



Dear Delegates,

Welcome to the 2017 MIT Model United Nations Conference (MITMUNC)! We are pleased to introduce you to our committee, the International Atomic Energy Agency (IAEA). We, Joseph Faraguna and Jacob Miske, will be your chairs for the course of this conference.

Joseph is a sophomore pursuing a degree in Bioengineering and Computer Science. He has been a delegate at Houston Area MUN for 4 years. He is a collegiate runner.

Jacob is a sophomore pursuing degrees in Nuclear Science and Engineering as well as Mechanical Engineering. He is passionate about machining, beta radiation, sandwiches, and hiking.

The topics that we plan to debate in the IAEA include:

- I. Waste Reduction Methods
- II. Non-Proliferation Treaty Renegotiation

This is meant to be an introduction to the topics and should not replace individual research. We hope that you take the time to research your topics and your delegation's affiliation with the given issues. In preparation for the conference, each delegate will submit a single page position paper on each topic via email to [iaea@mitmun.edu](mailto:iaea@mitmun.edu).

We encourage you to take the time to read up on parliamentary procedures - however in the interest of time and fruitful debate, we will go over a few changes to our committee at the start of the conference.

If you have any questions, feel free to reach out to us at [iaea@mitmun.edu](mailto:iaea@mitmun.edu).

We wish you all the best in your preparations and look forward to seeing you at the conference!

Sincerely,

Joseph Faraguna & Jacob Miske  
Chairs, IAEA

## Waste Reduction Methods

### Background

Radioactive waste is becoming more and more prevalent and pertinent to everyday people in a growingly connected and global world economy that depends on nuclear power. As a committee, IAEA must take a firm stance on reducing waste involving atomic energy and research that both provides a modern and international definition of rad waste, and a detailed plan to combat the negative effects of generating such wastes. In this plan, we suggest recognizing four distinct groups affected, either positively or negatively, by radioactive waste: the rad workers, the owners of the power plants, the hospitals that buy the materials produced, and the people in the developing world who do not generate radioactive waste themselves.

### Key Terms

#### Nuclear Waste

Radioactive waste (or Rad Waste) is a pejorative term for the material associated with nuclear power, dangerous post-production materials, weapons manufacturing, and certain medical procedures. The material may be difficult to handle properly, dangerous to the surroundings, or too hot to handle.<sup>1</sup> According to the US Nuclear Regulatory Committee, **radioactive** (or **nuclear**) **waste** is a byproduct from **nuclear** reactors, fuel processing plants, hospitals and research facilities. The **NRC** also regulates high-level **wastes** generated by the Department of Energy that are subject to long-term storage and not used for, or part of, research and development activities. Many nations around the world use nuclear materials for a wide range of different industry applications, energy, and of course nuclear arms; these countries are the target audience to materialize a deal on how to deal with new developments in nuclear technology and the dangerous waste it creates.<sup>2</sup>

#### Containment

The International Atomic Energy Agency (IAEA) defines rad work as “work that involves the use of radioisotopes, their precursors, and the equipment used to generate the material.”<sup>3</sup> With the increasing use of nuclear power generation and the widespread use of radioisotopes for beneficial purposes in research, industry, medicine and agriculture, there is a growing need for sharing information and knowledge on disposal approaches.”<sup>4</sup> The use of ionizing radiation in medicine, energy production, industry, and research brings enormous benefits to people when it is used safely. However, the potential radiation risk must be assessed and controlled. The IAEA develops safety standards to protect the health and minimize the danger to people’s life and property associated with such use. These materials and work should thus be done under a sort of containment or building with the purpose to hold radioisotopes from entering the environment.

<sup>1</sup> [https://en.wikipedia.org/wiki/High-level\\_waste](https://en.wikipedia.org/wiki/High-level_waste)

<sup>2</sup> <http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-wastes/radioactive-waste-management.aspx>

<sup>3</sup> <https://www.iaea.org/OurWork/ST/NE/NEFW/Technical-Areas/WTS/disposal.html> N.p., n.d. Web. 16 Jun. 2016.

