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NOIDA

**SECOND SYMBIOSIS NATIONAL
MODEL UNITED NATIONS 2014**

SEPTEMBER 27-28, 2014

ATTENDEES INCLUDE

Academicians, Ambassadors, Advocates, Researchers
and Students engaged in the field of Law & Management

ORGANISED BY
Symbiosis Law School, Noida

IN COLLABORATION



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BACKGROUND GUIDE FOR THE GA (DISEC)

Agenda:

**THE PROTECTION OF NON-NUCLEAR-WEAPON
STATES FROM THE USE OR THREAT OF USE OF
NUCLEAR WEAPONS**

“Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.”

- Article II (Nuclear Non Proliferation Treaty)

Part I

NOTE FROM THE EXECUTIVE BOARD

Dear Delegates,

It is an honor to be serving as a part of the Executive Board at the first committee of the General Assembly, at Symbiosis Model United Nations Conference 2014. Please consider that the following guide, as the name suggests, is merely to provide you with the background of the agenda and cannot serve as the credible source of information. Your real research lies beyond this guide and we hope to see some strong content and debate come our way.

The agenda at hand is both vast and complex, and a successful discussion on it would entail the collective participation of all of you. It shall be your prerogative to decide the direction in which you want to take this committee. This agenda demands to be seen from more than one perspective, one that covers the threat of use of Nuclear weapons in totality, the other could be threat of use of nuclear weapons on non nuclear weapons states and another could be the proliferation regime to build a nuclear weapon free world. At the outset, we would like to state that the agenda is to be analyzed from a policy stand point as opposed to a technological one. However we do understand that the agenda is bound to have a technological aspect, we expect you to keep it limited, enough to structure your argument/content related to a policy. If you are doing an MUN for the very first time, we expect you to read the UN Charter rules of procedure. Rest, the same aspect for research applies to you too. Do not feel taken aback on the research, foreign policy and other details of the allotted country.

Do read the questions that have been mentioned in the latter half of the guide. Those questions might shape the debate. At the same time, the agenda is open to interpretations and there shall be no direction of debate that shall be provided by the Executive Board. Delegates are required to direct the council at all stages, unless stagnation occurs. We hope to see a great level of effort and enthusiasm from you all, so that we all can take back a great experience.

This Background has been created one month prior to the conference and it is in best interest to stick to Reuters/CNN/BBC/UN News and documents to find more after you have researched. Do research the updated information on various news agencies but be careful of quoting the credible sources only while presenting arguments/points.

Happy Researching. ☐☐- (On Behalf of the Executive Board, Angad Singh Madan ☐ Chairperson)

Part II

OVERVIEW OF THE DISEC

- Nature of proof and evidence -

Documents from the following sources will be considered as credible proof for any allegations made in committee or statements that require verification.

Reuters: Appropriate Documents and articles from the Reuters News agency will be used to corroborate or refute controversial statements made in committee.

UN Document: Documents by all UN agencies will be considered as sufficient proof. Reports from all UN bodies including treaty based bodies will also be accepted.

Government Reports: Government Reports of a given country used to corroborate an allegation on the same aforementioned country will be accepted as proof.

- United Nations General Assembly – DISEC -

The General Assembly is the main deliberative organ of the United Nations. Chapter IV, Articles 9-22, of the UN Charter concern the General Assembly. All Member States participate in the General Assembly and each state has one vote.

The **First Committee**, one of the six Main Committees of the General Assembly, is allocated agenda items related to **disarmament and international security**.

The First Committee submits a **separate report to the plenary on every agenda item** allocated to it. Each report:

- indicates the meetings at which the item was considered
- summarizes the committee's consideration of the item
- identifies the **sponsors** of draft resolutions

- **reports the vote**, if any, of Member States on draft texts
- transmits the final version of draft resolutions and/or decisions recommended to the plenary for adoption
- symbol pattern

The **plenary considers each report** and votes on the draft resolutions or decisions it contains.

For example, the General Assembly adopted resolutions 66/53, 66/54, 66/55, 66/56, 66/57 and 66/58 based on the report of the First Committee (A/66/413).

DISEC covers a variety of different topics ranging from the illegal trade in weapons to conflicts dealing with non-proliferation of biological and chemical weapons. Like the other committees of the United Nations General Assembly, DISEC is unable to impose sanctions, authorize armed intervention or pass binding resolutions. That being said, DISEC has submitted recommendations to the United Nations Security Council and to the UN Secretariat on several occasions. DISEC has assisted in the production of several important treaties and conventions, including the Chemical Weapons Convention (1992), which outlaws the production, stockpiling and use of chemical weapons, and the Non-Proliferation Treaty (1968), which aims to prevent the spread of nuclear weapons and to promote peaceful cooperation in the field of nuclear energy amongst other things. Although DISEC was not directly responsible for the creation of these two documents, it certainly played an important role in laying the foundations thereof.

Part III

OVERVIEW OF THE AGENDA

- Introduction -

The discovery of radioactivity by Henri Becquerel bestowed upon human beings an ultimate source of power. Nuclear energy not only provides a relatively non-polluting source of power but one that is virtually inexhaustible. With the rapidly increasing energy demand by the world's growing population, this share is likely to increase in the upcoming decades. As with any other source of energy there are both benefits and drawbacks; while nuclear energy provides a relatively non-polluting source of power generation this is at the cost of producing dangerous radioactive waste and creating opportunities for states to utilize the capabilities

of their nuclear infrastructure for the production of nuclear weapons. The dual nature of this technology and its application for weapons production purposes has been at the very core of international security agenda. Today a number of countries with nuclear energy programs have the capability, if they choose, to manufacture nuclear weapons within a matter of months if their security perceptions change, because they have mastered the critical technology - uranium enrichment and plutonium reprocessing. In the recent past, many states have been found to or suspected to pursue production of nuclear weapons. In order to maintain sustainable peace for the future, addressing weapon production threats inherent in nuclear energy infrastructures is of fundamental concern to the international community. It is indeed the task of the International Atomic Energy Agency (IAEA) to safeguard nuclear infrastructures from being misused for military purposes. No solution exists that can cleanly separate a full nuclear energy fuel cycle and the threat of proliferating nuclear weapons. Instead, the IAEA and the international community must pursue various approaches that aim to minimize proliferation threats.

