusive NPT context. Over the previous 45 years this encouraged diplomatic game playing but produced little practical action. Acton 5 commits the NWS to "accelerate concrete progress on the [13] steps leading to nuclear disarmament".

More significantly it lists an additional 7 practical steps with which they should "promptly engage". For example, Action 5b committed the NWS to address the issue of nuclear weapons "regardless of their type and location". This effectively committed the Russian Federation to address (though not negotiate) the issue of non-strategic nuclear weapons as part of a "general nuclear disarmament process" and the United States the weapons it stores in NATO states. Action 5d committed them to discuss policies that could "prevent the use of nuclear weapons and eventually lead to their elimination"; 5e to "consider... reducing the operational status of nuclear weapon systems"; and 5g to "further enhance transparency and increase mutual confidence". In addition, the NWS were called upon to "report the above undertakings to the Preparatory Committee at (sic) 2014". Each P5 state therefore made an individual obligation to implement the seven actions through each progressing towards them when their analysis of the security situation determines that the conditions were ripe for this.

Action 5 therefore involves a marked departure from the situation created in 2000. In that year, all the NPT states agreed a list (para.15.9) of only six practical steps, and called on all states parties had to produce regular reports on progress (with "regular" undefined). In 2010 the states parties legitimised and delegated the NWS individually and collectively to address, consider or discuss the seven enhanced specific steps and report on this activity within a time - bound framework: the 2014 PrepCom session. In effect, they were given authority to discuss these steps among themselves, rather than in a wider multilateral forum, as well as committing themselves to report on them to the much wider NPT forum by a set date. Finally, Action 23 "encourages" all the NWS to agree as soon as possible a standard reporting form to provide information on nuclear disarmament voluntarily and invites the UNSG to establish a publicly accessible repository for it.

Section 7
The 2015 NPT Review Cycle

The First PrepCom Session, Vienna, April 30-May 11 2012

The political context for this meeting included the resumption in mid-April 2012 of talks between Iran and the P5+1; renewed efforts by the IAEA to resolve outstanding issues relating to the 'possible military dimensions' of Iran's nuclear programme; and ongoing consultations on the 2012 conference on the establishment of a Middle East zone free of nuclear weapons and all other weapons of mass destruction, as mandated by the final document of the 2010 NPT Review Conference. A desire for this background activity to proceed unhindered produced a markedly sedate PrepCom session, notably for its procedural efficiency.

Thanks to thorough and inclusive prior consultations by the Chair, Ambassador Peter Woolcott of Australia, most of the key procedural business was concluded within the first half hour of the first day of the PrepCom. In particular, the agenda (NPT/CONF.2015/PC.I/3) was adopted without objection, avoiding the fight that had disrupted the corresponding PrepCom session in 2007. The date and venue for the second session of the 2015 cycle was also agreed: 22 April-3 May 2013, in Geneva. Because of a dispute within the Eastern Group there was no agreement on the next PrepCom Chair. [Romania was subsequently nominated for this post in November 2012.]

The PrepCom then commenced its general plenary debate. This was interrupted by the May-day public holiday and concluded on the Thursday, later than the time allotted in the Chair's indicative timetable (NPT/CONF.2015/PC.I/INF/3). However, debate on Cluster One issues (NPT/CONF.2010/1, annex V) – implementation of the provisions of the Treaty relating to non-proliferation of nuclear weapons, disarmament and international peace and security; and security assurances – and the Cluster One specific issue, nuclear disarmament and security assurances, finished ahead of schedule, with the Chair's speaker list empty by the afternoon of the Friday, at which point the session was suspended for the weekend.

Debate on Cluster Two issues – implementation of the provisions of the Treaty relating to non-proliferation of nuclear weapons, safeguards and nuclear-weapon-free-zones – commenced on the Monday of the PrepCom session as scheduled. Discussion of the Cluster 2 specific issue – regional issues, including with respect to the Middle East and the implementation of the 1995 Middle East resolution – commenced on the morning of Tuesday with a statement from the Facilitator of the conference on a WMD-Free Zone in the Middle East, and continued through the day.

Cluster Three issues – implementation of the provisions of the Treaty relating to the inalienable right of all Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes, without discrimination and in conformity with articles I and II – were debated through to the end of Wednesday . The PrepCom session then broke earlier than scheduled on the Thursday after debating the Cluster Three specific issues: peaceful uses of nuclear energy and other provisions of the Treaty, and improving the effectiveness of the strengthened review process.

The first PrepCom session was concluded in short order on Friday with the adoption of the draft report (NPT/CONF.2015/PC.1/CRP.2) essentially unamended. As had become customary, the Chair's factual summary of the PrepCom session was not annexed to the formal

report, but rather issued as a working paper. The Chair indicated that he had decided on this path early in the process, in recognition of the fact that agreeing a consensus final document to forward to the second session was an unlikely prospect. The Chair's summary was comprehensive and well-received, its substance only challenged on individual points.

Many state representatives had made reference, in statements and in informal discussions, to the 64-point action plan as a guide for the PrepCom's work, and this was reflected in the substantive debate. Moreover, the nuanced language ('states parties', 'many states parties', and 'some states parties') of the Chair's factual summary of the first PrepCom session, credited by many observers with ensuring the document's positive reception, was in part an extension of the language used in the review section of the 2010 RevCon final document, itself issued as a President's non-consensus summary (NPT/CONF.2010/50 (Vol. I), Part I). This was therefore seen by some as reinforcing the precedent set in 2010 for the separation of non-consensus and consensus Review Conference outcome documents.

The Second PrepCom Session, Geneva, 22 April-3 May 2013

The second PrepCom took place against a background of several ongoing negotiations. The 'P5+1' powers' had met with Iran in Baghdad and Moscow in 2012, and in Almaty two weeks before the PrepCom. At the same time, the inability of the depository powers, the UN Secretary-General, and the designated facilitator to convene a conference to discuss a WMD-free zone in the Middle East (MEWMDFZ) had resulted in the goal set out in the 2010 Final Document to hold it before the end 2012 not being met, and no new date being agreed-upon.. In East Asia the DPRK had tested a long-range rocket on 12 December 2012 (describing it as a satellite launch), and conducted a nuclear test on 12 February 2013, while the Six Party Talks over its nuclear disarmament remained stalled. P5 consultations on confidence-building measures to support their nuclear disarmament had been held on 27-29 June 2012 in Washington, DC, and in Geneva on 18-19 April 2013, immediately prior to the PrepCom. However, these states had been absent from a conference to discuss the humanitarian impacts of nuclear weapons held in Oslo on 4-5 March 2013.

The PrepCom opened with the swift adoption of a number of procedural items. Ambassador Cornel Feruta of Romania was confirmed as its Chair; the indicative timetable was approved; and Ambassador Enrique Roman-Morey of Peru was nominated to Chair the third PrepCom in New York in 2014. General debate commenced on the morning of the first day, and lasted until the afternoon of day three. Short national statements were made reaffirming the importance of the NPT and the significance of the treaty's three pillars. Emphasis was placed on implementation of the 2010 Action Plan, views were aired on inter alia, compliance and disarmament issues, and several states expressed regret over the postponement of the 2012 conference on a MEWMDFZ. This was followed on the morning of day three by the contributions from Civil Society, which on this occasion started with a keynote address followed by a panel discussion and responses to questions from delegates.

Debate then began in the afternoon of day three on Cluster One issues, and lasted until the afternoon of day four, after which the PrepCom took up the Cluster One specific issue, *Nuclear disarmament and security assurances*. Despite the emphasis paid to these issues in national and group statements, debate on them ended early on both the afternoon session on day four and the morning one of day five. The debate did, however, include a significant statement by South Africa on behalf of 77 states on the humanitarian impacts of nuclear weapons.

The PrepCom then proceeded on the afternoon of the fifth day to examine issues under Cluster Two. Discussions on these issues, including debates on non-proliferation compliance, lasted until the end of the morning session on day six,. The meeting then took up the Cluster Two specific issue, *Regional issues, including with respect to the Middle East and the implementation of the 1995 Middle East resolution.* Unsurprisingly, a large proportion of time was devoted to reactions to, and explanations of, the postponement of the 2012 conference on a MEWMDFZ, including a summary of developments to date from the facilitator, Ambassador Jaakko Laajava of Finland. Among other issues States also discussed the implications of the DPRK's recent missile and nuclear tests.

The afternoon session of day six closed with an announcement by the delegation of Egypt that it was withdrawing from the meeting "to protest [the] unacceptable and continuous failure to implement the 1995 Middle East Resolution." Egypt acknowledged in its statement that the Arab group had been debating a coordinated boycott of the PrepCom as a whole prior to the meeting, but only Egypt chose to implemented it in what it described as a response to "flagrant non-fulfilment of agreed commitments". The chair of the PrepCom suspended debate on the Middle East issue in order to offer some time for Egypt to rejoin the meeting, but when this did not happen the debate on the Cluster Two specific issue was reopened and concluding at the end of the morning session of day seven..

Debate on Cluster Three, *Implementation of the provisions of the Treaty relating to the inalienable right of all Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes* began in the afternoon session on day seven and continued into day eight. This debate focussed on the right of all Parties to the Treaty to develop the use of nuclear energy for peaceful purposes, and also the safety issues arising from the Fukushima accident. The latter included the need for co-operative efforts to strengthen nuclear safety regimes, given that nuclear emergencies have no respect for state borders.

