

Executive Summary

# Hiroshima Report 2015

## Evaluation of Achievement of Nuclear Disarmament, Non-Proliferation and Nuclear Security in 2014

March 2015

The prospects of eliminating nuclear weapons are still distant at best. Even more worrying, the situation regarding nuclear weapons is becoming more and more complex. The five nuclear-weapon states (NWS) under the Nuclear Non-Proliferation Treaty (NPT)—China, France, Russia, the United Kingdom and the United States—have not made any definite move toward renouncing their nuclear arsenals. Three non-NPT parties—India and Pakistan, which declared to possess nuclear weapons, and Israel which has maintained a policy of “nuclear ambiguity” but is widely considered to have nuclear weapons—seem unlikely to accede to the NPT as non-nuclear-weapon states (NNWS) in the near future. North Korea declared its withdrawal from the NPT, and has conducted three nuclear test explosions. While the situation surrounding the Iranian nuclear issue has moved more positively, it is too early to be optimistic about substantive resolution. The threat persists of a new proliferator emerging on the scene. The threat of nuclear terrorism also remains a high security concern in this globalized world. Growing worldwide interest in peaceful use of nuclear energy could entail the increasing risk of nuclear proliferation as well as terrorism. While problems facing nuclear disarmament, non-proliferation and nuclear security intensify, efforts toward solving them have progressed at a snail’s pace.

This report attempts to help the movement toward a world without nuclear weapons—first, by clarifying the current status of the issues and efforts surrounding nuclear disarmament, non-proliferation and nuclear security. By doing so, it aims to encourage increased debate on these issues by policy-makers, experts in and outside governments, and civil society. Furthermore, by issuing this report from Hiroshima, where a nuclear weapon was once used, it aims to help focus attention and promote further actions in various fields towards the realization of a world without nuclear weapons.

### Items and Countries Surveyed in the *Hiroshima Report 2015*

Items (64)	<ul style="list-style-type: none"> <li>● Nuclear Disarmament: 31</li> <li>● Nuclear Non-Proliferation: 17</li> <li>● Nuclear Security: 16</li> </ul>
Countries surveyed (36)	<ul style="list-style-type: none"> <li>● NWS: China, France, Russia, the United Kingdom and the United States</li> <li>● Non-NPT parties: India, Israel and Pakistan</li> <li>● NNWS: Australia, Austria, Belgium, Brazil, Canada, Chile, Egypt, Germany, Indonesia, Iran, Japan, Kazakhstan, South Korea, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Philippines, Poland, Saudi Arabia, South Africa, Sweden, Switzerland, Syria, Turkey and UAE</li> <li>● Other: North Korea*</li> </ul>

\* North Korea declared its suspension from the NPT in 1993 and its withdrawal in 2003, and conducted nuclear tests in 2006, 2009 and 2013. However, there is no agreement among the states parties on North Korea’s official status.

The following is a summary of the results of surveying and evaluating countries’ performances in 2014.

## 1. Nuclear Disarmament

Since the end of the Cold War, the overall number of nuclear weapons has been decreasing. Still, approximately 16,300 nuclear weapons remain on the earth, and nuclear-weapon/armed states continue to modernize their nuclear arsenals. While non-nuclear-weapon states (NNWS) have explored promotion of nuclear disarmament through, among others, proactive proposals on disarmament measures, and convening of important conferences, little major progress was made in 2014. The United States and Russia have yet to commence negotiation on further reductions of their nuclear weapons. Russia was alleged to be in non-compliance with the Intermediate-Range Nuclear Forces (INF) Treaty. The entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and commencement of a Fissile Material Cut-Off Treaty (FMCT) negotiation have not yet been achieved. Declaratory or employment policies of nuclear posture, as well as nuclear strategies, of nuclear-weapon/armed states remain almost unchanged.