- The Link Between The Nuclear Fuel Cycle And Weapon Production -

Figure: Nuclear Fission Reaction.

The processes of producing energy in a nuclear reactor and of exploding a nuclear weapon share the same underlying laws of nuclear physics, a nuclear fission reaction. It is therefore not surprising that the major industrial processes required for energy production and for manufacturing nuclear weapons are very similar.

Both rely on the nuclear fuel cycle, a set of complex nuclear facilities that each has a specific role in the acquisition, processing and usage of nuclear fissile material. In order to highlight the links between the nuclear fuel cycle and weapon production and to introduce the essential technical jargon, it is worthwhile to take a closer look at uranium enrichment, reactor fuel reprocessing and at the fundamental ingredients of a nuclear weapon.

- Nuclear Enrichment -

Naturally occurring uranium only has a 0.7% content of uranium-235 with uranium-238 roughly making up the rest. Yet nuclear power reactors generally require uranium enriched in up to 4% of uranium-235, also

called low enriched uranium (LEU), as the fissile nuclear material to operate. Raising the uranium-235 content in uranium is a process called “enrichment.” It is a difficult process and requires large and highly sophisticated enrichment facilities, hence traditionally only technologically advanced states were able to master it.

As the nuclear enrichment cycle depicts, any facility that can enrich uranium for civilian purposes can be used to enrich uranium for weapon building activities. Here lies the importance of the Agency safeguards. The Agency monitors the enrichment activities and reports any irregularities. Before moving to the next section, it is important to consider a few definitions of uranium of different concentrations.

- Natural Uranium has a ^{235}U concentration of less than 0.7%, as it exists in nature.
- Slightly enriched uranium (SEU) has a ^{235}U concentration of 0.9% to 2%.
- Reprocessed uranium (RpU or RU) is a product of nuclear fuel cycles involving nuclear reprocessing of spent fuel. RpU recovered from light water reactor (LWR) spent fuel typically contains slightly more U-235 than natural uranium, and therefore could be used to fuel reactors that customarily use natural uranium as fuel. However, it also contains the undesirable isotope uranium-236 which undergoes neutron capture, wasting neutrons (and requiring higher U-235 enrichment) and creating neptunium-237 radionuclides in deep geological repository which would be one of the more mobile and troublesome disposal of nuclear waste.
- Low-enriched Uranium (LEU) has a lower than in commercial light water reactors (LWR), the most prevalent power reactors in the world, uranium is enriched to 3 to 5% ^{235}U . Fresh LEU used in research reactors is usually enriched 12% to 19.75% U-235, the latter concentration being used to replace HEU fuels when converting to LEU.
- Highly enriched uranium (HEU) has a greater than 20% concentration of $(^{235})\text{U}$ or $(^{233})\text{U}$. The fissile uranium in nuclear weapons usually contains 85% or more of $(^{235})\text{U}$ known as weapon(s)-grade, though for a crude, inefficient weapon 20% is sufficient (called weapon(s)-usable).

- Nuclear Weapon (Ingredients) -

A nuclear weapon is an explosive device that derives its destructive force from nuclear reactions, either fission or a combination of fission and fusion. Both reactions release vast quantities of energy from relatively small amounts of matter. The first fission ("atomic") bomb test released the same amount of energy as approximately 20,000 tons of TNT. The first thermonuclear ("hydrogen") bomb test released the same amount of energy as approximately 10,000,000 tons of TNT.

The fundamental ingredient for a nuclear weapon is either one of the following nuclear fissile materials: uranium with an approximately 90% enrichment in uranium-235, called highly enriched uranium (HEU), or plutonium-239 with a low plutonium-240 content, called "weapon-grade plutonium". Both these materials can be easily obtained from a nuclear enrichment plant or a reprocessing plant. Therefore, even if a country does not have the design to manufacture a nuclear weapon, they can hoard HEU or weapon(s)-grade plutonium for future purposes. The process of weaponization – turning the fissile material into a weapon – is in fact straightforward compared to the difficult processes of enrichment and reprocessing, particularly when HEU is to be used as the nuclear explosive.

From this technical introduction above, it follows that the two important intersections between operating a civilian nuclear fuel cycle and the production of nuclear explosives are uranium enrichment and reactor fuel reprocessing. LEU and HEU can be obtained from the same facility and it is also important to note that enriching the uranium-235 content from 0.7% to 4% for LEU requires much more time and energy than enriching it from 4% to 90% for HEU. The production of weapon-grade plutonium only requires a nuclear power or research reactor reprocessing facilities, because weapon-grade plutonium can easily be extracted there. Developing and operating enrichment and reprocessing facilities are the highest hurdles a state has to overcome in order to produce nuclear energy and to produce nuclear weapons indigenously. If states possess such facilities, they are able to conceal a military nuclear program in their civilian fuel cycle, thereby avoiding the costs of being punished by the international community.

The reasons why states choose to develop nuclear weapons are manifold. They may wish to obtain a strategic deterrent to increase their national security, the decision to go nuclear may arise from the internal politics of the state, or weapons may be acquired because they are seen as prestigious and give the state a higher status in international politics. In any case and as the following three approaches show, the key in

reducing the proliferation risk inherent in nuclear energy infrastructures is to prevent states from misusing their facilities or from persuading them not to build enrichment and reprocessing facilities in the first place.