An innovation at this PrepCom was a final session in day nine on innovations which might strengthen the NPT review process. Suggestions for this included shortening the duration of the first two PrepComs; holding them in areas besides New York, Geneva and Vienna; making greater use of modern conference technology; and individual meetings having a more focussed Agendas. Also discussed were possible reforms to the mechanism for withdrawal from the NPT under Article X

The final day of the PrepCom session was occupied by consideration of the procedural report of the Preparatory Committee, issued as NPT/CONF.2015/PC.II/12,and the Chair's factual summary, which was adopted as a non-consensual working paper, NPT/CONF.2015/PC.II/WP.49.

The Third PrepCom Session, New York, 28 April to 9 May, 2014

This session was chaired by Ambassador Enrique Roman-Morey from Peru. The political context included the ongoing negotiations between Iran and the P5+1 over the nature of its nuclear programme; the conflicts in Syria and the disarmament of its chemical weapons by the OPCW; the ongoing failure to convene a conference on the establishment of a Middle East Zone free of nuclear weapons and all other weapons of mass destruction; the militarized territorial conflicts between Ukraine, Russia and the forces occupying land on the former's eastern borders and the Crimea; the stalled six party talks over North Korea's evolving nuclear weapon capabilities; the evolving international disarmament debate focused on the humanitarian aspects of nuclear weaponry; and the requirement in the 2010 Review Conference Final Document for the five NPT state parties to use a common framework to report at the 2014 PrepCom on their disarmament activities.

Administrative and Procedural Issues

In comparison with the tasks to be undertaken at the first and second NPT 2015 PrepCom meetings, the third one in 2014 differed in two important respects. One of the documents that constituted the decision taken in 1995 to extend the treaty indefinitely (NPT/CONF.1995/32/DEC.1,Para 4) gave the third PrepCom in an NPT review cycle two specific mandates. One was to "consider principles, objectives and ways in order to promote the full implementation of the Treaty…and to make recommendations thereon to the Review Conference": the other was to "make the procedural preparations for the next Review Conference".

The PrepCom meetings in 1999, 2004 and 2009 had failed to produce agreement on such "recommendations", and thus there was no clear precedent for the Chair of the 2014 PrepCom to use to fulfil this task. His predecessor at the 2009 meeting had produced three successive drafts of a "recommendations" conference room paper for delegations to comment upon, the last one (NPT/CONF.2010/PC.III/CRP.4/Rev2) being structured around eight key issues. Although the final draft was given no status within the PrepCom report, it did serve as a basis for further work at the 2010 Review Conference. In addition the 2009 meeting, perhaps mindful of the failure of the PrepCom in the 20O5 cycle to reach agreement on the Agenda and other procedural matters until its third week, had reached agreement by the end of the PrepCom on most outstanding procedural issues. The exceptions were the number and subject matter of the subsidiary bodies to be created within each of its three Main Committees and whether there was to be only one integrated report on its substantive work, or separate forward and backward looking ones.

Another past procedural norm that it was assumed would be operative arose from the Chair of the troubled 2007 PrepCom meeting having limited statements by states parties to 5 minutes and groups to 10 minutes in order finish its listed business. By 2009 this had become the norm, thus enabling discussions in the "clusters" and "special time" to be completed expeditiously in line with its published timetable and allowing the Chair to circulate a set of draft "recommendations" to delegations at the end of the first week. This allowed delegations to focus during the second week on amending the three successive draft texts the Chair produced, though ultimately no consensus emerged on one to forward to the 2010 Review Conference.

As in the past, the 2014 PrepCom was scheduled to start with a General Debate giving an opportunity for delegations to highlight the NPT issues they regarded as being of greatest concern. The timetable circulated prior to the conference (entitled a Programme of Work rather than the wording of Indicative Timetable used in the first two PrepComs) indicated that this debate would occupy the first three sessions of the conference, followed by a session of presentations by Civil Society in the afternoon of the second day. Over the following three days the sessions would be devoted to statements addressing clusters of issues similar in content to those used by the Main Committees at Review Conferences and specific special issues within each cluster. During this first week outstanding procedural issues would also be addressed, thus allowing sufficient time overall for a consensus document to emerge on recommendations to the Review Conference, assuming that the 2007 rules on the lengths of interventions continued to operate.

In practice, the 2014 meeting started very positively from a procedural perspective, with an updated version of the 2010 conference agenda referencing the 2010 Final Document being adopted by consensus as the draft for 2015. This occurred on the first day, thus avoiding the problems experienced in 2005. In addition, almost all the other procedural issues were also resolved in the course of the first week. These included the date and venue of the Review Conference (27 April to 22 May 2015 in New York); its provisional agenda and rules of procedure; the allocation of items to the Main Committees; the background documentation; and the nationality of the President of the Conference and other officers (President: Ambassador Taous Feroukhi of Algeria; Chair of Main Committee I: Ambassador Enrique Roman-Morey of Peru; Chair of Main Committee II: Ambassador Cristian Istrate of Romania; Chair of Main Committee III: Ambassador David Stuart of Australia;). The only issues that were not resolved (as in 2009) were the need to agree the substance and Chairs of the subsidiary bodies within the Main Committees and whether the Conference should seek to produce one integrated report or separate forward and backward looking documents. At this first session the Chair announced that the draft of a set of recommendations to the Review Conference would be circulated at the end of the first week, thus giving delegations considerable time to consult capitals in advance of the next week's discussions.

40 states made statements during the first two sessions of General Debate in Day 1, followed by interventions from a further 18 states during the third session on Day 2, session four which followed being devoted to presentations by Civil Society. This left a further 32 states waiting to speak in the two sessions on Day 3. Cluster one discussions were thus unable to start until the last hour of the sixth session and significantly behind schedule when 9 states made interventions. One reason for this delay was delegations ignoring the "5 minute" rule during the initial General Debate. The Chair then decided to adhere to the published timetable by spending Day 4 on Cluster two issues rather that continuing with the Cluster one debates. 23 states then made statements in its seventh session and 17 in the eighth session in the afternoon. Delegations also received a report in this session from the Facilitator on progress towards the holding of the Conference on a Middle East NWFZ.

Day 5 saw some 40 delegations returning to addressing Cluster 1 issues during the ninth and tenth sessions. This sustained the one day lag in the scheduling and led the Chair announcing he would be unable to circulate his draft set of recommendations until the outstanding substantive issues had been disposed of at the start of the next week. This process started on Day 6 with 45 states participating in discussions in sessions eleven and twelve on Cluster three issues, leaving eight states to speak on Cluster two issues in the morning of Day 7 during the Conference's thirteenth session. In addition, the five NPT nuclear weapon states used this opportunity to sign their protocols to the Central Asian Nuclear-Weapon-Free Zone (CANFEZ) Treaty. The Chairman then indicated he needed to engage in further consultation on his draft of recommendations to the Review Conference, and that he would present his draft text of recommendations to the Preparatory Committee the next morning. The Chairman did this on Day 8 in a brief 15 minute plenary meeting. The text itself was structured under four headings: nuclear disarmament, nuclear non-proliferation; peaceful uses of nuclear energy; and regional and other issues.

The Conference then recessed to allow parties to make comments and conduct further consultations with the Chairman (but not engage in public negotiations). The consequences of this process would then be reported to a further plenary session scheduled for the morning of Day 9. At this session some 20 delegations offered their assessments of the draft text. Most were supportive of the majority of the text, but a significant number wished to see a range of specific amendments before they would regard it as a balanced document and were supportive of further work to try to achieve this. The Chair then adjourned the session until a further plenary meeting in the afternoon.

At this the Chairman announced that it was his judgment that while parties were willing to engage in further consultations over amendments to the text, there was insufficient time available for consensus to emerge. He therefore informed the states parties that he would amend the existing text further in the light of the comments he had received and convert it into a Chair's Working Paper (NPT/CONF.2015/PC.III/WP.46) to be made available to the Review Conference under his own authority. An accompanying note explained that "This document reflects the Chair's assessment of the elements on which the Preparatory Committee may have been able to evolve convergence sufficient to convey the following recommendations to the review Conference in a spirit of flexibility and compromise."

The Conference then convened for a final session on Day 10, the morning of Friday 9 May to adopt the formal report from the PrepCom (NPT/CONF.2015/1) and conclude its work. As a result, the Chairman's non-consensual working paper was the only substantive collaborative product from the meeting.

One final administrative issue that emerged from the PrepCom was the increasing number of formal and informal groupings of states present at NPT meetings. Through to 1995 three groupings of states dominated NPT discussions [the Non-Aligned Movement/Group of Non-Aligned States (NAM); the Eastern Group (the USSR and the Warsaw Pact states); and the Western and others Group (WEOG)]. The interactions between their leadership and the Chair/President of the conference were essential building blocks in producing a negotiated consensus outcome from a Review Conference. Since that date the number of focused interest groups has been slowly rising. In 2014 they included the above three plus the Vienna Group of Ten; the New Agenda Coalition; The League of Arab States; The EU; The Non-Proliferation and Disarmament Initiative; Building Blocks for a World without Nuclear Weapons; the Humanitarian Impact of Nuclear Weapons; the De-alerting Group; the Nuclear Security Summit Group; the Pacific Island States; and the Nuclear Suppliers Group. It remains unclear whether the increase in these groups will make achieving a consensus outcome to the 2015 Review Conference easier or more difficult.

