

## The 2006 UNA-USA Model United Nations Conference

### May 18-20, 2006

# BACKGROUND GUIDE INTERNATIONAL ATOMIC ENERGY AGENCY

**Topics:** 

Preventing Nuclear Terrorism Protection of Nuclear Materials

> Global Classrooms: New York A program of the United Nations Association of the USA



#### INTERNATIONAL ATOMIC ENERGY AGENCY

#### **DESCRIPTION OF THE COMMITTEE**

The International Atomic Energy Agency (IAEA) was created by the UN in 1957 as the world's "Atoms for Peace" organization, with a mandate to promote safe, peaceful uses of nuclear science.<sup>1</sup> IAEA helps countries assess their energy needs and safely plan the construction of nuclear power plants. It also helps apply nuclear science to important fields such as medicine and agriculture. Most notably, IAEA is responsible for ensuring safeguards on nuclear materials and technology, a vital role in the pursuit of nuclear disarmament and nonproliferation. IAEA has 139 member states.

#### **TOPIC A: PREVENTING NUCLEAR TERRORISM**

#### INTRODUCTION

In 1945, the United States ended World War II by releasing two nuclear bombs over Japan. The weapons used were the most destructive ever known to humankind.<sup>\*</sup> The destruction in Japan was so extensive that the international community realized nuclear weapons could endanger the safety of the world. Not only is the strength of a nuclear explosion devastating, but the radiation produced by the blast lingers, causing illness and deformities in survivors.

This tremendous power makes nuclear weapons an especially fearsome defense technology. It also makes nuclear weapons appealing to terrorists. While many countries have struggled for decades to create a nuclear weapons program, governments at are at least subject to the demands of the international community. In fact, countries that have tried to develop a nuclear weapons program face condemnation and pressure to **disarm**. But **terrorist** groups are not accountable to the international community. Terrorist groups, which rely on violence against civilians as a strategy, are notoriously unstable and cannot be negotiated with. A weapon as destructive as a nuclear bomb would give terrorists enormous physical and political power.

In addition, the nuclear science has many beneficial applications; as a result, nuclear materials are widely used in many countries. But in a world increasingly plagued by the threat of terrorism, dismantling nuclear weapons and securing nuclear materials and weapons is more important than

<sup>\*</sup> For more information on how nuclear weapons work and what happens after they explode, visit the "How Stuff Works" webpage at <u>http://science.howstuffworks.com/nuclear-bomb.htm</u>.



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ever. The UN and individual member states must to everything possible to prevent terrorist organizations from acquiring or producing nuclear weapons.

"We are not just dealing with the possibility of governments diverting nuclear materials into clandestine weapons programs. Now we have been alerted to the potential of terrorists targeting nuclear facilities or using radioactive sources to incite panic, contaminate property and even cause injury or death among civilian populations." -International Atomic Energy Agency official

*Source*: "Nuclear and Radiological Terrorism," Carnegie Endowment for International Peace, www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=1083

#### BACKGROUND

Nuclear technology involves the reactions of particles within atoms. The release of these particles during nuclear reactions is called **radiation**, which has a number of important scientific applications. Radiation can be used to diagnose illnesses, to treat cancers,<sup>2</sup> to disinfect medical equipment, and to perform scientific research. The energy released during nuclear reactions can be used in power plants, to produce electricity.<sup>3</sup> In fact, because nuclear science offers groundbreaking advancements in many fields and creates opportunities for development, the United States and Soviet Union long ago provided nuclear materials to other countries.<sup>4</sup>

There are currently 443 nuclear power plants in the world.<sup>5</sup> At least 30 countries have **nuclear power reactors**, and over 70 countries have major facilities with nuclear material in them.<sup>6</sup> Although nuclear materials and technologies are closely monitored by the International Atomic Energy Agency (IAEA), this monitoring requires the cooperation of governments, which are sometimes eager to create nuclear defense programs of their own. Furthermore, terrorist organizations often operate in politically unstable areas, such as parts of the Middle East and Asia, where governments are not powerful enough to disrupt them. This political instability also makes it impossible for the IAEA, or any other international organization, to determine if they are acquiring nuclear technologies.