- IAEA Safeguards System -

The 1968 Non-Proliferation Treaty (NPT) is the foundation of the nuclear non-proliferation regime. Article I sets out the legal obligations for the five nuclear weapon states (NWSs) not to help the non-nuclear weapon states (NNWSs) to acquire nuclear weapons and Article II prohibits the NNWS from taking steps to acquire that capability on their own. Article IV of the treaty grants all states the „inalienable right“ to develop their own nuclear infrastructures for peaceful purposes. Yet, under Article III, all NNWSs are required to conclude safeguards agreements with the IAEA. Such safeguards are any “measures through which the IAEA seeks to verify that nuclear material is not diverted from peaceful uses.” Now what do these safeguards include? They include, for example, taking measurements in enrichment facilities to verify that states do not produce HEU and surveillance systems in reprocessing facilities to ensure that weapon-grade plutonium is not diverted. Virtually every state that has nuclear facilities has operational safeguard agreements with the Agency and maintaining these safeguards is the IAEA’s primary way in ensuring that a state’s nuclear infrastructure is not misused for weapon production. The Information Circular 66 of the IAEA mentions the Agency’s Safeguards System. The safeguards system clearly outlines: the Agency’s obligations (Articles 9-14); the principles of implementation (Articles 15-18); nuclear materials subject to safeguards (Articles 19 & 20); exemptions from safeguards (Articles 21-23); and safeguards procedures including records, reports and inspections (Articles 29-68). It is generally well accepted that IAEA safeguards have made a fundamental contribution to sustainable peace, as the award of the 2005 Nobel Peace Prize to the IAEA for “their efforts to prevent nuclear energy from being used for military purposes” demonstrates.

However, safeguards require constant updating to reflect the nuclear proliferation threat of their time. In the 1970s, the perceived proliferation threat was the misuse of nuclear material in indigenous nuclear fuel cycles. Hence, with safeguards agreements of type INFCRIC/153(Corrected) (the Comprehensive Safeguards Agreements (CSA)) the Agency is limited to nuclear material accountancy and the verification of declared facilities only. The CSA remains the “standard” safeguards agreement today as this is the type of safeguards

agreement that every state is required to conclude under NPT Article III, as noted above. The major weakness of the CSA is that they do not allow IAEA inspectors to visit undeclared facilities and to utilize verification methods that go much further than material accountancy. The international community was paying the price for limiting the scope of standard safeguards when it became clear that Iraq was able to establish an advanced clandestine nuclear weapon program – effectively “under the nose of the IAEA” – despite a CSA safeguards agreement being in force. The program’s discovery after the Gulf War in 1993 showed that CSA agreements have become wholly inadequate.

The Iraqi discovery was also the catalyst in negotiating INFCIRC/540(Corrected) type safeguards (the Additional Protocol, (AP)). The 1997 AP brought a revolution in multilateral nuclear verification by providing a new proactive safeguards methodology and enabling the Agency to employ the latest technologies when conducting inspections.¹⁶ They were created as the perceived proliferation threat changed in the 1990s to proliferation through facilities not previously declared to the Agency. Concluding the AP with the Agency is voluntary for states, but many states have taken this step to demonstrate their peaceful intentions in maintaining their nuclear fuel cycle. This is one of the major drawbacks of the AP and hence the ratification process has been slow. It is argued that among the possible causes for slow ratification is that states feel they may be subject to discriminations should international attention shift towards them for whatever reason, as well as the indifference of governments about the threats of nuclear proliferation.

The AP comes with the cost of states having to compromise more of their national sovereignty to allow for more intrusive safeguards. For the IAEA to be able to officially conclude that there are no undeclared nuclear proliferation events occurring in a state, both the CSA and the AP must be in force. Therefore it is extremely imperative to accelerate the AP ratification process; otherwise the current IAEA safeguards regime will suffer.

It has become clear in recent years that the IAEA’s tasks are growing much faster than its budget. The use of nuclear energy in the world increases, but the budget of the Agency’s safeguards department remains comparable to the cost of running a police department of a medium-sized city, roughly \$910 million.

Compliance concerns with the Democratic People’s Republic of Korea’s (DPRK’s) and Iran’s programs, shortages in staff and technology could reduce the effectiveness of safeguards. The Safeguards Statement for

2009 mentions the number of states with both the CSA and AP, only with CSA, without any safeguards and reports any indication of the diversion of declared nuclear material from peaceful nuclear activities.

- A Few Pointers On The Safeguards -

International Atomic Energy Agency (IAEA) Safeguards is a system of inspection and verification of the peaceful uses of nuclear materials as part of the Nuclear Non-Proliferation Treaty (NPT), supervised by the International Atomic Energy Agency.

As the verification arm of the IAEA, the Department of Safeguard's primary role is to deter the proliferation of nuclear weapons by detecting early the misuse of nuclear material or technology, and by providing credible assurances that States are honoring their safeguards obligations. The Department also contributes to nuclear arms control and disarmament, by responding to requests for verification and other technical assistance associated with related agreements and arrangements.

What are Safeguards?

By definition, the safeguards system comprises an extensive set of technical measures by which the IAEA Secretariat independently verifies the correctness and the completeness of the declarations made by States about their nuclear material and activities including those from the Additional Protocol, in order to achieve maximum effectiveness and efficiency within the available resources.

Traditional Measures.

One set of measures relates to the nuclear material verification activities performed at facilities or other locations where States have declared the presence of nuclear material subject to safeguards. These measures are also referred to as "traditional safeguards".

Strengthening Measures.

Another set relates to the measures endorsed or encouraged by the IAEA Board of Governors since 1992 for strengthening the safeguards system. These measures fall into two categories. The first category comprises those measures to be implemented under the legal authority conferred by existing safeguards agreements. The second category comprises measures to be implemented under the complementary legal authority

conferred by Additional Protocols concluded on the basis of the Model Additional Protocol.

