GLOSSARY
**Australia Group:** The Australia Group (AG) is an informal forum of countries which, through the harmonisation of export controls, seeks to ensure that exports do not contribute to the development of chemical or biological weapons. Coordination of national export control measures assists Australia Group participants to fulfill their obligations under the Chemical Weapons Convention and the Biological and Toxin Weapons Convention to the fullest extent possible (The Australia Group: www.australiagroup.net). The formation of the AG in 1985 was prompted by Iraq's use of chemical weapons during the Iran-Iraq War (1980-1988). Australia, concerned with Iraq's development of chemical weapons, recommended harmonization of international export controls on chemical weapons precursor chemicals. As the AG membership grew, it expanded its focus to include chemical production equipment and technologies and measures to prevent the proliferation of biological weapons (US Department of Commerce, Bureau of Industry and Security: www.bis.doc.gov).

**Chemical and Biological Weapons Law:** Section 81(a) of the Arms Export Control Act (AECA) and Section 12C(a) of the Export Administration Act of 1979 (EAA) direct the US President to impose sanctions against “foreign persons” (including corporations or other entities organized under the laws of a foreign country) if the President determines that a foreign person has knowingly and materially contributed, through the export of goods or technology or any other transaction, to the efforts of certain countries to use, develop, produce, stockpile, or otherwise acquire chemical or biological weapons. The sanctions are a ban on US Government procurement from the foreign person and a ban on imports from the foreign person. The duration of these sanctions is at least twelve months. Sanctions may only be terminated thereafter if: (1) a determination and certification to the Congress are made that reliable information indicates that the sanctioned entity has ceased to aid or abet any CBW project described in the law; or (2) sanctions are waived on the grounds that such a waiver is important to the national security interests of the United States (US Department of State, United States Law & Policy - Non-proliferation Sanctions: www.exportcontrol.org).

**CTBT:** The Comprehensive Test Ban Treaty (CTBT) “Prohibits any nuclear explosion whether for weapons or peaceful purposes. The Treaty establishes an organization to ensure implementation, which includes a Conference of States Parties, an Executive Council and a Technical Secretariat, which includes the International Data Centre. The Treaty includes a Protocol which details the International Monitoring System (IMS), On-Site Inspections (OSI) and on Confidence Building Measures” (Federation of American Scientists: www.fas.org). It was established on 19 November 1996 and consists of a plenary body of State Signatories and the Provisional Technical Secretariat. CTBT is also the formal name for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) which will be established after entry into force of the CTBT (CTBT: http://www.ctbto.org). Many Indian analysts view the CTBT as discriminatory because it is meant to stabilize, instead of reverse, the nuclear weapons prowess of its member-states. Although only India, Pakistan, and North Korea have yet to sign the Treaty, many states, including the US, have yet to ratify it.
Dual-use Technology: The term “dual-use” applies to the application of technology rather than its conception. There are three categories of technology, viz., technology that is exclusive to the military; technology that has no significant application for the military; and technology, the end users of which are both military and civil. It is difficult to draw a distinction between these categories. What is true of the product technology may not be true of the process technology. Further, a fighting platform in its application; is exclusive to the military, but its discrete equipment may have multiple use; likewise a C-3I (Command, Control, Communication and Intelligence) system may be unique to the services, but its assemblies and sub-assemblies and components may bear across-the-board application. Unquestionably, the two facets of technology, military and industry-commercial, reflect a common conception, it is their purposive divergence that underscores the term and, therefore, the debate (Deva 1996: 133; Thomas 1990: 826-828).

Glenn Amendment: Section 102(b) of the AECA requires sanctions against: (1) a foreign country that transfers a nuclear explosive device (or components or design information for such a device) to a non-nuclear-weapon state; (2) a non-nuclear-weapon state that receives a nuclear explosive device (or components or design information for such a device); or (3) a non-nuclear-weapon state that detonates a nuclear explosive device. Sanctions include: no foreign assistance; no arms sales; no foreign military financing; no US Government credit, credit guarantees, or other financial assistance (except related to agricultural exports); US Government opposition to loans from international financing institutions; no loans from US banks to the foreign government; and restrictions on US dual-use exports. Congress must pass legislation authorizing a waiver (US Department of State, United States Law & Policy-Non-proliferation Sanctions: www.exportcontrol.org).