These materials are potentially very dangerous—the materials used in universities and hospitals can easily be used by terrorist organizations to produce a devastating weapon.

#### Kinds of Nuclear Terrorism

The *International Convention on Nuclear Terrorism* defines **nuclear terrorism** as the threat to use any **nuclear** or **radiological materials** in a harmful way. Even illegally receiving or selling nuclear or radiological materials is considered an act of nuclear terrorism.<sup>7</sup>

**Nuclear weapons** are extremely difficult to create or acquire. Even a bomb similar to the first nuclear weapon ever deployed would require a highly sophisticated nuclear weapons program, something extremely difficult for even a well-organized terrorist group. A terrorist group would have to illegally obtain around 30 pounds of extremely rare and expensive nuclear material—



like highly enriched uranium or plutonium—in order to produce an actual nuclear bomb. A less sophisticated nuclear bomb would require even more nuclear material. But because these weapons are both dangerous and valuable, they are closely monitored by the IAEA, and by the governments that possess them.<sup>8</sup>

An easier-to-produce weapon would be a radiological device, often called a "**dirty bomb**," in which an explosive is used to spread low-grade radioactive material over a public area. Even though a dirty bomb would not kill tens of thousands of people, as a nuclear explosion would, it would cause billions of dollars in damage and would sicken thousands of people. Exposure to radiation caused by the dirty bomb could cause tissue damage, radiation poisoning and even cancer. This radiation could contaminate buildings and food sources, potentially affecting millions of people.

The materials needed to produce a dirty bomb are readily available to terrorist groups. While producing a nuclear bomb requires obtaining a very specific, very powerful kind of material, a dirty bomb can be made from the radioactive materials in hospital equipment, oil drilling facilities or university laboratories.<sup>9</sup>

"The risk of a complete nuclear device falling into the hands of terrorists, or a would-benuclear-weapon state is a nightmare scenario, but because of gaps in Russian warhead security, it is a possibility."

*Source*: "Preventing Nuclear Terrorism," Carnegie Endowment for International Peace, www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=950

#### Terrorist Organizations

Many terrorist groups seek sympathy from local residents in order to gain regional power. Experts assume that the horror and devastation caused by a nuclear explosion would undermine this sympathy. Most terrorist groups, therefore, would not want to spend the effort and vast expense needed to obtain a nuclear weapon.

Al Qaeda, the terrorist group which attacked the New York City World Trade Center on September 11, 2001, is a dangerous exception. As early as 1994, al Qaeda attempted to purchase uranium, a key ingredient to constructing a nuclear bomb.<sup>10</sup> Al Qaeda leader Osama bin Laden described the acquisition of nuclear weapons as a "religious duty," and called for the deaths of millions of American citizens.

In 1998, the Taliban regime, a movement of Islamic fundamentalists in Afghanistan, hired Russian nuclear scientists to spy for them. Russian security officials announced it was not the first time nuclear research laboratories had been infiltrated by terrorist spies.

Aum Shrinrikyo, a terrorist group famous for using nerve gas on commuters in Japan, has also tried to obtain nuclear weapons. Aum Shrinrikyo members recruited scientists at two of Russia's top nuclear research facilities and established relationships with top Russian security officials.



Terrorist factions of the Chechen separatist movement in Russia also pose a threat to nuclear safety. In 1995, Chechen fighters placed radiological material in a park as a threat to the Russian government. Chechen terrorists have since indicated that they may try to obtain a full-scale nuclear weapon in the future.<sup>11</sup>

#### **CRITICAL THINKING**

It is easy to confuse terrorist networks and aggressive states. This is especially true when a state harbors terrorists or supports terrorist actions. But the international community treats aggressive states and terrorists very differently. How are they different? How should the international community address them?