Integrated Safeguards.

In 1998, the IAEA's Department of Safeguards embarked upon a program for the development and implementation of "integrated safeguards". The term refers to the optimum combination of all safeguards measures available to the Agency, including those from the Additional Protocol, in order to achieve maximum effectiveness and efficiency within the available resources.

Reference of IAEA Safeguarding System in NPT

ARTICLE III

Each Non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. 2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

2. 3. The safeguards required by this Article shall be implemented in a manner designed to comply with

Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

2.4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Measures implemented under the legal authority already existing in comprehensive safeguards agreements

- 1) Agency collection of environmental samples at any place where Agency inspectors have access; and sample analysis at the IAEA Clean Laboratory and/or at qualified laboratories in Member States.
- 2) Agency use of unattended and remote monitoring of movements of nuclear material in facilities and the transmission of authenticated and encrypted safeguards-relevant data to the Agency.
- 3) Agency use, to a greater extent than previously, of unannounced inspections within the routine inspection regime.
- 4) Provision of enhanced training for Agency inspectors and safeguards staff and for State personnel responsible for safeguards implementation.
- 5) Closer co-operation between the Agency and State and regional systems for accounting for and control of nuclear material in States
- 6) Enhanced evaluation by the Agency of information derived from States' declarations, Agency verification activities and a wide range of open sources.

- 7) State provision of information about, and Agency inspector access to, all parts of a State's nuclear fuel cycle, from uranium mines to nuclear waste and any other location where nuclear material intended for non-nuclear uses is present.
- 8) State provision of information on, and Agency short-notice access to, all buildings on a site.
- 9) State provision of information about, and Agency inspector access to, a State's nuclear fuel cycle R&D activities not involving nuclear material.
- 10) State provision of information on the manufacture and export of sensitive nuclear-related equipment and material, and Agency inspector access to manufacturing and import locations in the State.
- 11) Agency collection of environmental samples at locations beyond those provided for under safeguards agreements.
- 12) State acceptance of streamlined procedures for Agency inspector designation and of requirement for multiple entry visas (valid for at least one year) for inspectors.
- 13) Agency right to use internationally established communications systems, including satellite systems and other forms of telecommunication.
- 14) Wide area environmental sampling, after Board approval of such sampling and consultations with the State concerned.
- 15) Revised standardized text and modified eligibility criteria for the Small Quantities Protocol.

- The Threat Of Use Of Nuclear Weapons -

Understanding the Nuclear Weapons Threat

While it has been more than twenty years since the end of the Cold War, the existence of thousands of nuclear weapons continues to pose a serious global threat. The likelihood of a nuclear war between the United States and Russia has decreased, but the continued presence of large stockpiles makes the accidental or unauthorized use of nuclear weapons a persistent risk. Many of the countries with smaller nuclear arsenals, such as India and Pakistan, are actively engaged in regional conflicts, making the possibility of regional nuclear war a concern. North Korea illicitly acquired nuclear weapons, and other countries, including Iran and Syria, have violated their nuclear safeguards commitments and are

suspected of covertly pursuing nuclear weapons capabilities. In the post-9/11 world, the potential for catastrophic nuclear terrorism is also a serious threat. A number of efforts by governments, international organizations, and non-governmental organizations are underway to attempt to mitigate the nuclear threat—but significantly reducing the risk of nuclear weapons use will require the sustained long-term commitment of the entire international community.

Who has Nuclear Weapons?

Nine countries are known or widely considered to possess nuclear weapons: China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom, and the United States. It is estimated these nine countries collectively hold over 17,300 nuclear warheads. The United States and Russia possess approximately 94% of the world's nuclear weapons. While the possibility of intentional nuclear war has greatly decreased since the end of the Cold War, ongoing regional tensions between nuclear-armed countries such as India and Pakistan pose a continued risk in this regard. Furthermore, the continued existence of large deployed nuclear arsenals in many of the nuclear possessing states poses risks of accidental or unauthorized use. However, disarmament progress is not historically unprecedented. South Africa voluntarily disclosed and dismantled its nuclear weapons program, and following the dissolution of the Soviet Union, Belarus, Kazakhstan, and Ukraine voluntarily transferred the Soviet nuclear weapons on their territories to Russia and joined the NPT as non-nuclear weapon states.

What is a Nuclear Weapon, and Why is it Different from a Conventional Weapon?

Often referred to as weapons of mass destruction, nuclear weapons are fundamentally different from conventional weapons due to their potential, if used in sufficient numbers, to literally destroy life on earth. A nuclear weapon is an explosive device which relies on nuclear rather than chemical reactions, allowing it to harness a far greater amount of energy than a conventional explosive. For example, the W87, a modern U.S. nuclear warhead, has an explosive yield of 300 kilotons, which is equivalent to 300,000 tons of TNT. The nuclear reactions integral to nuclear weapons can be derived from fission, or a combination of fission and fusion (called a thermonuclear weapon). A sufficient amount of fissile material, such as highly enriched uranium or plutonium, is required to construct a nuclear weapon. The

destructive power of a nuclear weapon comes from the blast (pressure shock wave), thermal radiation (heat), and nuclear radiation (prompt and delayed). Because the production of fissile materials is a complex process requiring extensive resources, efforts to secure global stocks of highly enriched uranium and plutonium against theft or diversion are key to reducing the threats of nuclear terrorism and proliferation.

How is the Peaceful Use of Nuclear Technologies Linked with Proliferation?

As more countries invest in civilian nuclear infrastructure, particularly nuclear power, the trade in dual-use goods (which can be used for peaceful or military purposes), increases. Nuclear power reactors, while they provide an important source of energy, also produce plutonium in their spent fuel that could potentially be used for weapons purposes. Some research reactors and medical isotope producers continue to rely on the use of highly enriched uranium, which is a weapons-usable material. Determining how to encourage the peaceful use of nuclear technologies while preventing the further proliferation of nuclear weapons is therefore an ongoing policy challenge.