On the other hand, the number of participating countries in the International Conferences on Humanitarian Impact of Nuclear Weapons has steady increased. Furthermore, the United Kingdom and the United States, for the first time among nuclear-weapon states (NWS), attended the third Conference held in Vienna. Another point of progress was that NWS submitted their respective reports on their implementations of the NPT's three pillars, including nuclear disarmament, and information on their respective nuclear forces and strategy to the 2014 NPT Preparatory Committee (PrepCom).

### (1) The amount of nuclear weapons (estimates)

- Approximately 16,300 nuclear weapons still exist on the earth. China, India and Pakistan are estimated to have added about 10 warheads each in the course of the past year.

### (2) Commitment to achieve a world without nuclear weapons

- 155 countries participated in the “Joint Statement on the Humanitarian Consequences of Nuclear Weapons” presented at the First Committee of the UNGA.
- The second and third Conferences on the Humanitarian Impact of Nuclear Weapons were held in Nayarit and Vienna, respectively. The U.K. and the U.S., for the first time among NWS, attended the Vienna Conference.
- The Marshall Islands filed applications in the International Court of Justice (ICJ) to hold the nine nuclear-weapon/armed states.

### (3) Reduction of nuclear weapons

- Russia and the U.S. keep implementing the New Strategic Arms Reduction Treaty (New START). However, they could not commence negotiation on further reduction of their nuclear arsenals.
- Russia was alleged to have violated the INF Treaty while it denied.
- Nuclear-weapon/armed states continue to promote or contemplate modernization of their respective nuclear arsenals.

### (4) Diminishing the role and significance of nuclear weapons in the national security strategies and policies

- There have been few significant changes in nuclear

policies regarding: the role and significance of nuclear weapons; a “sole purpose” or no first use; negative security assurances; protocols to nuclear-weapon-free zone treaties; and extended deterrence.

- Russia and the U.S. conducted military exercises and flight patrols in Europe.
- Five NWS signed the Protocol to the Central Asian Nuclear-Weapon-Free Zone Treaty.

### (5) De-alerting or measures for maximizing decision time to authorize the use of nuclear weapons

- There have been few significant changes in NWS's policies on their alert status. Russian and U.S. strategic nuclear forces are considered to remain on high alert status.

### (6) CTBT

- Among the 44 states listed in Annex 2 of the CTBT, whose ratification is a prerequisite for the treaty's entry into force, five states (China, Egypt, Iran, Israel and the United States) have signed but not ratified, and three (India, North Korea and Pakistan) have not even signed.
- The second Integrated Field Exercise (IFE14) on an on-site inspection took place in Jordan.

### (7) FMCT

- In the 2014 session of the Conference on Disarmament (CD), negotiation of an FMCT could not be commenced yet again.

### (8) Transparency in Nuclear Forces, Fissile Material for Nuclear Weapons, and Nuclear Strategy/Doctrine

- NWS submitted their respective reports on their implementations of the NPT, as well as information on

their respective nuclear forces and strategy to the 2014 NPT PrepCom.

**(9) Verifications of Nuclear Weapons Reductions**

- NWS reported some of their efforts on research and development of verification measures for nuclear disarmament.