<sup>4</sup> <http://large.stanford.edu/courses/2011/ph241/ali2/>

## **Contamination**

Contamination is the physical presence of radioactive materials that must be kept to an absolute minimum or ALARA (As Low As Reasonably Achievable). Equivalently, it is the actual, small particulate which workers may get on their clothes. Although ALARA standards attempt to keep this from happening, contamination and tracking outside of a containment is important to monitor.<sup>5</sup>

## **Key Issues**

### **Foreign Depositories**

Many point out that one must be careful about sending waste over international borders without planning for the consequences. Some universities argue as such: if waste carriers can handle less waste than the producer creates, then any leftover waste will be piled up over time to accumulate in a larger issue later on, i.e. radioactive dumps.<sup>6</sup>

### **Impact on the Economy**

Much, though not all, of nuclear waste generation occurs in “first world countries”, where there are large populations with highly technical backgrounds. In such countries, the majority of jobs fall in the top job sectors. Moreover, the infrastructure and education systems of such countries is extremely well developed and therefore limits possible non-white collar job opportunities.

If radioactive work were to be abolished, these countries would not be able to produce its current research at such low prices. This could lead to a cut back in the natural outsourcing of labor from other world powers to cheaper locales elsewhere in the world and a spiral in the research productivity of a country.

### **Arms Proliferation**

The materials that many nuclear scientists work with could lead to massive damages if the wrong people were able to get ahold of the materials. A dirty bomb could cripple a major city intersection for months with only a couple grams of nuclear waste materials. Thus, it makes sense that any reasonable nation would hold strict security checks and background analysis on anyone dealing with the precious materials and radioactive waste itself.

## **Major Parties Involved**

### **International Atomic Energy Agency (IAEA)**

Following the entry into force of the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) today, the international community must focus on its implementation, according to IAEA Director General Yukiya Amano. Mr Amano also

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<sup>5</sup> <https://blog.universalmedicalinc.com/7-alara-principles-for-reducing-radiation-exposure/>

<sup>6</sup> [https://en.wikipedia.org/wiki/Spent\\_nuclear\\_fuel](https://en.wikipedia.org/wiki/Spent_nuclear_fuel)

called for speedy adherence by the remaining 50 State Parties to the old Convention to strengthen nuclear security and reduce the threat of nuclear terrorism worldwide.

“The entry into force of the Amendment demonstrates the determination of the international community to act together to strengthen nuclear security globally,” said Mr Amano at an event marking the entry into force of the Amendment. “The Agency has worked hard, in particular in the last few years, to encourage countries to adhere to the Amendment. ... Our collective efforts have now paid off. The world will be a safer place as a result.”

The IAEA has a solid stance on the further development of international security measures and would like the whole attendance of counsels to consider working to a conclusion of fair, international waste management.

### **Russia and Allies**

With already serious nuclear waste problems and a very poor track record in nuclear safety, Russia has approved plans to import more spent nuclear waste from elsewhere in the world for reprocessing. Russia claims that it will use the profits to clean up its considerable nuclear waste problem, but there is worldwide skepticism about its ability to do so and fear of the consequences for the planet if its efforts are unsuccessful.

On July 11, 2001, Russian president Vladimir Putin approved a law that clears the way for Russia to import approximately 22,000 tons of nuclear waste over a ten-year period. The storage, processing, and eventual disposal of that waste could, according to the plan's supporters, generate as much as US\$20-21 billion for the Russian government, money that may be used to help clean up Russia's domestic nuclear waste problems. Despite serious opposition amongst the Russian public and the international community, and from environmental groups such as Greenpeace, the Russian government has indicated that it will move swiftly to implement the plan's broad outlines.

### **USA and Allies**

A lot of US nuclear jobs are taken on by former members of the US Navy. This is mainly because the background knowledge and trust is established in these individuals and large US based companies can benefit from the low training cost. Thus, the majority of the power plants in first world countries, especially those allied to the US, are affiliated with the military in the US. This leads to a major dilemma. Whilst US power companies benefit from the training, and the consumers benefit from cheaper power, there is a major ethical problem prevailing that the military supports nuclear power when the two entities would be best left separate.