Reducing the Threat of Nuclear Terrorism

The possibility that non-state actors might steal or illicitly purchase highly enriched uranium or plutonium and use them to construct an improvised nuclear device remains an ongoing concern. While the 9/11 terrorist attacks gave policymakers a renewed sense of urgency, the need for nuclear threat reduction efforts first rose to prominence following the collapse of the Soviet Union (USSR) in 1991. Concerned that political and economic instability in the former USSR would lead to the theft or illicit trafficking of nuclear materials or weapons, U.S. Senators Sam Nunn and Richard Lugar founded the Cooperative Threat Reduction (CTR) Program to aid the successor states with nuclear security. The United States subsequently expanded its threat reduction efforts under programs such as the Global Threat Reduction Initiative, which is working to reduce the civil use of HEU globally. In 2003 revelations that the A.Q. Khan network had illicitly sold critical nuclear technologies to North Korea and other states of proliferation concern highlighted serious gaps in international export controls. Initiatives such as UNSCR 1540, which requires all states to implement measures aimed at preventing non-state actors from acquiring NBC weapons, related materials, and their means of delivery, aim to fill this gap. In 2009, the

U.S. Obama administration announced efforts to lock down all nuclear weapons-usable materials in four years, convening a multilateral Nuclear Security Summit attended by 47 countries in 2010 to advance this goal. A follow-on summit occurred in Seoul, South Korea in 2012, with a third scheduled for 2014 in the Netherlands. While all of these programs have made significant progress in reducing the nuclear terrorism threat, continued and enhanced international cooperation will be required to succeed in keeping nuclear materials out of the hands of terrorists.

Progress Toward Nuclear Disarmament

Multilateral negotiations on legally-binding nuclear disarmament measures have proven difficult, as demonstrated by the 15-year stalemate at the Conference on Disarmament. However, there has been some positive progress in the disarmament sphere, with renewed U.S.-Russia bilateral arms reductions occurring under the New START Treaty, and signs of greater political commitment to the disarmament goal by the United States and others in the international community. In 2007, four senior U.S. statesmen – George Shultz, William Perry, Henry Kissinger, and Sam Nunn – set forth the vision of a world free of nuclear weapons in an op-ed for the Wall Street Journal. The op-ed and subsequent related work lent renewed momentum to nuclear disarmament debates in the United States and other parts of the world. While U.S. President Barack Obama remains committed to maintaining the U.S. nuclear arsenal in the interim, he appears to share the “four horsemen’s” long-term disarmament goal, stating in his famous April 2009 Prague Speech, “today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons.”

- Legality Of The Threat Of Use Of Nuclear Weapons -

The Advisory Opinion handed down by the International Court of Justice (ICJ) on 8 July 1996 concerning the legality of the threat or use of nuclear weapons contains many elements that are of fundamental interest from the standpoint of international humanitarian law. Indeed, humanitarian law, which has developed to a remarkable extent since the Second World War, has always lacked an express ruling on nuclear weapons.

Although the nuclear issue had long been a topic of discussion within United Nations bodies and the Disarmament Commission in Geneva (later called the Disarmament Conference), it was avoided in preparatory work for the reaffirmation and development of international humanitarian law, in particular the

1949 Conference that adopted the four

Geneva Conventions and the 1974-1977 Conference that drafted the Protocols additional thereto. As a result, the modern world has always had to live with the threat of nuclear weapons, that is, nuclear war. That threat loomed larger during the long years of the Cold War owing to the strategy adopted by the nuclear powers and their allies; and even now that the Cold War is over it has still not completely disappeared. In the present circumstances it was public opinion and the non-nuclear and non-aligned countries which took the initiative of asking the Court for an opinion, through such international bodies as the World Health Organization (WHO) and the United Nations General Assembly.

Applicability of humanitarian law to the threat or use of nuclear weapons

One of the main points to be highlighted as far as humanitarian law is concerned is the fact that the Court gave an affirmative reply to the question of the applicability of humanitarian law in the event of the threat or use of nuclear weapons. Whereas it states in paragraphs 105 (2)A and B of its opinion that " there is in neither customary nor conventional international law any specific authorization of the threat or use of nuclear weapons " or " any comprehensive and universal prohibition " of the threat or use of nuclear weapons as such, it confirms in paragraph 105 (2)D that the threat or use of nuclear weapons " should also be compatible with the requirements of the international law applicable in armed conflict, particularly those of the principles and rules of international humanitarian law (...) " . This leads to the conclusion (see para. 105 [2] E) that the threat or use of nuclear weapons is generally prohibited under humanitarian law.

The threat of nuclear weapons or the policy of deterrence

The question submitted by the UN General Assembly covered not only the use but also the threat of nuclear weapons. Indeed, the issue of the nuclear threat is profoundly bound up with the policy of deterrence, although the Court did not consider it in depth. In response to the argument upheld by certain States to the effect that the possession of nuclear weapons is in itself an unlawful threat to resort to force, the Court examined the policy of deterrence. This is the policy whereby States holding nuclear weapons or under the protection of such States seek to discourage military aggression by demonstrating that it would be pointless, thus lending credibility to the intention to use nuclear weapons. The Court declared: " Whether this is a "

threat " contrary to Article 2, paragraph 4 [of the UN Charter] depends on whether the particular use of force envisaged would be directed against the territorial integrity or political independence of a State, or against the Purposes of the United Nations or whether, in the event that it were intended as a means of defence, it would necessarily violate the principles of necessity and proportionality. In any of these circumstances the use of force, and the threat to use it, would be unlawful under the law of the Charter " (para. 48). This means that the actual threat of nuclear weapons, or the possession of them to discourage military aggression in accordance with the policy of deterrence, is unlawful only if it constitutes a threat within the meaning of Article 2, paragraph 4, of the Charter.