Substantive Issues at the 2014 PrepCom

See Third Session of the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear weapons, Chairman's Working Paper NPT/CONF.2015/PC.III/WP.46.

The 2015 NPT Review Conference (27th April-22nd May 2016)

The ninth NPT Review Conference was held from the 27th of April to the 22nd of May 2015 at the UN Headquarters in New York. The Algerian Ambassador Taous Feroukhi presided over the four-week-long meeting. As with four other previous Review Conferences since 1975, agreement on a substantive outcome document was elusive despite many efforts to achieve consensus in the final week. Although unable to reach a substantive agreement, the Conference adopted a procedural report during its final plenary before the end of the Conference.

The Conference took place against a background of deteriorating US-Russian relations, including mounting political tensions over the situation in Ukraine, and Russia's annexation of the Crimea. In the

nuclear field the two countries had exchanged allegations of non-compliance with the terms of their INF treaty, and doubts about their future cooperation on nuclear security issues. On the Middle East, the timeline set in the 2010 action plan for convening a Conference on the establishment of a WMD-free zone in the region had not been met, causing bitterness among Arab states. Its consultation process, started under the Finnish facilitator Ambassador Jaakko Laajava, had yielded five informal meetings in Vienna, Geneva and the Swiss resort of Glion. Although these were attended by key regional actors, they failed to achieve any significant breakthroughs. On disarmament, a series of Conferences on the Humanitarian Impact of Nuclear Weapons (HINW), (HINW), as well as joint statements on the subject delivered at the NPT Preparatory Committee meetings and UN First Committee sessions, had attracted wide support among NPT members, but also exposed divergent views between nuclear-weapon states and their allies and other non-nuclear weapons states on how to achieve this objective.

On the first day of the meeting the Conference adopted the agenda as recommended by the Preparatory Committee, and moved swiftly to elect Ambassador Feroukhi as its President and the members of its Conference Bureau. After the conclusion of the general debate, substantive discussions took place in the three Main Committees; and their respective subsidiary bodies, and in informal closed consultations organised by the President. The Main Committees followed the traditional division of work in the previous twenty years with some minor variations:

- Main Committee I reviewed progress in nuclear disarmament, security assurances and disarmament education. Its Subsidiary Body I's focussed on formulating forward-looking elements to bolt-on to those agreed in the 2010 action plan;
- Main Committee II dealt with non-proliferation, safeguards and nuclear weapons free zones. Its Subsidiary Body II was focussed on practical steps related to the Middle East WMD-free Zone, and;
- Main Committee III focused on reviewing the implementation of the NPT's peaceful use provisions and possible forward-looking elements. Subsidiary Body III dealt with strengthening the review process and response to treaty withdrawal.

Discussions in the three Main Committees and their Subsidiary Bodies revealed marked differences between states on several key issues. As a result, all failed to reach consensus on their draft substantive reports. Two issues in particular proved to be polarising and divisive throughout the Conference: the Middle East and Nuclear Disarmament.

On the Middle East, a key issue was how to convene the regional conference on the establishment of the Middle East WMD-free zone that initially had to be held in 2012 but never took place. An Arab group working paper (NPT/CONF.2015/WP.33) was tabled in the Review Conference and proactively promoted by Egypt. This called for the UN Secretary General to step in to convene the regional Conference within 180 days, and defined some of the main parameters for such a Conference. These were then incorporated in a NAM working paper (NPT/CONF.2015/WP.49). The visible outcome of these developments was a major split between the three co-convenors toward the tabled proposals. The US and the UK opposed them, while Russia was willing to engage with them and played a role in reformulating certain aspects of them during subsequent negotiations. The objections voiced by the US, UK and some other states were made on the grounds that the Arab group proposals were too prescriptive and unrealistic. Instead, these states advocated for the continuation of regional consultations to agree on the time frame and agenda of such a Conference.

How to address disarmament and the humanitarian consequences of nuclear weapons were two further key issues. The Humanitarian Initiative had the momentum of three Conferences behind it, as well as an Austrian-led Humanitarian Pledge that was ultimately endorsed by 107 states. A considerable increase in support for the Initiative meant that many states wanted to see the humanitarian dimension and some of the findings discussed during the preceding three HINW Conferences adequately reflected in the final document. This was met by resistance from the nuclear weapons states. Support for the Initiative was widespread among the non-nuclear states, though the tone, the extent of that support, and the perspective on next steps varied. This was reflected in two different statements being presented to the Review Conference: one by Austria and supported by 159 states (delivered to the Plenary on the 28th April 2015) and another by Australia on behalf of 26 states called the Humanitarian Consequences Group (delivered to the Plenary on 30 April 2015).

Broader differences among state parties on the pace of disarmament also proved to be a divisive topic. On the one hand the nuclear weapons states, with some support from NATO and other non-nuclear weapons states, continued to advocate a 'step-by-step' approach. On the other hand, most other non-nuclear weapons states expressed frustrations about the lack of tangible progress with nuclear disarmament and expressed their determination to include specific 'effective measures' toward this in any final document. Proposals for implementing this included enhanced transparency of the nuclear weapons states' nuclear activities and reporting on their implementation of disarmament measures, revival of the Open-Ended Working Group (OEWG) on nuclear disarmament, and launching negotiations on a legally binding instrument to prohibit nuclear weapons.

Other notable developments at the Conference included Palestine attending as a state party after acceding to the NPT the preceding February and becoming its 191st state party. Israel attended as an observer for the first time since the 1995 Review and Extension Conference and formally presenting a working paper to the Conference on their views on how to achieve a WMD Free Zone in the Middle East (NPT/CONF.2015/36). The five nuclear weapon states presented to the Conference a multi-lingual glossary of nuclear terms (NPT/CONF.2015/41); prepared jointly under the Chinese coordination. They also separately presented updated reports on their implementation of the NPT, focussing in part on action they had agreed to undertake under items 5, 20 and 21 of the 2010 action plan. The reports varied significantly in the amount of information and detail provided by each nuclear weapons state. In addition, a bitter disagreement emerged between the Japanese and the Chinese delegations over a proposal to organise visits by world leaders, experts and youth to Hiroshima and Nagasaki to witness on the ground the consequences of nuclear weapons use. China blocked such a proposal, accusing Japan of seeking to reshape the historical narrative of its role in World War II. A compromise was only reached when the explicit references to the two Japanese cities were removed from proposed Conference drafts.

Ultimately, and despite prolonged negotiations, none of the three Main Committees or their Subsidiary Bodies managed to produce a consensus report to give to the President at the end of the third weeks work for incorporating into the Conference's Final Document. This meant that during the last days of the Conference the task of salvaging this document rested in the hands of the President, operating though several informal and closed consultative bodies. These included a 'Focus Group' of 19 states that met in the Algerian mission, with the aim of breaking the deadlock over agreed text on disarmament that existed in Main Committee I and its Subsidiary Body. A smaller backchannel was convened to address issues related to the Middle East WMD-Free Zone. In addition to these channels, the President convened several smaller ad-hoc consultative meetings on the text of a possible Final Document as the Conference was drawing to a close. The president also asked the chairs of Main Committees II and III to continue the negotiations on their respective committees' reports. On Wednesday evening, the 'Focus Group' and the committees, having failed to achieve an agreement, stopped their work, and the draft texts were transferred to the president. Consultations on the Middle East continued late into the Thursday night.

Only during the final day of the Conference that a fully formed draft final document emerged for presentation by the President to the Conference. This document was drafted by the President and was largely based on her own back-channel consultations and the drafts received from Main Committee chairs. Despite her efforts and those of others, the draft she presented to the Conference was regarded by many as unlikely to bridge the significant differences in positions between the various key states. In discussing the draft (NPT/CONF.2015/R.3), she described it as the culmination of her 'best efforts to take into consideration the conflicting expectations of States parties', and admitted that the differing positions held by key members of the Treaty 'made it impossible to produce a consensual document.'

Once the President's draft was formally presented to the Conference, the onus was put on those states that rejected its contents to declare their formal opposition to it in the few remaining hours of the Conference. The US delegation was the first to announce that it was 'unable to endorse' the draft document, referring particularly to the sections in the draft focussing on the Middle East. The UK delegation followed by identifying the Middle East as 'the sole issue that posed a problem' for them, as did the Canadian delegation. After calling for a suspension of the meeting, the Iranian delegation, which was the chair of the Non-Aligned Movement at the time, described the draft as 'the best compromise it would be possible to achieve' and that the group was 'deeply dismayed by the unexpected rejection by three delegations of the document.' Egypt, which had been explicitly singled-out by the US delegation in their closing statement, took the floor to denounce those who had refused to join the consensus to accept the President's text. By then it was clear that no agreed substantive report from the conference was possible, and around 9 pm, four hours after its scheduled termination, the President declared the 2015 NPT Review Conference closed without the adoption of a substantive Final Document.