HTCG: The US-India High Technology Cooperation Group (HTCG) was conceived in November 2001 with a joint statement by President George W. Bush and the then India’s Prime Minister Atal Bihari Vajpayee who affirmed their commitment to transform and deepen US-India relations. Bilateral trade in high technology was one step toward the Strategic Partnership that the two countries embrace. By November 2002, the US and Indian governments began work on a set of principles regarding bilateral cooperation in high technology trade which included “dual-use” goods and technology. These principles recognized the importance of removing tariff and non-tariff barriers, while acknowledging common strategic interests aimed toward the non-proliferation of sensitive goods. In addition, each country agreed to take cooperative steps to create the requisite political, economic, and legal structures for successful high-technology commerce (High Technology Cooperation Group: www.usibc.com).

IAEA: The International Atomic Energy Agency (IAEA) serves as the world’s foremost intergovernmental forum for scientific and technical co-operation in the peaceful use of nuclear technology. Established as an autonomous organization under the United Nations (UN) in 1957, the IAEA carries out programmes to maximize the useful contribution of nuclear technology to society while verifying its peaceful use (IAEA: www.iaea.org). Probably the most important function of the IAEA is that it “Verifies through its inspection system that States comply with their commitments, under the Non-Proliferation Treaty and
other non-proliferation agreements, to use nuclear material and facilities only for peaceful purposes” (IAEA Mission Statement: www.iaea.org).

Missile Sanctions Law: Section 73 of the Arms Export Control Act (AECA) and section 11B of the EAA provide for procurement, export, and in some cases import sanctions against foreign persons who transfer MTCR-class equipment or technology that contributes to a missile programme in a country that is not an MTCR adherent. The waiver standard is “essential to the national security of the United States” (US Department of State, United States Law & Policy-Non-proliferation Sanctions: www.exportcontrol.org).

MTCR: The Missile Technology Control Regime (MTCR) is officially defined as “an informal and voluntary association of countries which share the goals of non-proliferation of unmanned delivery systems for weapons of mass destruction, and which seek to coordinate national export licensing efforts aimed at preventing their proliferation”. The MTCR was originally established in 1987 by Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. Since that time, the number of MTCR partners has increased to a total of thirty-four countries, all of which have equal standing within the Regime. (MTCR: http://www.mtcr.info). Brahma Chellaney, a prominent security analyst, said that MTCR as “a suppliers’ cartel designed to protect an oligopoly or perpetuate military superiority” (Chellaney 2000: 145-53).

NPT: The Nuclear Non-Proliferation Treaty (NPT) obligates the five acknowledged nuclear weapon states (NWS) (the United States, Russian Federation, United Kingdom, France, and China) not to transfer nuclear weapons, other nuclear explosive devices, or their technology to any non-nuclear-weapon state (NNWS). Non-nuclear-weapon States Parties undertake not to acquire or produce nuclear weapons or nuclear explosive devices. They are required also to accept safeguards to detect diversions of nuclear materials from peaceful activities, such as power generation, to the production of nuclear weapons or other nuclear explosive devices. This must be done in accordance with an individual safeguards agreement, concluded between each non-nuclear weapon State Party and the IAEA. Under these agreements, all nuclear materials in peaceful civil facilities under the jurisdiction of the state must be declared to the IAEA, whose inspectors have routine access to the facilities for periodic monitoring and inspections. If information from routine inspections is not sufficient to fulfill its responsibilities, the IAEA may consult with the state regarding special inspections within or outside declared facilities (Federation of American Scientists: www.fas.org). India vies the NPT as clearly discriminatory.