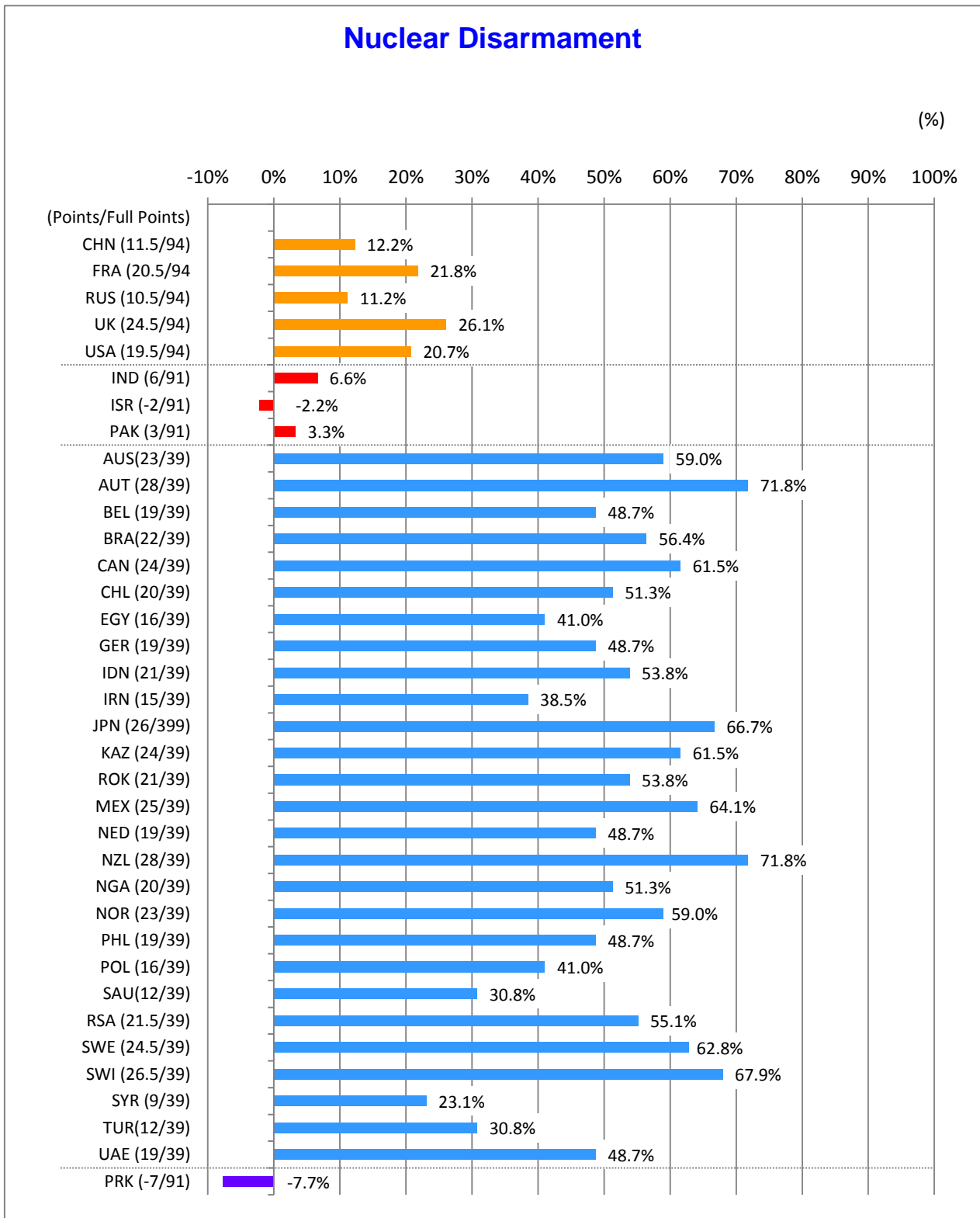
**(10) Irreversibility**

- Russia and the U.S. continue to dismantle or convert

their strategic delivery vehicles, nuclear warheads and fissile material declared excess for military purposes.