"A capable and well-organized terrorist group plausibly could make, deliver and detonate at least a crude nuclear bomb capable of incinerating the heart of any major city in the world." -May 2004 Report of Harvard University's Project on Managing the Atom

*Source*: "Nuclear Terrorism: A Brief Review of Threats and Responses," CRS Report for Congress, Congressional Research Service, September 2004, www.fas.org/irp/crs/RL32595.pdf

#### **PAST INTERNATIONAL ACTION**

In 1997, the UN General Assembly adopted Resolution 51/210, *Measures to Eliminate International Terrorism*, which noted the increasing frequency of terrorist attacks. The resolution calls for member states to enter into international agreements that help prevent terrorist activity. This includes sharing information and assisting attempts to arrest and prosecute suspected terrorists. The resolution also called for the creation of a committee to study the prevention of international terrorism.<sup>12</sup>

The next year, the General Assembly adopted Resolution 52/164, the *International Convention for the Suppression of Terrorist Bombings*. This resolution compels states to arrest and punish any terrorists who attempt to create, deliver or detonate a bomb, and to assist one another in the arrest of terrorists.<sup>13</sup>

In April 2005, the General Assembly adopted the *International Convention for the Suppression of Acts of Nuclear Terrorism*. This document touches on many of the sensitive issues involving nuclear terrorism. For example, it recognizes the right of every member state to benefit from nuclear technology. While it requires countries to share information necessary to protect themselves from nuclear crimes, it also allows them to keep certain information—such as defense tactics or surveillance technology—secret. The convention requires that states cooperate to investigate, arrest and prosecute all nuclear terrorists, regardless of their citizenship or national origin.<sup>14</sup>



#### **CRITICAL THINKING**

During the Cold War, countries competed to produce powerful and destructive nuclear arsenals. But they did not necessarily want to use these weapons—instead the weapons were a demonstration of power and a deterrent to attack. Do you think terrorists want to acquire nuclear weapons for similar reasons? Explain.

#### **RECOMMENDATIONS FOR CREATING A RESOLUTION**

Delegates should address the following when creating draft resolutions:

- Recommending ways that countries can fight terrorism within their borders;
- Suggesting ways for countries to work together to make laws and ensure that terrorist do not cross borders;
- Sharing information about terrorist networks and activities without compromising their national security; and
- Improving international efforts to fight terrorist organizations.

#### **QUESTIONS TO CONSIDER**

- 1. Is your country affected by terrorism? If so, how? Does your country harbor terrorist networks? Is your country targeted by terrorist organizations?
- 2. What actions have your country taken in response to terrorists in your country?
- 3. Has your country signed the resolutions listed above? Why or why not?



#### TERMS AND CONCEPTS

**Disarm**: to dismantle weapons programs.

**Terrorist:** a person who engages in terrorism. Terrorism is the use of violence against regular people to cause fear, in order to achieve a political or religious goal.

**Radiation:** the release of energy and subatomic particles from a material.

Nuclear power reactors: the facilities that use nuclear technology to produce electricity

Nuclear terrorism: the threat to use any nuclear or radiological materials in a harmful way.

<u>Nuclear materials</u>: materials that can release powerful atomic energy through the breakdown of its atoms. "Nuclear materials" usually refers to the powerful substances that can be used to create a bomb—such as highly enriched uranium or plutonium.

**Radiological materials:** materials that emit subatomic particles called 'radiation.' Radiological materials involve the release of atomic energy and the breakdown of atoms. They may loosely be called "nuclear materials" because they involve the nucleus of the atom, but they are not as powerful or dangerous as high-grade nuclear materials. Radiological materials cannot be converted into a full-scale nuclear weapon. Instead, they are generally used for scientific research.

**Nuclear weapon:** a weapon of mass destruction that detonates by nuclear reaction, the interactions particles within an atom. Nuclear weapons are the most destructive weapons every created by humans. They have only been detonated twice in history, and even those initial uses are considered controversial.

**<u>Dirty bomb</u>**: a weapon that uses an explosion to spread low-grade radiological material over a wide area, causing injury or death from radiation exposure.