### **China and Allies**

Workers have consistently expressed concerns at the opening of even more nuclear power plants in the western half of China, and the constant and ready supply of venture capital for nuclear power can be attributed to the fact that developing Asian countries and their peoples

are in dire need of these clean power, economic opportunities, which outweighs their aversion to exploitative working conditions.<sup>7</sup>

## Previous Attempts to Resolve the Issue

### Yucca Mountain

The Yucca Mountain Nuclear Waste Repository, as designated by the Nuclear Waste Policy Act amendments of 1987, is to be a deep geological repository storage facility within Yucca Mountain for spent nuclear fuel and other high level radioactive waste in the United States. The site is located on federal land adjacent to the Nevada Test Site in Nye County, Nevada, about 80 mi (130 km) northwest of the Las Vegas Valley.

The project was approved in 2002 by the United States Congress, but federal funding for the site ended in 2011 under the Obama Administration via amendment to the Department of Defense and Full-Year Continuing Appropriations Act, passed on April 14, 2011. The project has had many difficulties and was highly contested by the non-local public, the Western Shoshone peoples, and many politicians. The Government Accountability Office stated that the closure was for political, not technical or safety reasons.

This leaves the US government and utilities without any designated long-term storage site for the high-level radioactive waste stored on-site at various nuclear facilities around the country. The US government disposes of transuranic waste at WIPP in New Mexico, in rooms 2,150 feet (660 m) underground.

Under President Obama, the Department of Energy (DOE) was reviewing options other than Yucca Mountain for a high-level waste repository and the Blue Ribbon Commission on America's Nuclear Future, established by the Secretary of Energy, released its final report in January 2012. It expressed urgency to find a consolidated, geological repository, and said that any future facility should be developed by a new independent organization with direct access to the Nuclear Waste Fund, which is not subject to political and financial control as is the cabinet department of the Department of Energy. In the meantime, most nuclear power plants in the United States have resorted to the indefinite on-site dry cask storage of waste in steel and concrete casks. Under President Trump, the DOE has ceased deep borehole and other non-Yucca Mountain waste disposition research activities. For FY18, DOE has requested \$120 million and the NRC \$30 million from Congress to continue licensing activities for the Yucca Mountain Repository.<sup>7</sup>

Sites like Yucca mountain have been viewed positively in the past by the IAEA. Many delegates in the past have seen it as a great way to deal with the nuclear waste problem while solutions are developed.

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<sup>7</sup> [https://en.wikipedia.org/wiki/Yucca\\_Mountain\\_nuclear\\_waste\\_repository](https://en.wikipedia.org/wiki/Yucca_Mountain_nuclear_waste_repository)

## Meltdown Control in Ukraine and Japan

The Chernobyl disaster, also referred to as the Chernobyl accident, was a catastrophic nuclear accident. It occurred on 26 April 1986 in the No.4 light water graphite moderated reactor at the Chernobyl Nuclear Power Plant near Pripyat, a town in northern Ukrainian Soviet Socialist Republic which was part of the Soviet Union (USSR). According to Nuclear Technology magazine, there is a scientific hypothesis that the failure was initiated by a true nuclear blast, which emitted a blue flash prior to the steam blast.

The remains of the No.4 reactor building were enclosed in a large cover which was named the "Object Shelter". It is often known as the sarcophagus, and its purpose is to reduce the spread of radioactivity from the wreckage and to protect the wreckage from the elements. It was finished in December 1986 at a time when what was left of the reactor was entering the cold shutdown phase; the enclosure was not intended as a radiation shield, but was built quickly as occupational safety for the crews of the other undamaged reactors at the power station, with No.3 continuing to produce electricity into 2000.

The accident motivated safety upgrades on all remaining Soviet-designed reactors in the RBMK (Chernobyl No.4) family, of which eleven continue to power electric grids as of 2013.