Key positions in 2015 Conference Bureau

President	Taous Feroukhi (Algeria)
Chair of Main Committee I	Enrique Román-Morey (Peru)
Chair of Main Committee II	Cristian Istrate (Romania)
Chair of Main Committee III	David Stuart (Australia)
Chair of Subsidiary Body 1 under Main Committee I	Benno Laggner (Switzerland)
Chair of Subsidiary Body 2 under Main Committee II	Juan Ignacio Morro Villacián (Spain)
Chair of Subsidiary Body 3 under Main Committee III	Kairat Abdrakhmanov (Kazakhstan)

Chairs and co-ordinators for key groups in 2015 Conference

Group	Chair/coordinator
African Group	Nigeria
Arab League	Bahrain
Humanitarian Consequences Group	Australia
Humanitarian Initiative (joint statement)	Austria
New Agenda Coalition (NAC)	New Zealand
Non-Aligned Movement (NAM)	Iran
Non-Proliferation and Disarmament Initiative (NPDI)	Netherlands
P5	United Kingdom
Vienna group of 10	Australia

Section 8
The 2020 NPT Review Cycle

The First Prepcom Session, Vienna, 2–12 May 2017

The first session of the 2020 NPT review cycle was held in Vienna from 2 to 12 May 2017. 114 state parties participated in this Prepcom, which was chaired by Ambassador Henk Cor van der Kwast, the Dutch Permanent Representative to the Conference on Disarmament.

Several key developments shaped the context for this Prepcom. It was held against the backdrop of failure of the 2015 Review Conference to reach an agreement on a final document. The core unresolved issues that had precipitated this were differences over the creation of a WMD Free Zone in the Middle East and global nuclear disarmament.

International negotiations on a legal instrument prohibiting nuclear weapons had started in March 2017, and the NPT Prepcom was sandwiched between its two negotiating sessions. The final outcome of these negotiations was thus unknown when the Prepcom started, and no agreed draft text for this treaty existed. This issue continued to impinge on the views of the NPT state parties during the Prepcom, their views ranging widely between enthusiastic support for such an instrument and categorical rejection of it.

The Prepcom also occurred against the backdrop of elections in France, the UK and the US resulting in new governments, whose positions on many nuclear issues were still unknown. In particular, speculations were rife about the future of the Joint Comprehensive Plan of Action (JCPOA) that had frozen key aspects of Iran's nuclear programme, and had been a key issue during the US elections.

The relations between Russia and the US continued to deteriorate in this period with allegations of the former meddling in the latter's election process and claims of Russian non-compliance with its INF commitments. This situation had a mixed impact on their cooperation. While both continued to implement their New START commitments, their cooperation in other areas, such as nuclear security, suffered. For example, since 2009 the NPT nuclear weapons states (referred to as the P5) had held annual conferences dedicated to discussing their nuclear issues. This process had stalled, and in 2017 no such meeting was organised prior to the Prepcom. Another of the key challenges facing the treaty was how to deal with the DPRK, which claimed it had withdrawn from the NPT and was continuing to test both nuclear devices and long range missiles to carry them.

On its first day, the Prepcom elected the Chair by acclamation, adopted the agenda, and passed other standard procedural motions. The meeting then proceeded in a fashion similar to previous Prepcoms. Substantive discussions started with a general debate on issues related to all aspects of the work of the Prepcom. This was followed by discussions that were structured to provide equal time for discussion of three clusters of wide ranging issues and three more specific areas of concern. The cluster debates reviewed the implementation of various provisions of the treaty using the same allocation of items as the Main Committees of the 2015 Review Conference. The three more focussed issues for discussion were: (a) Nuclear disarmament and security assurances; (b) Regional issues, including with respect to the Middle East and the implementation of the 1995 resolution on the Middle East; and (c) Peaceful uses of nuclear energy and other provisions of the Treaty.

One of the innovations during the Prepcom was the Chair's introduction of a traffic light system that tracked the length of statements delivered to the conference. Delegates were encouraged to respect the time limit of five minutes for national statements and eight for group statements. The Chair also encouraged delegations to engage in interactive debates on substantive matters during the sessions, rather than reading out pre-prepared national statements.

Discussion of nuclear disarmament continued to focus on areas where the views of state parties significantly diverged. Nuclear weapons states continued to argue that they were taking visible steps toward nuclear disarmament. However, in 2017 they did this separately rather than collectively. Unlike in previous meetings, the five nuclear weapon states did not attempt to present a common statement. They also exchanged accusations about their nuclear postures, but at the same time criticised the efforts of non-nuclear weapon states to reach agreement on a nuclear ban by declaring they would not take part in its negation. Russia called these efforts 'premature,' and the US warned it might create an unbridgeable divide between the parties. Similarly, France and the UK also made public their reasons for not supporting

the process. China claimed it shared the objectives of the ban; favoured a gradual approach to it; but stated it would not take part in its negotiations. More positively, the US and Russia announced that they were both working toward reaching the limits agreed under their New START agreements.

The non-nuclear weapon states for their part argued that the nuclear weapons states were not doing enough to achieve tangible progress toward nuclear disarmament. Many criticized the nuclear states modernisation programmes, either planned or underway, as contradicting the letter, spirit and aims of the NPT. They also raised concerns about the lack of progress on de-alerting; on the lack of negative assurances that nuclear weapons would never be used against them; and the humanitarian impact of any use of nuclear weapons. Many of these concerns were cited as reasons for supporting the new legal instrument they were proposing to prohibit nuclear weapons. Yet not all non-nuclear weapon states supported such a ban; many of the non-nuclear weapon states in nuclear alliances, for example, expressed their reservations on joining such a process.

During the review process, several states raised the importance of reporting on the implementation of treaty obligations. The NPDI group called for regular reporting on this and urged all nuclear weapon states to both increase transparency and to use a standard format to report on their activities. The group presented a new reporting template (WP 16) for use by all States parties to provide information on their implementation of both their treaty commitments and the 2010 action plan. The NAC also called for nuclear weapon states to renew their commitment to submit regular and comparable reports on the implementation of both their Treaty obligations and commitments to nuclear disarmament (WP 13). Several states welcomed the work being done on disarmament verification, including the creation of a group of governmental experts to consider the role of verification in advancing nuclear disarmament. In that context, the US highlighted the role of the International Partnership on Nuclear Disarmament Verification, while the UK announced a new partnership between Norway, Sweden, the US and UK to further investigate methods for disarmament verification.

Many states expressed support for IAEA nuclear safeguards but familiar differences in positions emerged over the development of the IAEA state level concept and the verification standards for the NPT. While many states regarded that standard to be the Additional Protocol plus Comprehensive Safeguards, others, most notably Brazil, argued that the Additional Protocol could only be a voluntary instrument. NAM countries also called for an expansion of the scope of safeguards within nuclear weapon states.

The JCPOA was supported in many statements made by parties during the Prepcom. The US announced that it was reviewing its own policies, but remained committed to the implementation of the deal with Iran. The DPRK's nuclear and ballistic activities were condemned in many national and group statements. South Korea and France spearheaded an effort to produce a joint statement on the "Democratic People's Republic of Korea's nuclear challenge to the NPT." The statement was issued with the endorsement of 62 state parties (NPT /CONF.2020/PC.I/13). It condemned DPRK's nuclear and ballistic tests and urged it return to the NPT and to apply IAEA Safeguards to its nuclear activities. On DPRK, China reiterated its proposal for a 'suspension for suspension.'

The discussions on the Middle East generated significant differences both within the Arab Group and among the agreed conveners of the 2012 Conference (Russia, UK and US). How to deal with the lapsed mandate to convene a 2012 Middle East Conference remained unclear. Two separate working papers replaced the single traditional Arab Group working paper, reflecting the divergence in position within it. The first was by a group of 12 Arab states (WP 30) while the second was by Egypt alone (WP 27). This latter paper took the position that 'the introduction of new and alternative approaches and mechanisms to achieve the prompt implementation of the resolution becomes necessary.' The working paper by the 12 Arab states asked the Secretary General and the convening states to continue their preparations to prepare for the delayed 2012 Conference. It also asked the three conveners to provide a time frame and process within which the Conference would be implemented. In addition, the Gulf Cooperation Council, a sub group of members of the Arab League, presented a common statement delivered by Kuwait. These differences within the Arab Group extended to the NAM's handling of this issue. Unlike in the past, the NAM's members chose not to present a working paper on the Middle East.

Differences were also clear in 2017 among the three states committed to convening the 2012 Middle East Conference. In 2015 they had presented a common front at the beginning of the Revcon and submitted a joint working paper, though they were visibly divergences emerging by the end of that Conference. In the 2017 Prepcom, they presented neither a common position nor a joint working paper. The Russian Federation, however, chose to present a working paper (WP 31) reflecting its own national position and proposing Moscow as a venue for future consultations on the Conference, while the US and the UK made no relevant presentations.

On strengthening the review process and its working methods, the Netherlands highlighted the inability of the Prepcoms to take any substantive decisions, which increased the load this placed on the Review Conferences. The US suggested that the use of subsidiary bodies was outdated and should be abandoned in favour of emerging topics. Australia suggested the use of a cumulative 'rolling outcomes' document, while several states highlighted the importance of reporting, accountability and implementation of state commitments.