Nuclear Proliferation Prevention Act of 1994: Section 821 of the Nuclear Proliferation Prevention Act of 1994 provides for procurement sanctions against any non-government foreign entity determined by the US President to have “materially and with requisite knowledge contributed” through its exports to the efforts of a non-nuclear-weapon state to acquire unsafeguarded special nuclear material or to use, develop, produce, stockpile, or otherwise acquire any nuclear explosive device. This sanction can be waived after 12 months if continued imposition of the sanction “would have a serious adverse impact on vital United States interests” (US Department of State, United States Law & Policy -Non-proliferation Sanctions: www.exportcontrol.org).
Revolution in Military Affairs (RMA): New tools and processes of waging war like information warfare, network-centric warfare (NCW), integrated Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), system of systems, all powered by information technology, have led to the revolution in military affairs (RMA). This is likely to broaden the parameters of thinking about National Security. The countries of the world are now on the brink of a major revolution on how they (will) conduct national security affairs (Rizwan 2000). The revolution in military affairs (RMA) is the future of war, if and when it takes places. This is application of information and sensor technologies to improve the accuracy of weapons, obtaining real time information on the adversary and using the information superiority to protect and defend oneself and severely damage the adversary’s capability to prosecute the war. One saw the application of some aspects of RMA during the Gulf and Kosova wars. But there is further scope for advances in this area. There are both offensive and defensive aspects in this field (Subrahmanyam 2000).

Symington Amendment: Section 101 of the AECA prohibits the US Government from providing various types of foreign assistance to any country that the President determines has delivered or received nuclear enrichment equipment, materials, or technology. The waiver standard for the Symington amendment is difficult to meet: (1) termination of assistance would have a serious adverse impact on vital US interests; and (2) reliable assurances that the country in question will not acquire or develop nuclear weapons or assist other nations in doing so (US Department of State, United States Law & Policy - Non-proliferation Sanctions: www.exportcontrol.org).

US Control Lists and Licensing Procedures
The US control lists correspond directly with the lists maintained by the various multinational export control regimes, but are augmented by unilateral controls when necessary to ensure national security and foreign policy imperatives. The three major lists of export-controlled items are the Commerce Control List (CCL), the United States Munitions List (USML), and the Nuclear Regulatory Commission Controls (NRCC) (US Export Control System: www.exportcontrol.org).

Wassenaar Arrangement: The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, is one of four multilateral export control regimes in which the United States participates. The Arrangement’s purpose is to contribute to regional and international security and stability by promoting transparency and greater responsibility in transfers of conventional arms and dual-use (i.e. those having civil and military uses) goods and technologies to prevent destabilizing accumulations of those items. The Wassenaar Arrangement establishes lists of items for which member countries are to apply export controls. Member governments implement these controls to ensure that transfers of the controlled items do not contribute to the development or enhancement of military capabilities that undermine the goals of the Arrangement, and are not diverted to support such capabilities. In addition, the Wassenaar Arrangement imposes some reporting requirements on its member governments (US Department of Commerce, Bureau of Industry and Security: www.bis.doc.gov).
**Nuclear Suppliers Group:** The Nuclear Suppliers Group (NSG) is a group of 45 nuclear supplier countries which seeks to contribute to the non-proliferation of nuclear weapons through the implementation of Guidelines for nuclear exports and nuclear related exports. The NSG Guidelines are implemented by each Participating Government in accordance with its national laws and practices. Decisions on export applications are taken at the national level in accordance with national export licensing requirements (Nuclear Suppliers Group: www.nsg-online.org/). The NSG was created following the explosion in 1974 of a nuclear device by a non-nuclear-weapon State (India), which demonstrated that nuclear technology transferred for peaceful purposes could be misused. The NSG Guidelines were published in 1978 as IAEA Document INFCIRC/254 (subsequently amended), to apply to nuclear transfers for peaceful purposes to help ensure that such transfers would not be diverted to unsafeguarded nuclear fuel cycle or nuclear explosive activities. In 1992, the NSG decided to establish Guidelines for transfers of nuclear-related dual-use equipment, material and technology (items which have both nuclear and non-nuclear applications) which could make a significant contribution to an unsafeguarded nuclear fuel cycle or nuclear explosive activity. These Dual-Use Guidelines were published as Part 2 of INFCIRC/254, and the original Guidelines published in 1978 became Part 1 of INFCIRC/254. The endorsement at the 1995 NPT Review and Extension Conference (NPTREC) of the full-scope Safeguards policy already adopted by the NSG in 1992 clearly reflects the conviction of the international community that this nuclear supply policy is a vital element to promote shared nuclear non-proliferation commitments and obligations (NSG: www.nsg-online.org).