#### SOURCES FOR RESEARCH

Terrorism Research Center www.terrorism.com

International Policy Group for Counter-Terrorism www.ict.org.il

UN Action Against Terrorism www.un.org/terrorism

Counter-Terrorism Committee www.un.org/Docs/sc/committees/1373





#### **TOPIC B: PROTECTION OF NUCLEAR MATERIALS**

#### INTRODUCTION

Nuclear weapons are considered the most destructive ever known to humankind.<sup>\*</sup> Many experts and leaders in the international community acknowledge that the destructive power of nuclear weapons is so great, that no country should produce nuclear weapons. The more countries acquire nuclear weapons programs, the greater the likelihood that nuclear weapons will again be used in warfare—a possibility every country wants to avoid.

But the tremendous power of nuclear weapons makes them a desirable form of defense for countries. This is especially true of countries with unstable governments; nuclear weapons would be an effective form of political intimidation. Nuclear weapons are also appealing to terrorists, and several terrorist groups have announced their desire to acquire them.

Countries with nuclear defenses are pressured to disarm—to reduce their stocks of nuclear weapons and discontinue their nuclear weapons programs. But the fact that several countries still have nuclear weapons means that one day, a terrorist, criminal, or unstable government might be able to obtain one. In addition, the nuclear science has many beneficial applications; as a result, nuclear materials are widely used in many countries. These materials might enable criminals to create nuclear bombs or other destructive weapons.

In a world increasingly plagued by the threat of terrorism, protecting nuclear materials and weapons is more important than ever. The UN and individual member states must to everything possible to prevent the theft and trafficking of nuclear weapons and materials.

#### BACKGROUND

US President Dwight Eisenhower stated in 1953, "It is not enough to take [nuclear technology] out of the hands of the soldiers. It must be put into the hands of those who will... adapt it to the arts of peace." Four years later, UN member states created the **International Atomic Energy Agency (IAEA)** to promote safe, peaceful uses of nuclear science.<sup>15</sup> IAEA helps countries assess their energy needs and safely plan the construction of nuclear power plants, and trains officials to safely apply nuclear technology to developmental efforts. In fact, because nuclear science offers

<sup>\*</sup> For more information on how nuclear weapons work and what happens after they explode, visit the "How Stuff Works" webpage at <u>http://science.howstuffworks.com/nuclear-bomb.htm</u>.



advancements in many fields, from medicine to electricity-production, the United States and Soviet Union long ago provided nuclear materials to other countries.<sup>16</sup>

#### RADIATION

Nuclear science involves the reactions of particles within atoms. The release of these particles during nuclear reactions is called radiation, which has a number of important scientific applications. Radiation can be used to diagnose illnesses, to treat cancers, to disinfect medical equipment, and to perform scientific research. The energy released during nuclear reactions can be used in power plants, to produce electricity.

The IAEA is also responsible for monitoring much of the world's nuclear materials, both materials used in weapons and materials used for peaceful purposes (even the materials used in research facilities or power plants can be used to produce a weapon). This makes monitoring nuclear activity especially difficult; IAEA must monitor both governmental and **civilian** facilities.

The success of IAEA's monitoring program depends on the cooperation of governments. Governments are sometimes reluctant to allow IAEA inspectors to survey their defense plants or research buildings, for fear of disclosing important defense secrets. Other times, governments are eager to secretly create nuclear defense programs.

#### **CRITICAL THINKING**

The monitoring program requires the cooperation of governments. This is true of many of the UN's agreements and policies. But the political will of the individual countries often stand in the way of effective regulations or policies. What are some reasons countries might agree to a program, but not cooperate with its execution? What does this mean for the effectiveness of international agreements? How can the international community make international agreements enforceable?

In addition, IAEA must encourage workers in the civilian sector to protect radiological materials. This can be an overwhelming task, as the materials are common in power plants, research facilities and hospitals throughout the world. The materials at these civilian facilities are not the kind required to make a nuclear bomb, but they could be used to produce a "dirty bomb," which would spread low-grade radiological material over a public area. Even though a dirty bomb would not kill tens of thousands of people, as a nuclear explosion would, it would cause billions of dollars in damage and would sicken thousands of people. Exposure to radiation caused by the dirty bomb could cause tissue damage, radiation poisoning and even cancer. This radiation could contaminate buildings and food sources, potentially affecting millions of people.