"General" illegality of the threat or use of nuclear weapons

In its Advisory Opinion the Court addresses the issue of the legality or illegality of the threat or use of nuclear weapons in an ambiguous and highly controversial manner:

- " It follows from the above-mentioned requirements that the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and particularly the principles and rules of humanitarian law;
- " However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake"

How are these lines to be interpreted in law?

Exception in the case of an extreme circumstance of self-defence

The problem of self-defence and the applicability of humanitarian law, including the legality or illegality of the threat or use of nuclear weapons, warrants closer attention. It appears prima facie that humanitarian law should apply to all categories of international armed conflict, and therefore also to those in which self-defence is invoked by one party to the conflict vis-à-vis the aggressor. To make amore accurate analysis, however, ever since war itself has been recognized as unlawful under a series of international instruments (the League of Nations Pact, the 1928 Paris Pact and the UN Charter), the international community has entertained a thesis based on the discriminatory application of the law of war and the law of neutrality to the

party which is the victim of the aggression on the one hand and the party which is the aggressor on the other. For instance, there are the International Law Association's " Budapest interpretative articles " of 1934 and the 1963 resolutions of the Institute of International Law

- The International Nuclear Fuel Bank And Other Multilateral Approaches -

An approach that arguably tackles the issue more at its roots than safeguards do is to transfer parts of national nuclear fuel cycles into multilateral control. Multilateral approaches to the nuclear fuel cycle have been debated since the 1970s, but without producing any tangible results. The reasoning behind multilateral approaches is compelling: if guarantees can be given to states that nuclear fuel supply is maintained for their power reactors even when they are suddenly cut off from supplies due to a change in political or commercial circumstances, these states would lose any incentive to build their own enrichment or reprocessing facilities. Such guarantees, like the establishment of a multilateral nuclear fuel bank, would be able to cope with the continuing expansion of nuclear energy and it would also strengthen the non-proliferation regime.

Multilateral approaches could come in several phases. The first short term step could be to assure fuel supply for power reactors, such as by creating a multilateral fuel bank. Further long term phases could involve putting existing national enrichment and reprocessing facilities under multilateral operation. This would make nations who do not have indigenous supply of uranium to become completely dependent on the international community for nuclear power generation and hence ensure a greater level of transparency in terms use of imported uranium. Twelve such proposals have been brought forward by the international community in recent years. Yet the proposal that has advanced in negotiations the most is that of the Nuclear Threat Initiative (NTI), an independent think-tank. It envisages the creation of a LEU stockpile to dissuade states to invest in their own nuclear fuel cycle.²² The funding target of \$150 million has been met in March 2009 and thus this project seems very promising. Among the states that have taken initiative and submitted proposals for multilateralizing the fuel cycle are Austria, France, Germany, Japan, the Netherlands, Russia, the United Kingdom and the United States of America.

Alongside the 2006 IAEA General Conference, a Special Event on multilateral approaches to the fuel cycle was held and it was attended by delegates from 61 Member States. The aim was to identify the strengths and

weaknesses of the proposals that were on the floor at that time; it was not the aim to decide on any particular proposal. The Special Event discussed important issues such as supply conditionality, what kind of fuel should be assured by the fuel bank and what the possible roles for the Agency could be.

Under the IAEA Statute, the Agency has experience in providing nuclear fuel cycle related services and the Agency sees itself ready to facilitate and manage multilateral approaches. Problems with such approaches are that states may come under the impression that they need to surrender some of their national sovereignty to a multilateral organization, even though care was taken at the 2006 Special Event to communicate that a multilateral approach is not aimed at undermining the right of a state to make its own decisions regarding its fuel cycle.

Another important multilateral effort for non-proliferation and disarmament is the International Commission on Nuclear Non-proliferation and Disarmament (ICNND) which is a joint initiative of the Australian and Japanese governments. The Commission is co-chaired by former Australian foreign minister Gareth Evans and former Japanese foreign minister Yoriko Kawaguchi. Key goals for the Commission include undertaking preparatory work for the Nuclear Non-Proliferation Treaty Review Conference in 2010, including shaping a global consensus in the lead-up to the Review Conference. They have come out with a report titled “Eliminating Nuclear Threats – A Practical Agenda for Global Policymakers” which provides a good insight on what the main problems are, from where the threats arise and what can be done both in policy and action.

- Attribution And Deterrence -

A third way of reducing the proliferation threat arising from the civilian nuclear fuel cycle could start at the other end and would indeed be a quite innovative approach. Rather than physically preventing states from misusing their civilian nuclear infrastructure, the idea is to deter them from doing so.

Undoubtedly, there already exists a deterrence effect when safeguards agreements are in place. If a state is assumed to be in non-compliance with its safeguards agreement, that state will find itself under investigation by the Board of Governors, which may refer a case to the UN Security Council and thereby trigger sanctions.

For example, Iran was sanctioned by the Council in 2006 and 2007 after the Board of Governors found the Member State in non-compliance with its CSA safeguards. Similar was the case with Iraq, where special powers were conferred upon the IAEA in order to dismantle the nuclear program of Iraq.

The approach introduced here is aimed at countering the threat of terrorists being able to acquire sufficient nuclear fissile material to build a rudimentary weapon. It is generally agreed that a terrorist would only be able to obtain a weapon's essential ingredient with the help of a state that possesses the necessary enrichment or reprocessing facilities.³² In such a condition, either a state would knowingly abuse their nuclear energy infrastructure and provide the terrorists with nuclear materials or nuclear facilities are not adequately secured.