The Fukushima Daiichi nuclear disaster (福島第一原子力発電所事故 Fukushima Dai-ichi) was an energy accident at the Fukushima Daiichi Nuclear Power Plant in Ōkuma, Fukushima, initiated primarily by the tsunami following the Tōhoku earthquake on 11 March 2011. Immediately after the earthquake, the active reactors automatically shut down their sustained fission reactions. However, the tsunami disabled the emergency generators that would have provided power to control and operate the pumps necessary to cool the reactors. The insufficient cooling led to three nuclear meltdowns, hydrogen-air explosions, and the release of radioactive material in Units 1, 2, and 3 from 12 March to 15 March. Loss of cooling also caused the pool for storing spent fuel from Reactor 4 to overheat on 15 March due to the decay heat from the fuel rods.

Costs to Japanese taxpayers are likely to exceed 12 trillion yen (\$100 billion). In December 2016 the government estimated decontamination, compensation, decommissioning, and radioactive waste storage costs at 21.5 trillion yen (\$187 billion), nearly double the 2013 estimate.

In March 2017, a Japanese court ruled that negligence by the Japanese government had led to the Fukushima disaster by failing to use its regulatory powers to force TEPCO to take preventive measures. The Maebashi district court near Tokyo awarded ¥39 million (US\$345,000) to 137 people who were forced to flee their homes following the accident.

## Timeline

1942	First nuclear chain reaction noted in Chicago Pile 1
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1951	EBR-1 in Idaho produces net gain of power from nuclear for first time
March 1979	Partial meltdown at Three Mile Island power generating station
April 1986	Full containment loss and fuel ejection meltdown at Chernobyl
2005	Finland makes a massive purchase of the world's largest nuclear power generating stations. Attempt to go "all nuclear".
2011	A massive 9.0 earthquake rocks the Fukushima-Daiichi plant that would later meltdown

### Suggested Readings

NRC Backgrounder on Nuclear Wastes

<https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/radwaste.html>

Finland Strategy on Waste Management

<http://www.independent.co.uk/environment/finland-shows-world-how-nuclear-waste-can-be-dealt-with-a7797226.html>

Leaking Rad. Waste in New Mexico

<https://www.scientificamerican.com/article/elevated-radiation-found-in-air-near-new-mexico-nuclear-waste-site/>

Airborne levels spiking in Russia

<https://www.nytimes.com/2017/11/21/world/europe/russia-nuclear-cloud.html>



## Non-Proliferation Treaty Renegotiation

### Background

The Nuclear Non-Proliferation Treaty (NPT), entered into force in 1970, is a legally-binding international treaty that promotes nuclear non-proliferation and disarmament. 189 of the 193 United Nations Member States have signed the NPT, with Israel, India, Pakistan, and South Sudan as the only hold-outs. North Korea acceded temporarily in the 1980s but withdrew in 2002.<sup>8</sup> The NPT includes the 5 nuclear-weapon States, but does not include the 4 countries that have developed or are suspected to have developed nuclear weapons following the Treaty's signing: namely, Israel, India, Pakistan, and North Korea.<sup>9</sup> The Treaty has been criticized by smaller nations as an effective tool to reinforce the separation between nuclear and non-nuclear powers. The Treaty also seems to unfairly favor the 5 nuclear-weapon States that developed weapons before 1970. Donald J Trump's recent criticisms of the Iran Deal<sup>10</sup> and the New Strategic Arms Reduction Treaty (New START) between the US and Russia,<sup>11</sup> as well as his threats against North Korea, have brought the topic of renegotiation into the spotlight.<sup>12</sup> **The IAEA is therefore tasked with reviewing the NPT and revising it, potentially to create an acceptable relationship between nuclear-weapon States, non nuclear-weapon States, and the 4 non-acceded states known to possess nuclear weapons.**

### Key Terms

#### Nuclear Non-Proliferation Treaty (NPT)

The NPT was entered into force in 1970 and establishes a relationship between the nuclear-weapon States and the non-nuclear-weapon States. The Treaty defines nuclear-weapon States as those that had “built and tested a nuclear explosive device before 1 January 1967:” specifically, the United States, Russia, the United Kingdom, France, and China.<sup>13</sup> The 3 countries that developed nuclear weapons following 1970 - India, Pakistan, and North Korea - are notably absent not only from the group of nuclear-weapon states, but from the Treaty as a whole. Israel, whose nuclear capability remains ambiguous, has also not acceded. The NPT is built on a central bargain: “the NPT non-nuclear-weapon states agree never to acquire nuclear weapons and the NPT nuclear-weapon states in exchange agree to share the benefits of peaceful nuclear technology and to pursue nuclear disarmament aimed at the ultimate elimination of their nuclear arsenals.”<sup>14</sup> Or, split into three separate mandates, the NPT requires that: “non-nuclear weapon States Parties undertake not to acquire nuclear weapons; the five Nuclear Weapon States [...] commit to pursue good-faith negotiations towards nuclear