Reports by the IAEA and other nuclear-safety watchdog groups indicate that not enough of these civilian organizations and government facilities are secure. The possessors of nuclear or dangerous radiological material must protect themselves from two important threats: theft and corruption.



#### CIVILIAN NUCLEAR AND RADIOACTIVE MATERIALS

There are currently 443 nuclear power plants in the world. -"Power Reactor Information System," International Atomic Energy Agency, www.iaea.org/programmes/a2

At least 30 countries have nuclear power reactors, and over 70 countries have major facilities with nuclear material in them.

-"IAEA Safeguards: Stemming the Spread of Nuclear Weapons," International Atomic Energy Agency, <u>www.iaea.org/Publications/Factsheets/English/S1\_Safeguards.pdf</u>

#### Theft

In the past, terrorist groups and other criminals have attempted to steal nuclear materials from government defense warehouses and from nuclear research facilities. Experts are especially concerned with the possibility of theft from a Russian nuclear weapons facility. Russia does not have the ability to properly protect its approximately 16,000 nuclear weapons.<sup>17</sup> Over half of Russia's nuclear weapons facilities do not have modern security systems or dependable tracking systems. **Weapons-grade** materials, which can be made into a powerful nuclear weapon, have been stolen from Russian warehouses in the past.<sup>18</sup>

Private companies must also work to secure their radiological materials. The safety efforts of most corporations and research facilities focus on preventing accidental exposure to radiation, instead of theft. When these civilian companies are concerned about theft, it is often because the equipment is very expensive, not because they worry that the materials could be used to create a weapon. Sometimes, when the equipment becomes obsolete, it is simply discarded, even though the radiological material is still active. Many radioactive materials, which could be used to create a dirty bomb, are simply thrown away and discovered later in junk yards.<sup>19</sup> This kind of carelessness could lead to disaster.

"Theft and smuggling of weapons-usable nuclear materials is not a hypothetical concern, but an ongoing reality: the International Atomic Energy Agency has documented 18 cases, confirmed by the states involved, of seizures of stolen plutonium or highly enriched uranium over the past decade."

"Introducing: Interdicting Nuclear Smuggling," Nuclear Threat Initiative, www.nti.org/e research/cnwm/interdicting/index.asp

#### Corruption

Countries must also prevent their nuclear materials from being illegally sold by corrupt officials. Officials at some of Russia's most powerful nuclear research institutions have tried to sell nuclear materials and technology to terrorists,<sup>20</sup> and some experts fear that Pakistan's military might illegally sell a nuclear weapon on the **black market**.<sup>21</sup> Pakistan has already demonstrated



that it is willing to sell dangerous nuclear technology: In 2004, the founder of Pakistan's nuclear weapons program admitted to illegally providing nuclear secrets to Iran, Libya and North Korea—all governments with a history of aggression.<sup>22</sup>

#### **CRITICAL THINKING**

Corruption is often a symptom of a government's general instability, or its inability to properly police its own organization. Governments may intend to protect nuclear materials, but they are incapable because of political infighting or criminal activity by highranking officials. How does this make governments difficult to deal with? What can the international community do to encourage reform in these governments?

#### Difficulties of Recovery

Once materials are stolen or sold, it can be very difficult to recover them. Many countries have difficulty controlling their borders—these countries already suffer from illegal trafficking problems. Many countries have borders that are thousands of miles long, and officials inspect thousands of vehicles passing across borders every day.

Countries with nuclear facilities and radioactive materials must pay special attention to their guarding their borders, and to ensuring that the officials controlling the borders are not susceptible to corruption. These officials must also be provided equipment to detect radioactive and nuclear substances. They must also be trained to recognize these materials and use this equipment.