**(11) Disarmament and Non-Proliferation Education and Cooperation with Civil Society**

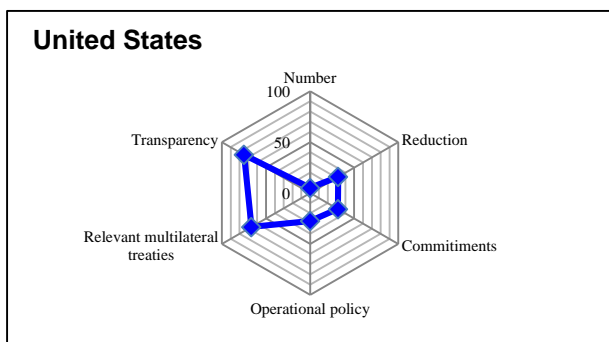
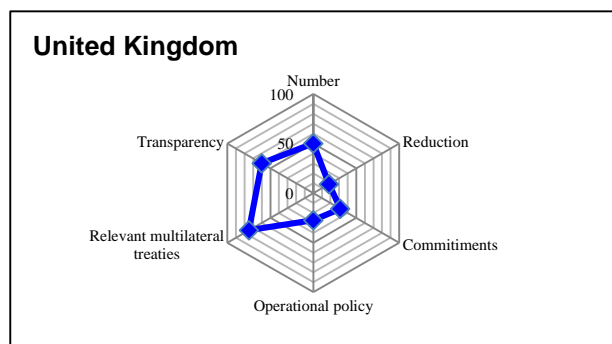
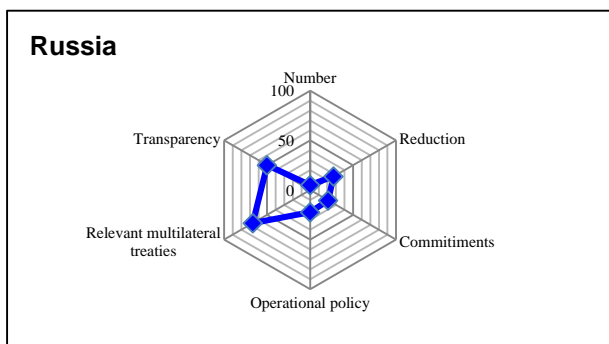
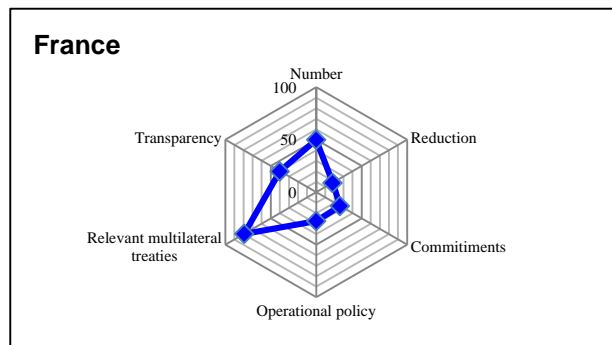
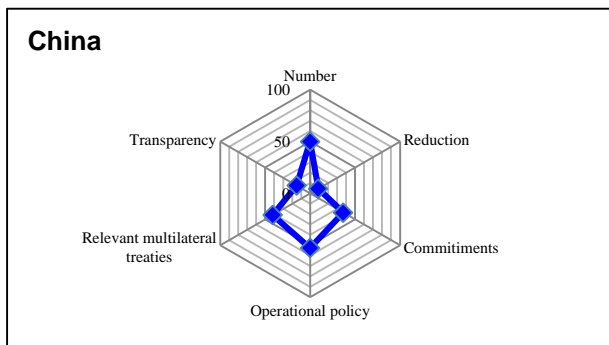
- Japan and other western countries proactively conducted disarmament and non-proliferation education, and cooperated with civil society.



## 6-Point Nuclear Disarmament Radar Charts (NWS)

The following radar charts aim to illustrate where NWS stand in different aspects of nuclear disarmament. For this purpose, the 12 issues used for nuclear disarmament evaluation were grouped into six aspects. According to the radar charts, China is required to improve its efforts for nuclear weapons reduction and transparency. To a lesser extent, France could be more transparent regarding its nuclear weapons-related issues. Russia and the United States are urged toward further reductions of their nuclear arsenals. The performances of the United Kingdom are relatively well-balanced.

Aspects	Issues
Number	The Number of Nuclear weapons
Reduction	Reduction of Nuclear weapons
Commitments	Commitments to achieving a world without nuclear weapons
	Disarmament and non-proliferation education and cooperation with the civil society
	Hiroshima Peace Memorial Ceremony
Operational policy	Diminishing roles and significance of nuclear weapons in the national security strategies and policies
	De-alerting, or measures for maximizing decision time to authorize the use of nuclear weapons
Relevant multilateral treaties	Comprehensive Nuclear-Test-Ban Treaty (CTBT)
	Fissile Material Cut-Off Treaty (FMCT)
Transparency	Transparency regarding nuclear forces, fissile material for nuclear weapons, and nuclear strategy/doctrine
	Verifications of nuclear weapons reductions
	Irreversibility



## 2. Nuclear Non-Proliferation

As of December 2014, 190 countries (including the Holy See) have acceded to the Nuclear Non-Proliferation Treaty (NPT). However, three nuclear-armed states—India, Israel and Pakistan—remain outside and are less likely to join the Treaty in the near future. North Korea declared its withdrawal from the NPT twice, announced its possession of nuclear weapons, and conducted nuclear test explosions three times. Iran continued to implement the first step measures under the Joint Plan of Action (JPOA), while a comprehensive solution could not be agreed in 2014.