Analysts have identified such state sponsored terrorist activity to be a growing threat to international security and the IAEA also has a nuclear security program aimed at minimizing this threat possibility.³³ If a weapon has detonated or if one has been intercepted in export/import controls, it could be possible to attribute the device's nuclear fissile material to its origin. The basic technologies required for such attribution already exist and they have been proven to be successful for unexploded devices. Some scientists have also predicted for these methods to work by examining the debris in scenarios when a weapon has detonated. The major remaining problem to establish this deterrent capability is indeed political: a comprehensive database containing physical, isotopic and chemical properties of the world's nuclear materials is required for attribution. This information, however, is generally kept top secret and withheld by states as it reveals sensitive information about their nuclear facilities. Therefore, this is possible only when we have an International Nuclear Fuel Bank that would maintain the records of origins and transport of nuclear materials emphasizing the importance of the same. It has been suggested that the IAEA, as a multilateral institution that has demonstrated technical expertise and impartiality, could be a suitable host for such a sensitive database. A similar database is already being managed by the Agency, the IAEA Illicit Trafficking Database (ITDB) which records incidents involving illicit trafficking in nuclear and other radioactive materials.

The unforeseen detonation or interception of a nuclear weapon caused by state-sponsored terrorist activity is an unlikely yet dramatic event to occur. If it can be proven, using a nuclear materials database, that a particular state has knowingly diverted nuclear material for a weapon, that state would face severe sanctions

by the UN Security Council. This is demonstrated by the Security Council Resolution 1540 in which the Council, acting under Chapter VII of the UN Charter, obliges all states not to support non-state actors that attempt to acquire nuclear weapons. The extent to which this method would be working remains debatable between policy makers and academics alike. On one hand, the argument goes that effective deterrence using a materials database is likely to work, because research in attribution is progressing steadily. This would require the IAEA Committee to hold difficult negotiations with the nuclear powers to establish such a database. On the other hand, skeptics point out to the political difficulties associated with establishing such a required database. Key states will be unlikely to surrender sensitive nuclear information to a multilateral database, even if this database is to be kept secret.

- Recent Advancements -

When we talk about safety and legitimacy of nuclear programmes and threat of use of nuclear weapons, the Asian and Arab sub continent Continent springs to mind.

IRAN

Iran has a large-scale nuclear development program under way, stressing a complete nuclear fuel-cycle, enabling it to make highly enriched uranium (HEU). Ostensibly for civilian power generation, HEU also can be used for weapons making. Its enrichment facility at Natanz has been the centre of international disputes.

Iran repeatedly stresses that HEU is a substitute for oil to generate electricity, because they feel that their valuable oil should be used for high-value products, not simple electricity generation.

"Petroleum is a noble material, much too valuable to burn... We envision producing, as soon as possible, 23,000 megawatts of electricity using nuclear plants," the Iranian Shah had previously said.

The Iranians believe that concerns about nuclear weapons proliferation are pretextual, and any suspension of enrichment is simply intended to ultimately deprive Iran of the right to have an independent nuclear technology:

"[W]e had a suspension for two years and on and off negotiations for three... Accusing Iran of having "the intention" of acquiring nuclear weapons has, since the early 1980s, been a tool used to deprive Iran of any nuclear technology, even a light water reactor or fuel for the American-built research reactor... the United

States and EU never even took the trouble of studying various Iranian proposals: they were –from the very beginning –bent on abusing this Council and the threat of referral and sanctions as an instrument of pressure to compel Iran to abandon the exercise of its NPT guaranteed right to peaceful nuclear technology“.

Iran says that its inalienable right to peaceful nuclear technology has been the subject of "the most extensive and intensive campaign of denial, obstruction, intervention and misinformation" and that the international community has been subject to "bias, politicized and exaggerated information" on the Iranian nuclear program and activities. Iran believes it has a legal right to enrich uranium for peaceful purposes under the Nuclear Non-Proliferation Treaty, a right which in 2005 the U.S. and the EU-3 began to assert had been forfeited by a clandestine nuclear program that came to light in 2002.

However, the recent January 2014 conference on the Iran Nuclear deal has begun, as negotiations to conclude an interim agreement in the Iranian nuclear dispute resumed.

ISRAEL

Israelis commonly estimated to have 100- 200 nuclear weapons, deliverable by ballistic missiles and aircraft, and possibly including thermonuclear weapons.

It's one source of highly enriched uranium was its nuclear complex at Dimona, which has been reportedly shut down for several years.

Israel has not signed the NPT, but it did sign the Comprehensive Test Ban Treaty (CTBT) in 1996. Isolated in the UN, Israel relies heavily on American support. In the Security Council, the United States vetoes resolutions aimed specifically against the Israeli nuclear program. In the General Assembly, though, the one-state one-vote principle makes such protection harder. Criticizing Israel is one of the few issues that most the Non-Aligned Movement Nations can reliably agree on.

Israeli officials publicly characterize Iran's nuclear program as an "existential threat" to Israel, and Israeli leaders assert that all options are kept open in dealing with Tehran. The threat has been compared to the threat the Jews of Europe faced prior to the Holocaust.

Israel, which is not a party to the NPT and is widely believed to possess a huge chunk Middle East's nuclear arsenal does not believe the 2007 National Intelligence Estimate conclusion that Iran had stopped its nuclear weapons program in 2003, insisting that it has additional evidence of an active and continued Iranian nuclear weapons program.

Israel has also rejected the IAEA's November 2007 and February 2008 reports on Iran, and Israeli officials have called for the resignation of IAEA Director General ElBaradei, accusing him of being "pro-Iranian."

While Israel has never admitted to having nuclear weapons, few international experts question the Jewish state's presence on the world's list of nuclear powers.

Its nuclear capability is arguably the most secretive weapons of mass destruction programme in the world. Unlike Iran and North Korea - two countries whose alleged nuclear ambitions have recently come to the fore - Israel has never signed the Nuclear Non-Proliferation Treaty, designed to prevent the global spread of nuclear weapons.