#### Cases of Trafficking in Nuclear and Radioactive Materials

These security concerns have already been exploited by criminals. Between 1993 and 2004, the IAEA recorded 662 incidents of illicit or unauthorized transportation of nuclear or radioactive materials. 196 of these incidents involved nuclear materials, 400 involved other radioactive materials.<sup>23</sup> Most of the illicitly trafficked material recorded in the IAEA reports was not strong or radioactive enough to create a dangerous nuclear weapon or "dirty bomb." Only about 50 of these incidents involved high-risk materials which could have been used to produce a weapon.<sup>24</sup>

#### **REPORTED ILLICIT TRAFFICKING INCIDENTS FROM 1993-2004**

IAEA's Illicit Trafficking Database recorded 662 incidents of illicit or unauthorized transportation of nuclear or radioactive materials. They include:

- 196 incidents involving nuclear materials.
- 400 incidents involving other radioactive materials.
- 24 incidents involving both nuclear and other radioactive materials.
- 37 incidents involving materials contaminated by radiation.

"Illicit Nuclear Trafficking Facts & Figures," International Atomic Energy Agency, <u>www.iaea.org/NewsCenter/Features/RadSources/Fact\_Figures.html</u>



#### **PAST INTERNATIONAL ACTION**

#### The Non-proliferation Treaty

Because the insecurity of nuclear weapons and radiological materials poses a threat to everyone, the international community must ensure that those countries with nuclear capabilities are in complete control of their nuclear materials. The safest way to do this, of course, is for countries to disarm their nuclear stockpiles, but countries that have invested years of research and millions of dollars in creating a nuclear weapons program are unwilling to do this. As long as other countries maintain a nuclear arsenal, nuclear-capable countries will refuse to disarm.

To stop the spread of nuclear weapons, UN member states adopted the *Treaty on the Non-Proliferation of Nuclear Weapons* (or just NPT for "Non-Proliferation Treaty") in 1970. The NPT had three main points. First, the five countries with nuclear weapons at that time—China, France, the Soviet Union (today the Russian Federation), the United Kingdom and the United States—would not give nuclear weapons or technology used to create those weapons to other countries. Second, non-nuclear-weapons countries would not develop or obtain weapons. Third, all countries would discuss disarmament and create "a treaty on general and complete disarmament under strict and effective international control."<sup>25</sup>

The International Atomic Energy Agency (IAEA) oversees if and how countries are following the NPT. To do this, the Agency sets up "**safeguard**" systems with each country that has ratified the treaty. These "safeguards"—which come from separate agreements between each country and the IAEA—allow officials to inspect nuclear facilities.

#### SAFEGUARDS

"Safeguards" have become important elements in the disarmament debate.

A safeguard is an activity that allows the IAEA to make sure that countries do not use nuclear technology to make weapons. Countries set up this system through the NPT, but each country makes is own safeguards agreement with the IAEA. Today, there are over 140 agreements in place.

Through safeguards, countries can make sure that others are following the rules. Safeguard activities can include inspections, video-camera monitoring and reviewing reports from countries. Safeguards can be made even more effective if countries sign "additional protocols," which give IAEA inspectors more power. Not all countries sign these documents though.

For more information on safeguards and IAEA inspections, visit www.iaea.org/publications/factsheets/english/sg\_overview.html.

The NPT has been a very successful international document. But it has not always been followed. For instance, the treaty states that the international community should have serious



talks about complete nuclear disarmament. But after 30 years, disarmament is still a major question.

#### Physical Protection Efforts

In 1972, the International Atomic Energy Agency published "Recommendations for the Physical Protection of Nuclear Material," to assist member states improve security. The document has undergone several revisions since 1972. It is now referred to as INFCIRC/225, or "The Physical Protection of Nuclear Material and Nuclear Facilities," and includes suggestions for preventing the sabotage of nuclear facilities.

In 1987 the *Convention on the Physical Protection of Nuclear Material* entered into force. This convention required all parties to the convention to take "appropriate steps" to ensure that nuclear materials are protected from theft and illegal trafficking. The convention requires that states not export, import or allow the transportation of dangerous nuclear or radiological materials unless the state can ensure that the material will be completely protected. If dangerous nuclear or radiological materials are stolen, states must cooperate with international organizations and with other countries to recover the materials. The convention even describes the kinds of protection dangerous materials will require, such as constant surveillance, trusted guards and physical barriers.<sup>26</sup>

Even though IAEA was tasked with monitoring of nuclear and radioactive substances, and even though nuclear theft is a threat to international security, it is individual governments that are responsible for security of these materials.<sup>27</sup> Many states are reluctant to grant authority over their national security to an international body like IAEA.