On the penultimate day of the Prepcom, the Chair presented the conference with three documents. One was a paper headed 'Towards 2020: reflections by the Chair of the 2017 PrepCom'. This contained a list of 8 points that he believed reflected the basic assessments and shared views held by the parties to the NPT. The second document was his draft factual summary of the significant events during the conference. This was presented in the form, of a working paper (WP 40) covering the substantive discussions that had taken place during the Prepcom. The Chair invited delegations to express views and make comments on this paper, but indicated that he did not intend making any substantive changes to it. The third document was a formal report covering the procedural elements of the Prepcom. The delegates were asked to consider its contents and then vote on it.

Delegations then expressed their opinions on the content of the Chair's factual summary, while recognising that it represented his own account of the debate. Several non-nuclear weapon states wanted to see stronger references to the negotiations of a nuclear ban treaty and to the series of international conferences on the humanitarian impact of nuclear weapons that had preceded it. Nuclear weapon states expressed their reservations on both topics. Several Arab states and Iran wanted stronger language on the failure to implement the 1995 resolution on the Middle East. Brazil took issue with the text on both the IAEA state level concept and the references in the document they interpreted as suggesting the Additional Protocol should be the verification standard for the Treaty. Finally, both Brazil and South Africa refused to accept what they regarded as an implied relationship in the summary document linking the right to peaceful uses of nuclear energy and nuclear security. In closing the Prepcom, the Chair welcomed the comments that delegations had offered to him and that in his draft he had tried to reflect the richness of the debate as objectively as possible. To close the conference, the procedural report from the Prepcom was then adopted by consensus.

The Second Prepcom Session, Geneva, 23 April – 4 May 2018

The second session of the 2020 NPT review cycle was held in Geneva from 23 April to 4 May 2018 with the participation of 112 state parties. The Prepcom was chaired by Ambassador Adam Bugajski, the Polish Permanent Representative to the UN Office and International Organisations in Vienna.

A tense international environment shaped the context of this Prepcom. Relations between Russia and the US had been on a downward spiral amid increasingly acrimonious accusations of non-compliance with the INF Treaty. A few weeks before the Prepcom, chemical weapons were used in the Syrian city of Douma bringing into focus sharp differences between Russia and the Western Group over the issue of chemical attribution. Earlier in the year, the assassination attempt targeting a Russian defector resident in the UK through the use of a chemical warfare agent caused a diplomatic standoff between the UK, supported by its Western allies, and Russia. The combined impact of the tensions was reflected in the stalling of the regular meetings between the five NPT nuclear weapons states. These meetings had started in 2009,

with the aim of considering confidence building measures towards disarmament and non-proliferation but stopped in 2017 and 2018.

The Prepcom was also held amid growing international divisions over the state of nuclear disarmament. Significant nuclear modernisation plans were announced by key nuclear weapons states; most prominently by Russia and the US. The majority of non-nuclear weapon states supported the new Treaty on the Prohibition of Nuclear Weapons (TPNW), which was negotiated and concluded in July 2017 and opened for signature on 20 September 2017. Most of the non-nuclear weapons states endorsed the new Treaty seeing it as a step towards fulfilment of NPT article VI obligations. The five nuclear weapons states, who opposed the Treaty, declared they would not sign the Treaty and explicitly refused to acknowledge it as part of an emerging customary international law. States in formal defence alliances with nuclear armed states also opposed the Treaty.

Concerns over the DPRK's fast-advancing nuclear and missile programmes remained high on the nuclear agenda prior to the Prepcom. In September 2017, the DPRK tested its largest explosive device, and in November 2017, it tested a sophisticated long-range ballistic missile. Yet as the Prepcom was gearing up to start, and following a series of inter-Korean meetings, the DPRK announced a number of measures including the suspension of nuclear and missile tests. It was also announced that the two Koreas would establish a hot line, and that an inter-Korean summit as well as a DPRK-US summit were scheduled. While this opening provided room for optimism, no path for Korean denuclearisation had been charted by the time the Prepcom started.

The election of President Trump in the United States signified a change in US policy toward Iran. This raised doubts about US commitment to the 2015 Joint Comprehensive Plan of Action signed by Iran and the five nuclear weapons states and Germany (P5+1). It also raised tensions between the US government and other signatories who remained committed to the accord.

The 2018 Prepcom started with consideration of procedural matters, and continued to conduct its work on the basis of the agenda adopted at the 2017 Prepcom. Mr Muhammad Shahrul Ikram Yaakob of Malaysia was elected to serve as the Chair of the third session of the Preparatory Committee (later replaced by the Malaysian diplomat Mr Syed Mohamad Hasrin Aidid). The meeting also decided that the 2020 NPT Review Conference will take place from 27 April to 22 May and considered a report by the secretariat on the costs of the conference.

The meeting then proceeded in a fashion similar to previous Prepcoms. A general debate on issues related to all aspects of the work of the Prepcom ensued, followed by a review of the implementation of Treaty provisions as well consideration of three issues: (a) Nuclear disarmament and security assurances; (b) Regional issues, including with respect to the Middle East and the implementation of the 1995 resolution on the Middle East; and (c) Peaceful uses of nuclear energy and other provisions of the Treaty.

The general debate was notable in the frequent use of the 'right of reply' to respond to points raised by other delegations in their statements. Through the use of 'right of reply', Iran, Russia, Syria, the UK and the US traded accusations on a number of issues, including: non-compliance with the INF, responsibility for chemical weapons use in Syria and the UK city of Salisbury, and non-compliance with the Joint Comprehensive Plan of Action (JCPOA).

In addressing the substantive issues, disagreements over progress towards nuclear disarmament continued to play a key role in Prepcom debates. France, the UK and the US referred to post-cold war reductions while making frequent references to the deterioration of the international geopolitical environment. Russia emphasised the importance of the 'phase by phase approach' to disarmament while China highlighted that those possessing the largest arsenals bear 'special and primary responsibility' for disarmament. The US presented a Working Paper advocating a new approach under the title 'Creating the Conditions for Nuclear Disarmament (CCND)' (WP 30). The paper argued that a 'more meaningful and realistic dialogue on disarmament' should address 'underlying security concerns' and elaborated themes that could guide a new focus on disarmament. This initiative has since been renamed "Creating the Environment for Nuclear Disarmament."

Meanwhile, groups that traditionally have been vocal on disarmament politics (NAM, NAC and NPDI) emphasised, to varying degrees, the lack of progress on disarmament including earlier commitments in the NPT review process and highlighted the new nuclear modernisation plans. A new group under the title 'progressive approach' presented a joint statement, delivered by Australia. The statement stressed the importance of engaging the nuclear weapon states to build trust towards further reductions.

Discussions about the TPNW had a light footprint in Prepcom discussions, with positions on the new Treaty being expressed according to familiar fault lines . The five nuclear weapons states all reiterated that they would not join the new Treaty, while several states in nuclear alliances also objected to it. Many of the non-nuclear weapon states announced their support for the Treaty which they saw as a step towards fulfilment of article VI of the NPT.

Discussion on how to handle the Middle East continued along familiar lines. However, the fissures that were on full display within the Arab group in 2017 seemed to have subsided for the most part. While Arab states were not able to agree on a joint working paper in 2017 (particularly on how to address the aftermath of the failure to convene the promised 2012 Conference), in the 2018 Prepcom the group submitted a joint Working Paper (WP 34) and delivered joint statements. The NAM Working Paper (WP 16) included more detailed proposals on the way forward. The paper proposed the establishment of a subsidiary body under main committee II to address the implementation of the 1995 resolution on the Middle East and included a recommendation for the UN Secretary-General to convene a conference on the establishment of a WMDFZ in the Middle East.

Debate on the WMDFZ in the Middle East took a heated turn when the US presented a Working Paper titled 'Establishing Regional Conditions Conducive to a Middle East Free of Weapons of Mass Destruction and Delivery Systems' (WP 33). The paper stressed the importance of addressing the political and security situation in the region, and listed lack of trust, a history of regional noncompliance, regional security considerations and lack of political will as reasons for the lack of progress on the proposed zone. The paper's assertion that the 'NPT review cycle cannot be the primary mechanism for progress on a Middle East WMD-free zone' caused a backlash from Arab states, Iran and other supportive states who interpreted the US position as abandoning the 1995 Middle East Resolution. In response, the Arab group produced an addendum to their Working Paper to specifically respond to US arguments (WP.34/Add.1).

Other notable initiatives during the Prepcom included France's Working Paper in support of peaceful nuclear activities that included a focus on good practices and elements for civil nuclear cooperation agreements (WP 8). This was followed up by a joint statement supportive of efforts to elaborate such a framework, presented on behalf of Canada, Finland, Greece, Romania, Spain, Turkey and France. Australia, Canada and Spain wanted to see nuclear security being addressed by the NPT review cycle, without it being framed as a 'fourth pillar' for the Treaty (WP 14).

Institutional aspects of the NPT were also addressed by some delegations. This includes a Working Paper by the NPDI dedicated to this issue. The paper proposed a 'working group' to generate ideas about how to enhance the review process of the Treaty (WP 24). The NPDI and NAC continued to stress the importance of transparency and reporting by nuclear weapon states and a proposal was made to hold interactive sessions to discuss national implementation reports. The Netherlands (which held the position of Chair in the 2017 Prepcom) highlighted the importance of developing inter-connectivity between successive sessions of the Prepcom in the run-up to 2020 (WP11).