The number of countries that accept the IAEA safeguards under the IAEA Additional Protocols has increased steadily. Meanwhile, some NNWS, including Iran, have not accepted or implemented them, arguing that the conclusion of an Additional Protocol should be voluntary, not obligatory.

On export controls, most members of the Nuclear Suppliers Group (NSG) have solid export controls in place. On the other hand, there are concerns that North Korea and Iran are continuing illicit trafficking and procurement activities for nuclear- and missile-related developments.

### (1) Acceptance and Compliance with the Nuclear Non-Proliferation Obligations

- North Korea has failed to respond to the UN Security Council's decisions, including return to the NPT. Six-Party Talks could not be convened in 2014.
- Iran continued to implement the first step measures under the Joint Plan of Action (JPOA). However, E3/EU+3 and Iran twice extended a deadline for concluding a comprehensive solution.
- A Conference on a Middle East Zone Free of Weapons of Mass Destruction (WMD), agreed at the 2010 NPT Review Conference (RevCon), could not be convened in 2014.

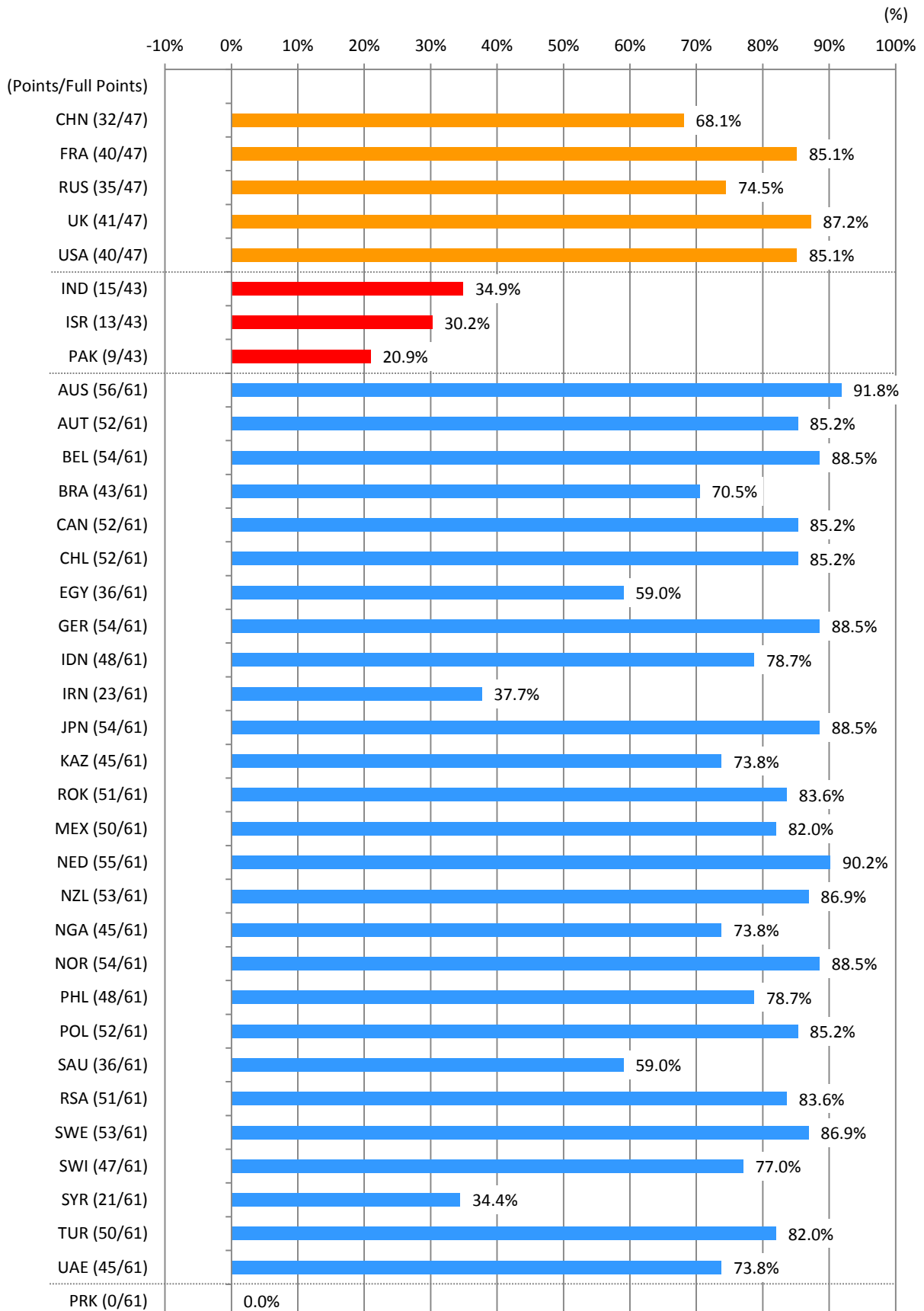
### (2) IAEA Safeguards

- As of August 2014, 118 NPT NNWS have ratified the IAEA Additional Protocols, including India's 2014 decision to ratify.
- Some countries argue that the conclusion of an Additional Protocol should be voluntary, not obligatory.
- Three cases of non-compliance with the IAEA Safeguards Agreements have yet to be resolved: North Korea, Iran and Syria.
- Iran remained passive to cooperating with the IAEA for resolving the allegations of Iran's possible military dimensions (PMD).

### (3) Implementing Appropriate Export Controls on Nuclear-Related Items and Technologies

- Most of members of the Nuclear Suppliers Group (NSG) have solid export controls in place, including establishment of legislative measures and other relevant national implementation systems.
- North Korea and Iran are a concern in terms of continued illicit trafficking of items that are proscribed under the UN Security Council resolutions.