<sup>8</sup> [http://international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/peace\\_security-paix\\_securite/nuclear-nucleaire.aspx?lang=eng&\\_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear](http://international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_securite/nuclear-nucleaire.aspx?lang=eng&_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear)

<sup>9</sup> <https://www.un.org/disarmament/wmd/nuclear/npt/>

<sup>10</sup> <https://www.nytimes.com/2017/10/13/us/politics/trump-iran-nuclear-deal.html>

<sup>11</sup> <https://www.reuters.com/article/us-usa-trump-putin/exclusive-in-call-with-putin-trump-denounced-obama-era-nuclear-arms-treaty-sources-idUSKBN15O2A5>

<sup>12</sup> <http://www.scmp.com/news/china/policies-politics/article/2120117/donald-trump-again-urges-reining-north-korea-through>

<sup>13</sup> [https://en.wikipedia.org/wiki/Treaty\\_on\\_the\\_Non-Proliferation\\_of\\_Nuclear\\_Weapons](https://en.wikipedia.org/wiki/Treaty_on_the_Non-Proliferation_of_Nuclear_Weapons)

<sup>14</sup> [https://www.armscontrol.org/act/2004\\_11/BookReview](https://www.armscontrol.org/act/2004_11/BookReview)

disarmament; and all States Parties undertake to facilitate cooperation in the peaceful uses of nuclear energy.”<sup>15</sup> Fulfillment of each part of the bargain is essential to the Treaty’s success. Those such as former Indian advisor K. Subrahmanyam have criticized the Treaty as perpetuating a “nuclear apartheid”<sup>16</sup> that “permanently authorizing great-power status and nuclear weapons to a small group of states and assigning the rest of the world to permanent second-class status.”<sup>17</sup> On the other hand, many have criticized countries such as India that have developed nuclear weapons but still reap the benefits of the Treaty.<sup>18</sup> Dissension seems to be threatening the integrity of the Treaty: at the most recent Review Conference in 2015 to evaluate the Treaty’s implementation, the States were unable to reach agreement on the substantive part of the draft Final Document.<sup>19</sup> Tension between nuclear-weapon and non-nuclear-weapon States, as well as disagreement about creating a WMD-free zone in the Middle East, caused the Conference to end unsuccessfully.<sup>20</sup>

### **Nuclear Proliferation**

Nuclear proliferation is the “spread of nuclear weapons, fissionable materials, and weapons-applicable nuclear technology and information to nations not recognized as [nuclear-weapon States] by the Treaty on the Non-Proliferation of Nuclear Weapons.”<sup>21</sup>

### **WMD-Free Zone in Middle East**

A WMD-Free Zone in the Middle East is a proposed agreement that would eliminate all nuclear weapons from a region extending from “Libya in the west, to Iran in the east, and from Syria in the north, to Yemen in the south.” First introduced to the UN by Iran and Egypt in 1974, the agreement has garnered broad support every year but has been stymied by disagreements over the terms and sequence of steps.<sup>22</sup> Furthermore, any forward momentum generated by the surrounding countries often reaches a standstill because Israel remains deliberately ambiguous about its nuclear weapons program.

### **Joint Comprehensive Plan of Action (JCPOA or “Iran Deal”)**

The JCPOA, or the “Iran Deal,” as it is known colloquially, is a non-proliferation deal that was spearheaded by Iran, the P5+1, and the EU in late 2015. Under the terms of the deal, Iran agreed to a number of restrictions and regulations on its nuclear program in exchange for reduced sanctions.<sup>23</sup> The Deal came in part as a reaction to the discovery that Iran had been covertly operating a nuclear program that violated the NPT.