Two separate joint statements were tabled during the Prepcom that addressed the DPRK and Iran. France presented and promoted a joint statement urging the DPRK to return to the NPT and to abandon its nuclear and ballistic programmes. This statement was supported by more than 60 states attending the Prepcom. At a time when the JCPOA was under duress with speculation over potential US withdrawal, China and Russia presented a joint statement in support of the JCPOA and urged all parties to adhere to it.

On the last day of the Prepcom, the procedural report was adopted by the consensus of attending states parties. The Chair of the Prepcom opened debate on two draft documents that, following precedent, he intended to issue under his own authority rather than as negotiated documents. Following in the footsteps of the Chair of the 2017 Prepcom, the Chair presented a short document containing his broader reflections on the Treaty. The other document was a factual substantive summary of the Prepcom issued under the Chair's responsibility as Working Paper 41. Several delegations and groups took the floor either to voice reservations on parts of the Chair's summary or express broad

support for it. Critics included the NAM, the NAC (which produced WP 39 detailing their comments), the Arab Group but also individual delegations including Austria, Brazil (WP 40), Iran, Egypt and South Africa, New Zealand and Ireland. Delegations expressing more favourable views of the document included Canada, Russia, China, Germany, Japan. The US representative mentioned that his delegation 'agreed with many of the views expressed therein but disagreed with many others.' The Prepcom ended on 4 May 2018.

The Third Prepcom Session, New York, 29 April to 10 May 2019

The third session of the 2020 NPT review cycle was held in the United Nations Headquarters in New York from 29 April to 10 May 2019 and chaired by Ambassador Syed Md Hasrin Syed Hussin, the Permanent Representative of Malaysia to the UN. The session was held amid a prevailing perception that some of the bilateral and multilateral nuclear instruments underpinning the global nuclear order were under threat. This included concerns over the possible unravelling of the bilateral arms control process between the US and Russia. The INF treaty had been abandoned after exchanges of non-compliance accusations between the US and Russia. The differences in position between both countries on various arms control issues had raised concerns about the possibility of a timely extension of New START beyond 2021. The JCPOA was in dire straits following the decision by the Trump administration to pull the US out of the agreement. The prospect for a diplomatic solution with the DPRK had dissipated as negotiations with the US entered a stalemate. These, in addition to the continued polarization over some core NPT issues including the pace of disarmament provided the broad context in which the Prepcom was held.

As the final session of the Prepcom before the Review Conference, the session carried particular importance. It had the task to address a list of procedural issues which are key to enable a smooth start of the upcoming Review Conference. Among the procedural tasks was the consideration of the RevCon agenda, the rules of procedures, the allocation of items to main committees of the conference as well as the nomination of the president-designate of the conference. In addition to that and, in accordance with the strengthened review process agreed in 1995 and 2000, the Prepcom was to consider substantive issues related to implementation of the treaty as well as recommendations for the Review Conference.

The session started on a positive note with the adoption of the draft provisional agenda for the 2020 Review Conference on its first day. This was based on the agenda for the 2015 RevCon with some minor technical amendments. This was followed by a general debate where national delegations and various groupings presented their overall positions followed by a more focused debate based in three clusters. The Prepcom then addressed additional organisational issues for the 2020 RevCon and addressed its final reports and considered recommendations. The delivery of national and group statements as well as substantive working papers during the Prepcom reflected familiar positions by state parties on various aspects of treaty implementation. The general debate saw some heated exchanges using 'the right of reply' that concerned three main issues. The first was the accusations traded between the US and Iranian delegations (the latter supported by Russia) over the state of implementation of the JCPOA and US withdrawal from the accord. Second, the Russian delegation, in its general statement, accused NATO states for violating the NPT through accepting 'notorious nuclear-sharing arrangement'. This triggered a response by the Netherlands, on behalf of NATO member states, explaining the nature of nuclear sharing under the agreement and stressing conformity with articles I and II of the NPT. Finally, accusations of noncompliance with the INF were traded between US and NATO allies on the one hand, and Russia on the other hand.

Aside from these exchanges, the tone of the substantive discussions was relatively restrained despite significant and long-standing differences among state parties on the pace of disarmament, the position towards TPNW and how to address the Middle East Free Zone among other issues. National delegations and groups of states continued to update their working papers on key aspects related to the treaty producing close to 50 working papers and many reports and joint statements. Of note is a working paper by the chairs of the two previous Prepcom sessions that carried some joint recommendations including one that related to the working methods of the NPT review process. This was further pushed forward by the Netherlands in Cluster III discussions where its delegation proposed the establishment of a dedicated working group to examine working methods in the context of the review process. Austria, Costa Rica, Indonesia, Mexico, Nigeria, San Marino and Thailand presented a new paper on the link between the NPT and other treaties that particularly advocated the TPNW's compatibility with the NPT (WP.46). Nuclear weapons states continued to explicitly reject the new treaty. In the Prepcom, several states showed increased interest in addressing the issue of Gender. Australia, Canada, Ireland, Namibia, Sweden and UNIDR presented a working paper addressing the linkages of NPT and gender through two working papers (WP 25 and 27). Ireland presented specific recommendations for the RevCon on the topic (WP.48). The Prepcom also saw discussions on a number of new initiatives that found in the Prepcom an opportunity to showcase and advertise their work. This includes initiatives such as the Stockholm Initiative (previously called the 'Stepping Stones' approach) and Creating Environment for Nuclear Disarmament (CEND) proposed by the US. These initiatives organised side events and presented working papers during the Prepcom.

While the Prepcom addressed most of the procedural issues needed for the start of the 2020 RevCon, it was not able to finalize arrangements for the position of the President of the Review Conference. Venezuela (who held NAM's presidency in 2019) was able to block agreement on the nomination of the Argentinian Ambassador Grossi; the only candidate available for the position. Consequently, a decision on his appointment was not possible during the Prepcom and was deferred for finalization during the last quarter of 2019.

Towards the end of the conference, France and the US released two joint statements addressing the DPRK and Syria respectively. These statements enjoyed substantial but not unanimous support. The France-led joint statement was titled 'Addressing the North Korean nuclear challenge' and stressed the importance of DPRK's complete denuclearization and emphasised that the DPRK would not be considered a nuclear weapon state under the NPT. The statement was endorsed by 89 state parties. China, on the other hand argued that the Prepcom was not the appropriate forum to settle the North Korean issue and didn't join the statement. The US-led joint statement on Syria highlighted 'deep concerns' about Syria's noncompliance with its IAEA safeguards agreement and stressing that this in turn constitutes noncompliance with article III of the NPT. The statement was endorsed by 52 states.

Ultimately, the last session of the Prepcom produced a mixed record. Crucially, it reached an agreement on key procedural issues for the RevCon, most prominently the agenda. It also inched closer to an agreement on the nomination of the President. But the Prepcom was not able to reach an agreement on substantive recommendations or conclusions. The last stretch of the Prepcom saw negotiations and discussions over recommendations to the RevCon prepared by the Chair after consultation with various member states. The Chair made two attempts at presenting draft texts for consideration by the Prepcom but neither achieved the consensus needed for their adoption with some states voicing strong objections to the language it included. This led the Chair to issue the draft recommendations as a working paper (WP. 49) under his own responsibility and without prejudice to the position of the state parties. In response, the US issued its objection to these recommendations as a separate working paper (WP.50) As with the tradition of previous Prepcoms, the Chair also issued his own assessment of the implementation of the treaty (NPT/CONF.2020/PC.III/14) issued with the same caveats as the recommendations document. The Chair declared the session closed on 10th of May.

The Tenth Review Conference, New York, 1 to 26 August 2022

The Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) convened at the United Nations Headquarters in New York from 1 to 26 August 2022. Chaired by Ambassador Gustavo Zlauvinen of Argentina, the Conference was originally scheduled for 2020 but suffered multiple unprecedented postponements due to the global COVID-19 pandemic.

The proceedings were overshadowed by the Russian Federation's invasion of Ukraine in February 2022, which brought active armed conflict to a state which had security guarantees and possessing civilian nuclear infrastructure. The war also triggered heightened nuclear rhetoric not seen since the Cold War. The conference was also influenced by the entry into force of the Treaty on the Prohibition of Nuclear Weapons (TPNW) in 2021, the announcement of the AUKUS naval nuclear propulsion partnership, the stalled negotiations to revive the Joint Comprehensive Plan of Action (JCPOA) regarding Iran, and

the resumption of ballistic missile testing by the Democratic People's Republic of Korea (DPRK).

The session commenced with a high-level general debate that exposed the deep fractures among states parties. In addressing substantive issues under Main Committee I (Disarmament), the structural divide over the implementation of Article VI obligations was apparent. Many non-nuclear weapons states expressed profound frustration over the lack of implementation of the 13 Practical Steps (agreed in 2000) and the 2010 Action Plan. The TPNW featured as a major point of contention. Costa Rica delivered a prominent joint statement on the humanitarian consequences of nuclear weapons, endorsed by 145 states, which emphasized that the catastrophic impacts of any nuclear detonation necessitate the total elimination of these arsenals. Proponents championed the TPNW as the institutional realization of this humanitarian imperative and a complementary measure to the NPT. Conversely, the nuclear-weapon states and allies explicitly rejected the TPNW, arguing that it ignored the realities of the international security environment. Debate about nuclear risk reduction grew through statements and working papers.