As a result, it is not subject to inspections and the threat of sanctions by the United Nations nuclear watchdog, the International Atomic Energy Agency

Point Of Conflict Over Non-Proliferation In The Middle East

The most serious attempt to confront the proliferation of weapons of mass destruction in the Middle East took place within the framework of the "Arms Control and Regional Security (ACRS)" working group talks between 1992-1995. With the participation of 14 regional actors, ACRS was one of the five multilateral working groups established after the post-Gulf War 1991 Madrid Conference hosted by the Spanish government and co-sponsored by the USA and the USSR.

The primary reason the talks collapsed was a fundamental disagreement between the Egyptian and Israeli delegations about priorities. The Egyptians said that the creation of **Middle East nuclear-free zone** was the first priority, while the Israeli delegation said that comprehensive Israeli-Arab peace was the precondition for creating a **Middle East Nuclear Weapons Free Zone (ME NWFZ)**.

Democratic People's Republic of Korea (DPRK)

DPRK did originally sign the NPT but withdrew from it. DPRK has actively carried out a nuclear programme, since, which has involved tests which invited many sanctions. Not a lot required on them as

there is little or no ambiguity in their nuclear ambitions.

INDIA AND PAKISTAN

Both nations have not signed the NPT.

Defining Legitimacy

The difference in the policies of countries (falling under Non proliferation regime and other wise) has sparked a debate with the “have and have-not” of the nuclear weapons ,post NPT. India and Pakistan debate the idea of NPT to be biased towards those countries which possessed Nuclear Weapons before the NPT and are still trying to get rid of the stockpiles via various treaties such as the START and the New START treaties.

Meanwhile the idea of NPT is questioned in the Review conferences where India and Pakistan are negotiated with for inclusion in the NPT.

Israel calls NPT flawed which can be withdrawn from and violated like most Arab Nations. The idea of US nuclear weapons that have been placed in Germany under the NATO is believed to be conflicting with the NPT principles.

Questions To Be Considered -

1. What is your country's stand towards the current non-proliferation regime (NPT, CSA and AP)?
2. Is it necessary for the non NPT Nuclear Weapons States be brought under the non-proliferation regime so that the Non Nuclear Weapon States can be safeguarded?
3. Is the NPT complete or does it have flaws? What is the policy of each state over the use of Nuclear weapons?
4. Can non proliferation and the current agenda at hand be interlinked? How or how not?
5. What is the legality of the threat of use of nuclear weapons? Is it sufficient to hold back any nation from its use?
6. What is the most effective and acceptable way for multi-lateralizing the nuclear fuel cycle?

Does multi-lateralizing the fuel cycle protect the interests of Non Nuclear Weapon States?

7. Considering international skepticism towards a comprehensive multilateral database of nuclear materials particularly from the non-weapons states, how feasible is this approach?
8. Is the current threat of Nuclear weapons disturbing or maintaining world peace?
9. Can the Middle East or the Asian Continent be a NWFZ?
10. Can the Dual Use Technology be brought into question while talking of threats?

Possible Points To Address In The Resolution

1. Establishing a new or strengthening the existing non-proliferation regime.
2. Include crucial partners like India, Pakistan, Israel, Iran and DPRK in non-proliferation measures.
3. Multi-lateralizing the nuclear fuel cycle.
4. Ensuring complete transparency in trading and enrichment of nuclear materials.
5. Further strengthening of the Illicit Trafficking Database by early reporting of incidents.
6. Establishing a possible comprehensive multilateral nuclear materials database and defining its composition and accessibility.
7. Ensuring strict adherence to UNSC Resolution 1540 to prevent terrorists from acquiring nuclear weapons.
8. Considering the legality of use of nuclear weapons.
9. Prevention or avoidance of the use nuclear weapons.
10. The threat of nuclear weapons maintaining/disturbing world peace.

Some Useful Research Links

- Advisory opinion of the ICJ on threat of Use of Nuclear weapons
<http://www.haguejusticeportal.net/index.php?id=6380>
- Nuclear Suppliers Group. <http://www.nuclearsuppliersgroup.org/Leng/default.htm>
- Treaty on the Non-proliferation of Nuclear Weapons, 1968 July 1.
<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf>
- APS & AAAS. (February 2008). Nuclear forensics: Role, state of the art, program needs Joint Working Group of the American Physical Society and the American Association for the Advancement of Science.

<http://www.aps.org/policy/reports/upload/Nuclear-Forensics-Report-FINAL.pdf>

- International Atomic Energy Agency for the Application of Safeguards.
- IAEA. (2010). Nuclear Security. <http://www-ns.iaea.org/security/default.htm>
- IAEA. (2010, September 13). In Focus: IAEA and DPRK
<http://www.iaea.org/NewsCenter/Focus/IaeaDprk/>
- IAEA. (2010, September 15). In Focus: IAEA and Iran.
<http://www.iaea.org/NewsCenter/Focus/IaeaIran/index.shtml>
- NTI. (2010). Progress towards Reducing the Threat and Numbers of Existing Nuclear Weapons.
<http://www.nti.org/db/disarmament/>
- United Nations Security Council (S/RES/1540). (2004, April 28). Resolution 1540. [http://daccess-ods.un.org/access.nsf/Get?Open&DS=S/RES/1540\(2004\)&Lang=E&Area=UNDOC](http://daccess-ods.un.org/access.nsf/Get?Open&DS=S/RES/1540(2004)&Lang=E&Area=UNDOC)
- IAEA, Nuclear Safety and Security, ITDB. <http://www-ns.iaea.org/security/itdb.asp>
- Eliminating Nuclear Threats – A Practical Agenda for Global Policymakers.
<http://www.icnnd.org/reference/reports/ent/contents.html>
- IAEA, Statute of the International Atomic Energy Agency, 1956.
http://www.iaea.org/About/statute_text.html