<sup>15</sup> [http://international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/peace\\_security-paix\\_securite/nuclear-nucleaire.aspx?lang=eng&\\_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear](http://international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_securite/nuclear-nucleaire.aspx?lang=eng&_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear)

<sup>16</sup> <http://foreignpolicy.com/2011/02/03/a-farewell-to-indias-henry-kissinger/>

<sup>17</sup> <http://foreignpolicy.com/2011/02/03/a-farewell-to-indias-henry-kissinger/>

<sup>18</sup> <http://whirledview.typepad.com/whirledview/2008/10/the-npr-time-fo.html>

<sup>19</sup> <http://www.un.org/en/conf/npt/2015/>

<sup>20</sup> <https://www.armscontrol.org/factsheets/Timeline-of-the-Treaty-on-the-Non-Proliferation-of-Nuclear-Weapons-NPT>

<sup>21</sup> [https://en.wikipedia.org/wiki/Nuclear\\_proliferation](https://en.wikipedia.org/wiki/Nuclear_proliferation)

<sup>22</sup> <https://www.armscontrol.org/factsheets/mewmdfz>

<sup>23</sup> [https://obamawhitehouse.archives.gov/sites/default/files/docs/jcpoa\\_what\\_you\\_need\\_to\\_know.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/jcpoa_what_you_need_to_know.pdf)

## Key Issues

### Non-Nuclear-Weapon States Rights

Questions of fairness, rights, and responsibilities are central to understanding this topic. Dissension and disagreement continue to plague the NPT and other non-proliferation campaigns. The NPT rests on a three-part bargain of nonproliferation, disarmament, and the right to use nuclear energy technology.<sup>24</sup> For the Treaty to succeed, each part of the bargain must be upheld by the respective States. As is mentioned in Background, there are critics on both sides of the issue. It will be important to keep in mind that the NPT advantages the countries that developed nuclear weapons before 1970, while limiting those that did not. Questions like whether it is a country's right to nuclear weapons should be considered. A quote from former US President John F. Kennedy about an unrelated issue speaks to this conflict: "You cannot negotiate with people who say what's mine is mine and what's yours is negotiable."<sup>25</sup>

### Nuclear War

Notice that the issue is not necessarily nuclear proliferation. Something to be discussed is whether nuclear proliferation is inherently dangerous. Nuclear war is generally something to be avoided, however, and many argue that nuclear proliferation dramatically increases the likelihood of the use of nuclear weapons. According to the IAEA Director-General Mohamed ElBaradei, if the "40 countries or more now have the know-how to produce nuclear weapons" had all chosen to exploit this capability, it would be impossible to keep nuclear weapons out of the hands of terrorist organizations and rogue states.<sup>26</sup>

## Major Parties Involved

### Nuclear-Weapon States

The nuclear-weapon states - the US, Russia, the UK, France, and China - are those countries that had already developed nuclear capabilities when the NPT was entered into force in 1970. These countries can leverage their positions as nuclear powers to score diplomatic victories.

### Non-Nuclear-Weapon States

The non-nuclear-weapon states are the remaining 189 countries that have acceded to the NPT but have do not have nuclear capabilities. Of particular interest is South Africa, the only country to have voluntarily given up all the nuclear weapons it developed itself. These countries often feel subjugated by the nuclear-weapon states.

<sup>24</sup> [http://international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/peace\\_security-paix\\_scurite/nuclear-nucleaire.aspx?lang=eng&\\_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear](http://international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_scurite/nuclear-nucleaire.aspx?lang=eng&_ga=2.158253170.994413619.1511717248-885604337.1511717248#nuclear)

<sup>25</sup> <https://sustainablesecurity.org/2013/09/09/can-the-nuclear-non-proliferation-treaty-npt-outrun-its-double-standard-forever/>

<sup>26</sup> [https://www.armscontrol.org/act/2004\\_11/BookReview](https://www.armscontrol.org/act/2004_11/BookReview)

## India, North Korea, Israel, and Pakistan

These 4 countries have not acceded to the NPT but possess nuclear weapons that were developed following the 1970 NPT. Investigating the reasons behind their dissent will be useful.