In the 1990s, several high-profile instances of illicit nuclear trafficking brought attention to the need for greater international cooperation. IAEA assists governments create and maintain an effective State System for Accountancy and Control (SSAC), which helps countries track locations and quantities of nuclear materials. The International Physical Protection Advisory Service (IPPAS), a team of IAEA inspection officials, evaluates nuclear facilities and nuclear regulatory systems, but only at the request of individual countries.<sup>28</sup>

IAEA, in cooperation with the World Customs Organization, the International Criminal Police Organization (Interpol) and the European Commission helps train law enforcement and customs officials. Training sessions have been conducted in the Philippines, in Romania and in South America.

#### IAEA's Illicit Trafficking Database

IAEA has been tracking reports of stolen nuclear and radiological material since 1992. In 1995, the Agency established the **Illicit Trafficking Database (ITDB)**, a collection of detailed reports that it distributes to UN member states. The ITDB is not intended to compile all knowledge of illicit trafficking in nuclear materials. It is supposed to build knowledge about how trafficking occurs, how it is most frequently detected, where nuclear sources originate and what regions of the world they are trafficked to.



The ITDB relies on the UN member states to submit reports of nuclear trafficking, but as of September 2005, only 82 UN member states were participants in the program.<sup>29</sup> IAEA urges all member states to join the ITDB program and contribute their own nuclear trafficking statistics, so that other countries have a better understanding of the extent of the problem, and are alerted to ways that nuclear smuggling incidents have been resolved in the past.

In spite of these important international agreements and efforts, experts still worry that not enough has been done to secure nuclear materials. In 2004, a report released by American scientists indicated that most security efforts are made on a case-by-case basis. No comprehensive international plan has been established to protect these dangerous substances.<sup>30</sup>

#### **CRITICAL THINKING**

Why would a country be reluctant to cooperate with the IAEA? Could a country committed to nonproliferation and international security still refuse to cooperate with IAEA monitoring? If so, why?

#### **RECOMMENDATIONS FOR CREATING A RESOLUTION**

Delegates should address the following when creating draft resolutions:

- Setting universal guidelines for the protection of nuclear and radiological material;
- Furthering efforts to disarm or reduce nuclear stockpiles in nuclear-capable countries;
- Sharing information about nuclear trafficking incidents and efforts to decrease these incidents; and
- Improving transparency in the security process, so the international community can be certain that countries are protecting their dangerous materials, without compromising national security.

#### **QUESTIONS TO CONSIDER**

- 1. Does your country have nuclear weapons? Why or why not?
- 2. Does your country have a nuclear-energy program or programs that use radiological materials? If so, how does your country protect its hazardous materials?
- 3. Has your country signed the Non-Proliferation Treaty? Why or why not?
- 4. Has it signed the conventions protecting nuclear material? Why or why not?
- 5. Does your country support additional nuclear disarmament treaties, agreements or actions? If so, what are they and why?



#### TERMS AND CONCEPTS

**International Atomic Energy Agency (IAEA):** a UN agency established in 1957 to promote safe, peaceful uses of nuclear science. IAEA plays an important role in the international monitoring of nuclear materials.

**<u>Civilian</u>**: regarding a person or people who are not members of the military.

Weapons-grade: materials with a quality or potency that make them ideal for use in weapons.

**Black market:** the purchase and sale of illegal goods. Black market operations are secretive and often involve networks of criminal organizations as both suppliers and consumers of illegal materials.

<u>Safeguard</u>: an activity that allows the IAEA to make sure that countries do not use nuclear technology to make weapons. Through safeguards, countries can make sure that others are following the rules. Safeguard activities can include inspections, video-camera monitoring and reviewing reports from countries.