**Technical Advisory Committees:** Technical Advisory Committees (TACs) of the US advise the Department of Commerce on the technical parameters for export controls applicable to dual-use commodities and technology and on the administration of those controls. The TACs are composed of representatives from industry and Government representing diverse points of view on the concerns of the exporting community. Industry representatives are selected from firms producing a broad range of goods, technologies, and software presently controlled for national security, foreign policy, non-proliferation, and short supply reasons or that are proposed for such controls, balanced to the extent possible among large and small firms (US Department of Commerce, Bureau of Industry and Security: www.bis.doc.gov).

**Three Stage Nuclear Power Programme:** The Development of India’s three-stage nuclear power programme consists of Pressurised Heavy Water Reactors (PHWRs) in the first stage, fast breeder reactors in the second stage, and thorium reactors in the third stage (MEA, Government of India, 2006). The Department of Atomic Energy (DAE) has been pursuing a 3-stage Nuclear Power Programme. The first stage, which is already in the commercial domain, comprises the setting up of pressurized heavy water reactors that use natural uranium as fuel. The second stage, which is in the technology demonstration stage, is geared to set up fast breeder reactors using plutonium produced by reprocessing of spent uranium fuel from the first stage. The third stage, in the technology development stage, will be based on the thorium-uranium-233 cycle, in specifically designed reactors. Uranium-233 is obtained by irradiation of thorium. The programmes relating to nuclear power have been built on the multidisciplinary R&D infrastructure of the Department (Department of Atomic Energy, Annual Report 2006-07: www.dae.gov.in).
WMD: A weapon of mass destruction (WMD) is a weapon that can kill large numbers of humans and/or cause great damage to man-made structures (e.g. buildings), natural structures (e.g. mountains), or the biosphere in general. The term covers several weapon types, including nuclear, biological, chemical (NBC), and radiological weapons. Additional terms used in a military context include atomic, biological, and chemical (ABC) warfare and chemical, biological, radiological, and nuclear (CBRN) warfare. The phrase was predominantly used in reference to nuclear weapons during the Cold War; following the collapse of the Soviet Union and increasing tensions between the Middle East and the Western powers, the term broadened to its modern, more inclusive definition. It entered widespread usage in relation to the US-led 2003 invasion of Iraq (United Nations Office for Disarmament Affairs: http://disarmament.un.org/WMD/; Wikipedia, WMD: http://en.wikipedia.org).

The US Department of Defense, Proliferation: Threat and Response 2001, “Message of the Secretary of Defense,” refers to Weapons of Mass Destruction as those with “capabilities to inflict mass casualties and destruction: nuclear, biological and chemical (NBC) weapons or the means to deliver them” (US Department of Defense 2001: 4). The development and use of WMD is governed by international conventions and treaties, although not all countries have signed and ratified them: Partial Test Ban Treaty; Outer Space Treaty; Nuclear Non-Proliferation Treaty (NPT); Seabed Arms Control Treaty; Comprehensive Test Ban Treaty (CTBT); Biological and Toxin Weapons Convention (BWC); Chemical Weapons Convention (CWC), etc. (UNODA: http://disarmament.un.org/WMD)