Discussions under Main Committee II (Non-Proliferation) were heavily dominated by regional crises and debates over the boundaries of the IAEA safeguards system. The AUKUS partnership generated lively debate. China submitted working papers and utilized its interventions to aggressively criticize the planned transfer of highly enriched uranium (HEU) to Australia for naval propulsion, arguing it constituted an illegal transfer of weapons-grade material and a fatal loophole in the safeguards regime. Australia, the UK, and the US countered these claims, asserting that naval propulsion is legitimate under the treaty and that they were negotiating high verification standards directly with the IAEA to ensure no material could be diverted.

Other regional proliferation issues also generated intense friction. Western and regional states condemned the DPRK's unabated missile programs and demanded its return to the NPT as a non-nuclear-weapon state. Regarding Iran, European nations and the US expressed grave concern over the expansion of its enrichment capabilities and lack of cooperation with the IAEA, while Iran blamed the impasse squarely on the unilateral withdrawal of the US from the JCPOA in 2018.

Under Main Committee III (Peaceful Uses), debates reaffirmed the inalienable right to peaceful nuclear technology, with an increased focus on the role of nuclear applications in achieving the UN Sustainable Development Goals and combating climate change. However, the work of the committee was continually eclipsed by the crisis in Ukraine. The precarious safety and security situation at the ZNPP prompted widespread demands for the establishment of a demilitarized zone around the facility and the full restoration of sovereign Ukrainian control to allow for unhindered IAEA oversight. A joint statement on behalf of 56 states condemned the Russian war against Ukraine. The statement specifically highlighted the severe risks posed by Russia's military control over the Zaporizhzhia Nuclear Power Plant (ZNPP). Russia utilized its right of reply to categorically reject the accusations, arguing its actions were justified and accusing Western states of politicizing the NPT forum to wage a proxy conflict.

The final week of the Conference was consumed by closed-door negotiations aimed at bridging the profound divides to produce a consensus final document. President Zlauvinen circulated successive drafts, attempting to balance the demands of the non-nuclear-weapon states for stronger disarmament benchmarks with the red lines of the nuclear-weapon states, while simultaneously navigating the highly sensitive geopolitical language regarding Ukraine.

By the final day, the Conference had produced a 35-page draft final document. While the text was widely considered by disarmament advocates to be weak and lacking in new, actionable commitments on disarmament, most states signalled a reluctant willingness to accept the draft to preserve the institutional integrity of the NPT.

However, consensus ultimately collapsed in the final plenary session. The Russian Federation took the floor to formally object to the adoption of the final document. The Russian delegation stated it had key objections to paragraphs that expressed grave concern over the military activities near the Zaporizhzhia Nuclear Power Plant and the loss of control by the competent Ukrainian authorities. Russia characterized the language as blatantly political and unbalanced. Because the NPT operates on strict consensus, Russia's sole objection was sufficient to block the adoption of the substantive text.

Despite this profound substantive failure, the Conference did manage to adopt a single procedural decision before adjourning. States parties agreed on the procedural framework for the Eleventh Review Cycle, officially confirming that the next Review Conference would be held in 2026. Crucially, this decision also established a dedicated "Working Group on further strengthening the review process of the Treaty." Mandated to convene prior to the first Preparatory Committee in 2023, the Working Group was tasked with formulating recommendations to improve the efficiency, transparency, and accountability of the review cycle. Ultimately, the inability to produce a consensus final document for the second consecutive Review Conference deepened the institutional crisis surrounding the global nuclear non-proliferation and disarmament regime as it entered its next review cycle.

Section 9
The 2026 NPT Review Cycle

The First PrepCom Session, Vienna, 31 July to 11 August 2023

The first session of the Eleventh Review Cycle of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) convened in Vienna from 31 July to 11 August 2023. It was chair Ambassador Jarmo Viinanen of Finland with the aim of initiating the preparatory work for the 2026 Review Conference. It was preceded by failure of the previous Review Conference, the second in a row, to adopt a final outcome document which was reflective of the tensions inflicting the non-proliferation regime and which provided the background for the first Prepcom.

Several developments shaped the context of this PrepCom. This included tensions linked to the war in Ukraine including the ongoing crisis surrounding the safety and security of Ukraine's nuclear facilities, the Russian Federation's announcement suspending its participation in the New START treaty, and the deployment of nuclear weapons to Belarus. Regional tensions were further exacerbated by the collapse of the Joint Comprehensive Plan of Action (JCPOA) with Iran, the Democratic People's Republic of Korea's (DPRK) continuous programme of missile testing, and the emergence of the AUKUS naval nuclear propulsion partnership.

The session commenced with a general exchange of views that immediately exposed entrenched divisions. In addressing Cluster I (Disarmament), the structural conflict between the doctrine of nuclear deterrence and the legal obligations of Article VI took center stage. Debate about the TPNW has proceeded along familiar lines. Proponents (through a joint statement delivered by Mexico) highlighted the TPNW's complementarity with the NPT, specifically emphasizing its provisions on victim assistance and environmental remediation. In contrast, nuclear-armed states and members of nuclear alliances continued to defend their reliance on nuclear deterrence as a necessary component of international stability. The practice of nuclear sharing generated intense friction; while Western states criticized Russia's deployment of weapons to Belarus, Russia raised objections about NATO's nuclear umbrella and China and the NAM voiced views against nuclear sharing in general. Norway delivered a joint statement on behalf of Austria, Mexico, the United Kingdom on the topic of irreversibility and Ireland on behalf of New Zealand and Switzerland on 'transparency and accountability' followed by a joint statement on the same topic by New Zealand endorsed by 28 states on the same topic.

Discussions under Cluster II (Non-Proliferation) were dominated by specific regional issues. The AUKUS partnership, involving the transfer of nuclear-powered submarine technology from the United States and the United Kingdom to Australia, continues to be a key flashpoint. China and other states argued that the transfer of highly enriched uranium (HEU) sets a dangerous proliferation precedent. The three AUKUS members utilized their interventions to defend the arrangement, asserting that they are working closely with the IAEA to establish the highest possible non-proliferation standards.

Regarding other regional proliferation concerns, Western states condemned Iran's expanding uranium enrichment capabilities and its restricted cooperation with the IAEA following the collapse of the JCPOA. Iran countered that the current impasse was the direct result of

the United States' unilateral withdrawal from the agreement. The DPRK's ongoing nuclear and ballistic missile programs were widely condemned across regional groups. France produced a statement supported by 74 states addressing the issue. Additionally, the Arab Group and the NAM reiterated their long-standing demands for the establishment of a Middle East Weapon of Mass Destruction Free Zone (MEWMDFZ) and called for Israel's accession to the NPT as a non-nuclear-weapon state.

Under Cluster III (Peaceful Uses of Nuclear Energy), proceedings were overshadowed by two immediate environmental and security crises. First, the Russian Federation's military occupation of the ZNPP in Ukraine drew widespread condemnation, with numerous states emphasizing the severe risks of a radiological disaster and endorsing the IAEA's efforts to secure the facility. Second, Japan's imminent plan to discharge ALPS-treated radioactive wastewater from the Fukushima Daiichi Nuclear Power Plant into the Pacific Ocean sparked debate. While Japan cited IAEA oversight and adherence to international safety standards, China and various Pacific Island nations expressed deep opposition, characterizing the discharge as an act of environmental harm.

A significant procedural focus leading up to and during the PrepCom was the "Working Group on further strengthening the review process of the Treaty" which was established the 2022 Review Conference. The Working Group, which met just prior to the PrepCom, debated mechanisms to enhance transparency and accountability, including proposals for standardized reporting templates and interactive peer-review dialogues for nuclear-armed states. However, the Working Group failed to adopt consensus recommendations, leaving the PrepCom without a formalized framework for institutional reform.

The final days of the PrepCom saw procedural turmoil. Following standard practice, the Chair circulated a draft factual summary intended to capture the breadth of the discussions. The draft faced opposition regarding its balance and characterization of specific state behaviors. During the adoption of the final report, Iran, with the support of Russia and Syria, raised concerns about the inclusion of the Chair's summary as a conference document. They blocked the Chair's factual summary from being officially listed as a working paper in the PrepCom's procedural report. Consequently, the session concluded without any consensus substantive outcome, and with its official procedural record stripped of the Chair's substantive summary.

The Second PrepCom Session, Geneva, 22 July to 2 August 2024

The second session of the Eleventh Review Cycle of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) convened in Geneva from 22 July to 2 August 2024. Tasked with continuing the preparatory work for the 2026 Review Conference, the session was chaired by Ambassador Akan Rakhmetullin, the Permanent Representative of Kazakhstan to the United Nations in New York.

Several key developments shaped the context of this PrepCom. Discussions were heavily influenced by the ongoing war in Ukraine, specifically the status of Zaporizhzhia Nuclear Power Plant (ZNPP). The session also occurred against the backdrop of the humanitarian catastrophe in Gaza, with some states using the forum to express condemnation of the civilian toll and some citing remarks by an Israeli official regarding the potential use of nuclear weapons.