<u>Convention on the Physical Protection of Nuclear Material</u>: a 1987 convention requiring countries to ensure that nuclear materials are protected from theft and illegal trafficking. The convention even describes the kinds of protection required, including surveillance, guards and physical barriers.

<u>Illicit Trafficking Database (ITDB)</u>: a collection of detailed reports about illegal nuclear trafficking incidents that IAEA distributes to UN member states.

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International Atomic Energy Agency www.iaea.org

Federation of American Scientists www.fas.org

Nuclear Threat Initiative <u>www.nti.org</u>

"Proliferation News and Resources," Carnegie Endowment for International Peace www.carnegieendowment.org/npp



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<sup>1</sup> "The 'Atoms for Peace' Agency" International Atomic Energy Agency, www.iaea.org/About

<sup>2</sup> "Nuclear Medicine Applications More than 'Atomic Cocktails", "IAEA News Center, November 2005, www.iaea.org/NewsCenter/News/2005/radiopharmaceuticals.html

<sup>3</sup> "Testimony of Dr. Henry Kelly, President, Federation of American Scientists before the Senate Committee on Foreign Relations," Federation of American Scientists, March 2002, www.fas.org/ssp/docs/030602kellytestimony.htm <sup>4</sup> "Nuclear Terrorism: A Brief Review of Threats and Responses," CRS Report for Congress, Congressional

Research Service, September 2004, www.fas.org/irp/crs/RL32595.pdf

<sup>5</sup> "Power Reactor Information System," International Atomic Energy Agency, www.iaea.org/programmes/a2

<sup>6</sup> "IAEA Safeguards: Stemming the Spread of Nuclear Weapons," International Atomic Energy Agency,

www.iaea.org/Publications/Factsheets/English/S1\_Safeguards.pdf <sup>7</sup> "Suppression of Nuclear Terrorism Convention," Federation of American Scientists, <u>www.fas.org/nuke/control/nt</u> <sup>8</sup> Gottemoeller, Rose, "Nuclear and Radiological Terrorism," Carnegie Endowment for International Peace, www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=1083

<sup>9</sup> "Testimony of Dr. Henry Kelly, President, Federation of American Scientists before the Senate Committee on Foreign Relations."

<sup>10</sup> "Nuclear Terrorism: A Brief Review of Threats and Responses."

<sup>11</sup> "Nuclear Threat Initiative: The Demand for Black Market Fissile Material."

<sup>12</sup> "Measures to eliminate international terrorism," General Assembly, 1998,

www.un.org/documents/ga/res/49/a49r060.htm <sup>13</sup> "International Convention for the Suppression of Terrorist Bombings," General Assembly, 1998, www.unodc.org/unodc/en/terrorism convention terrorist bombing.html

<sup>14</sup> "International Convention for the Suppression of Acts of Nuclear Terrorism," General Assembly, April 2005, http://untreaty.un.org/English/Terrorism/English\_18\_15.pdf <sup>15</sup> "The 'Atoms for Peace' Agency" International Atomic Energy Agency, <u>www.iaea.org/About</u> <sup>16</sup> "Nuclear Terrorism: A Brief Review of Threats and Responses," CRS Report for Congress, Congressional

Research Service, September 2004, www.fas.org/irp/crs/RL32595.pdf

<sup>17</sup> "Nuclear Numbers," Proliferation News and Resources, Carnegie Endowment for International Peace, www.carnegieendowment.org/npp/numbers/default.cfm

<sup>18</sup> Wolfsthal, Jon, "Preventing Nuclear Terrorism," Carnegie Endowment for International Peace, www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=950 <sup>19</sup> "Testimony of Dr. Henry Kelly, President, Federation of American Scientists before the Senate Committee on

Foreign Relations."

<sup>20</sup> "Nuclear Threat Initiative: The Demand for Black Market Fissile Material,"

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<sup>22</sup> "Analysis: Pakistan's Shame," BBC News, http://news.bbc.co.uk/2/hi/south asia/3459617.stm

<sup>23</sup> "Illicit Nuclear Trafficking Facts & Figures," International Atomic Energy Agency,

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