## Iran

Iran lies somewhere between the non-nuclear-weapon states and India, North Korea, Israel, and Pakistan. Iran has acceded to the NPT, but was caught covertly funding a nuclear weapon program in the early 2000s. Iran has been under stringent international sanctions that were recently lightened after it agreed to reducing and monitoring of its nuclear program.

## Timeline and Previous Attempts to Resolve Issue (Bolded)

Before 1970	US, UK, France, Russia, and China develop nuclear weapons
<b>1970</b>	<b>NPT entered into force</b>
1974	India conducts nuclear explosion test
1985	DPRK joins NPT
1998	Pakistan tests first nuclear weapon
<b>2000</b>	<b>13 Steps receive consensus at Review Conference of the NPT</b>
2002	DPRK leaves NPT
2004	Egypt discloses previously-undeclared nuclear activities
2005	IAEA finds Iran in non-compliance with NPT
2006	DPRK detonates first plutonium based nuclear device
2006	Israeli Prime Minister hints at Israel's nuclear capabilities <sup>27</sup> (officially, Israel remains ambiguous on existence of nuclear arsenal)
<b>2010</b>	<b>New START signed by Russia and US to reduce nuclear arsenals</b>
2011	UK agrees to voluntarily dismantle some of its warheads
2013	Egypt walks out of UN non-proliferation talks because of disagreement over WMD-free Middle East and Israel's nuclear program <sup>28</sup>
2015	NPT Review Conference ends without resolution because of tension between nuclear-weapon and non-nuclear-weapon States, as well as

<sup>27</sup> [http://news.bbc.co.uk/2/hi/middle\\_east/6170845.stm](http://news.bbc.co.uk/2/hi/middle_east/6170845.stm)

<sup>28</sup> <https://uk.reuters.com/article/uk-nuclear-npt-egypt/u-s-regrets-egypt-walk-out-at-nuclear-talks-idUKBRE93T0KZ20130430>

	disagreement about creating a WMD-free zone in the Middle East <sup>29</sup>
<b>2016</b>	<b>Iran, P5+1, and EU sign Joint Comprehensive Plan of Action (“Iran Deal”) to limit Iran’s nuclear program in exchange for lower sanctions<sup>30</sup></b>
<b>July 2017</b>	<b>UN adopts Treaty on the Prohibition of Nuclear Weapons to comprehensively prohibit nuclear weapons without support of a single nuclear-weapon State<sup>31</sup></b>
October 2017	US President Donald J. Trump announces that US will not certify “Iran Deal”

### Suggested Readings

Text of Treaty

<http://www.un.org/en/conf/npt/2005/npttreaty.html>

Nuclear Proliferation Timelines

<http://www.icanw.org/the-facts/the-nuclear-age/>

<https://www.armscontrol.org/factsheets/Timeline-of-the-Treaty-on-the-Non-Proliferation-of-Nuclear-Weapons-NPT>

The Double Standard of the NPT

<https://sustainablesecurity.org/2013/09/09/can-the-nuclear-non-proliferation-treaty-npt-outrun-its-double-standard-forever/>

Pro NPT

<http://www.tandfonline.com/doi/full/10.1080/01402390.2014.917971?src=recsys&>

Highly Editorialized Anti-NPT Essay

<http://whirledview.typepad.com/whirledview/2008/10/the-npr-time-fo.html>

Preventing Collapse of NPT

[https://www.armscontrol.org/act/2004\\_11/BookReview](https://www.armscontrol.org/act/2004_11/BookReview)

Against Nuclear Apartheid

<https://www.foreignaffairs.com/articles/asia/1998-09-01/against-nuclear-apartheid>

<sup>29</sup> <http://www.un.org/en/conf/npt/2015/>

<sup>30</sup> [https://obamawhitehouse.archives.gov/sites/default/files/docs/jcpoa\\_what\\_you\\_need\\_to\\_know.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/jcpoa_what_you_need_to_know.pdf)

<sup>31</sup> <https://www.un.org/disarmament/ptnw/>

Iran Deal Website

<https://obamawhitehouse.archives.gov/node/328996>