The session commenced with a general exchange of views that quickly exposed entrenched divisions, characterized by a heavy reliance on the "right of reply" mechanism. These addressed a number of topics including Russia's de-ratification of CTBT, nuclear sharing under NATO and between Russia and Belarus, the status of Ukrainian reactors, blame for failures of diplomacy in addressing Iran's programme and the discharge of water from Fukushima Daiichi reactor among others.

In addressing substantive issues, the debate in Cluster I (Disarmament) was dominated by the structural conflict between nuclear deterrence doctrines and the legal obligations of Article VI. The New Agenda Coalition (NAC) and the Non-Aligned Movement (NAM) argued that deterrence is inherently incompatible with disarmament. The NAC submitted a dedicated working paper (WP.2) arguing that nuclear risk is inherent to the existence of the weapons themselves and called on nuclear-armed states to declassify historical instances of nuclear "close calls." France and UK delivered a joint statement in support of the CTBT.

Cluster I also saw several significant cross-regional initiatives aimed at advancing disarmament mechanisms. Norway led a joint statement on irreversibility in nuclear disarmament endorsed by 8 other states. Switzerland delivered a statement on behalf of 18 states outlining urgent nuclear risk reduction measures. Furthermore, a statement led by Kiribati and supported by 7 other states focused on the legacy of nuclear weapons, demanding urgent remediation for communities impacted by historical testing.

Discussions under Cluster II (Non-Proliferation) were heavily influenced by regional crises and safeguards disputes. A large cross-regional group of states repeatedly condemned the Democratic People's Republic of Korea's (DPRK) nuclear and ballistic missile programs. The Arab Group and numerous other states highlighted the proliferation risks posed by Israel remaining outside the NPT, calling for its immediate accession. The AUKUS naval nuclear propulsion partnership also generated substantial debate; China and Iran raised proliferation concerns regarding the transfer of highly enriched uranium to Australia, while the AUKUS partners maintained that their cooperation upholds non-proliferation standards in coordination with the International Atomic Energy Agency (IAEA).

In Cluster III (Peaceful Uses), discussions reaffirmed the right of states parties to access nuclear technology, heavily linking Article IV to the UN Sustainable Development Goals. The United States delivered a joint statement endorsed by 29 states emphasizing this intersection (issued as WP.40). The debate also addressed the question of safety and security of nuclear reactors particularly in light of Russia's war in Ukraine. This resulted in a joint statement in support of Ukraine (WP.41)

A significant procedural focus during the session was the "Strengthened Review Process." Drawing on the inconclusive 2023 working group, debates centered on proposals to enhance transparency and accountability. New Zealand delivered a prominent joint statement on behalf of 47 states proposing an initial "trial interactive dialogue" for the 2025 PrepCom to strictly scrutinize the national implementation reports of the nuclear-weapon states.

The Non-Proliferation and Disarmament Initiative (NPDI) submitted a working paper (WP.32) proposing a standardized reporting template for nuclear-armed states to improve the comparability of data regarding arsenals. While these reforms enjoyed broad support from non-nuclear-weapon states, they faced resistance from nuclear-armed states as attempts to impose mandatory oversight and new obligations.

In an increasingly typical conclusion for the review cycle, the PrepCom failed to adopt a consensus substantive outcome. In the final days, Chair Rakhmetullin circulated a draft factual summary of the proceedings. Acknowledging the lack of consensus, the Chair withdrew the document from formal adoption. He subsequently issued his reflections (WP.43) and the revised factual summary (WP.44) as working papers strictly under his own authority. The meeting adjourned on 2 August, transferring these unresolved structural and procedural deadlocks to the third PrepCom in 2025.

The Third Prepcom Session, New York, 28 April to 9 May 2025

The third and final session of the 2026 NPT review cycle was held at the United Nations Headquarters in New York from 28 April to 9 May 2025. The session, which marked the final preparatory meeting before the 2026 Review Conference, was chaired by Ambassador Harold Agyeman, the Permanent Representative of Ghana to the UN.

Several key developments shaped the context for this PrepCom. It was held against the backdrop of rising global nuclear risks and the imminent expiration of the New START treaty, the last remaining bilateral nuclear arms control agreement between the United States and the Russian Federation, set to expire in February 2026 without a successor agreement in place. Furthermore, the continuing war in Ukraine and efforts to reach a political settlement provided an important backdrop to the meeting. The PrepCom also occurred amid shifts in U.S. foreign policy under the Trump administration, which raised new questions regarding the future of U.S. extended deterrence commitments to its NATO and Asian allies. In addition, China's ongoing nuclear modernization, Iran's expanding uranium enrichment capabilities following the collapse of the JCPOA, and the DPRK's unabated missile and nuclear programmes further complicated the diplomatic landscape.

The session commenced with the consideration of procedural matters. Significantly, the PrepCom reached decisions on the organizational framework for the 2026 Review Conference, adopting decisions on its dates and venue, and agreeing the draft rules of procedure. Following

the procedural opening, the meeting proceeded with a general debate, which quickly revealed deep divisions. As in previous sessions, delegations frequently utilized their 'right of reply' to trade accusations. The United States and Iran traded accusations over non-compliance and the legacy of the JCPOA. Similarly, Russia accused NATO states of violating the NPT through their nuclear-sharing arrangements, triggering coordinated responses from NATO members who stressed that these arrangements have historically been in full conformity with Articles I and II of the Treaty.

In addressing substantive issues, the debate in Cluster I (Disarmament) was dominated by frustrations over the lack of progress on Article VI obligations. The Non-Proliferation and Disarmament Initiative (NPDI) and the New Agenda Coalition (NAC) continued to push heavily for standardized reporting to address the qualitative improvement and quantitative advancement of nuclear arsenals. To this end, Ireland delivered a joint statement on behalf of 49 states-parties emphasizing the urgent need to strengthen transparency and accountability measures for the recognized nuclear-weapon states.

Given the looming deadline for New START, Austria took the floor to deliver a prominent joint statement on behalf of 24 states, urgently calling on the United States and Russia to re-engage on strategic arms control and secure a successor pact before February 2026. In its national capacity, the U.S. delegation highlighted President Trump's expressed readiness to engage in denuclearization dialogues with both Russia and China. However, the U.S. sharply criticized China's proposal for a "No First Use" treaty, dismissing it as an empty and unverifiable gesture that contradicted China's rapid nuclear build-up. A notable cross-regional initiative during Cluster I was a joint statement on the principle of "irreversibility" in nuclear disarmament, supported by nearly 30 states, including Japan, Mexico, and the UK. The statement argued for a dedicated dialogue to establish legal, political, and technical parameters to ensure that dismantled nuclear capacities cannot be reconstituted.

Discussions under Cluster II (Non-Proliferation) were influenced by regional security crises. A group of 48 states issued a joint statement condemning Russia's actions in Ukraine. The statement specifically denounced Russia's nuclear rhetoric, its strategic intimidation via the deployment of nuclear weapons to Belarus, and the profound nuclear safety risks created by its control of the Zaporizhzhia facility. Another initiative was a joint statement led by France and the Republic of Korea addressing the DPRK's nuclear and ballistic missile programs. Endorsed by 82 states, the statement reaffirmed that the DPRK would never be recognized as a nuclear-weapon state under the NPT and urged its return to IAEA safeguards.

In Cluster III (Peaceful Uses), the tone was relatively more constructive, though traditional fault lines remained. States widely reaffirmed the inalienable right to peaceful nuclear energy under Article IV, highlighting its role in achieving net-zero emissions and sustainable development goals. However, Western states and the Vienna Group of Ten consistently emphasized that access to peaceful uses must be contingent upon the highest standards of safety, security, and non-proliferation, urging the universalization of the IAEA Additional Protocol as the definitive verification standard.

As the PrepCom moved toward its conclusion, significant diplomatic capital was expended on a draft package of proposals aimed at strengthening the review process itself (draft decision on Strengthening the Review Process (CRP.3) and the Draft Chair's Elements Paper on Strengthening the Review Process (CRP.1). The draft decision sought to establish more efficient plenary sessions and interactive mechanisms for scrutinizing standardised national reports. The PrepCom came close to achieving agreement on these reforms. However, on the final day, disputes emerged particularly regarding the mandatory nature of the transparency mechanisms leading to inability to agree the decision.

The impasse over the review process reforms effectively scuttled the remainder of the session. The PrepCom was subsequently unable to reach an agreement on a separate draft package of substantive recommendations for the 2026 Review Conference. The final hours saw the Chair, Ambassador Agyeman, make efforts to salvage an outcome, but consensus was not possible.

Ultimately, the session concluded without adopting a summary report or substantive recommendations. Following the precedent of recent PrepComs, the Chair issued his draft recommendations (WP.45) as a working paper strictly under his own authority. This document conveyed a list of objectives to the 2026 Review Conference. This included reaffirmations of past commitments, calls for enhanced transparency, and warnings about the reinterpretation of nuclear doctrines. The meeting adjourned on 9 May, leaving the states parties to carry the full weight of these unresolved divisions into the Eleventh Review Conference in 2026.