- Concerns persist about the possibilities of cooperation on nuclear or ballistic missile developments among countries of proliferation concern, such as North Korea, Iran and Syria.
- On civil nuclear cooperation with India as a non-party to the NPT, some countries seek to promote proactively while others contemplate cooperation, subject to implementing additional nuclear disarmament and non-proliferation measures.
- China has been criticized because its export of nuclear power reactors to Pakistan may constitute a violation of the NSG guidelines.

## Nuclear Non-Proliferation



### 3. Nuclear Security

Countries which possess highly-enriched uranium (HEU) and weapon-grade plutonium could be an “attractive” target for non-state actors attempting to construct nuclear explosive devices. Therefore, such countries are responsible for taking higher-level protective measures for ensuring nuclear security of those fissile materials. In general, NWS and NNWS with advanced civil nuclear programs have made continuous and proactive efforts for implementing and strengthening nuclear security.

For the sake of implementation of the highest level of nuclear security, it is imperative not only to accede to treaties and conventions on nuclear security and safety, but also to apply the fifth revision of Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Rev.5) to the nuclear security system of each country. In this regard, nuclear security summits and international conference on nuclear security have been playing an important role to facilitate national implementation and further strengthening of state’s commitments. In fact, international cooperation on bolstering nuclear security, such as minimization of plutonium in civil use and enhancing radiological security, have become weighty subjects on the occasion of The Hague Nuclear Security Summit in 2014.

#### **(1) The Amount of Fissile Material Usable for Weapons**

- Most of the surveyed countries have been conducting nuclear fuel cycle related activities. Also, it has been assumed that a certain level of “attractive” fissile material has been stored in more than one third of the surveyed countries.

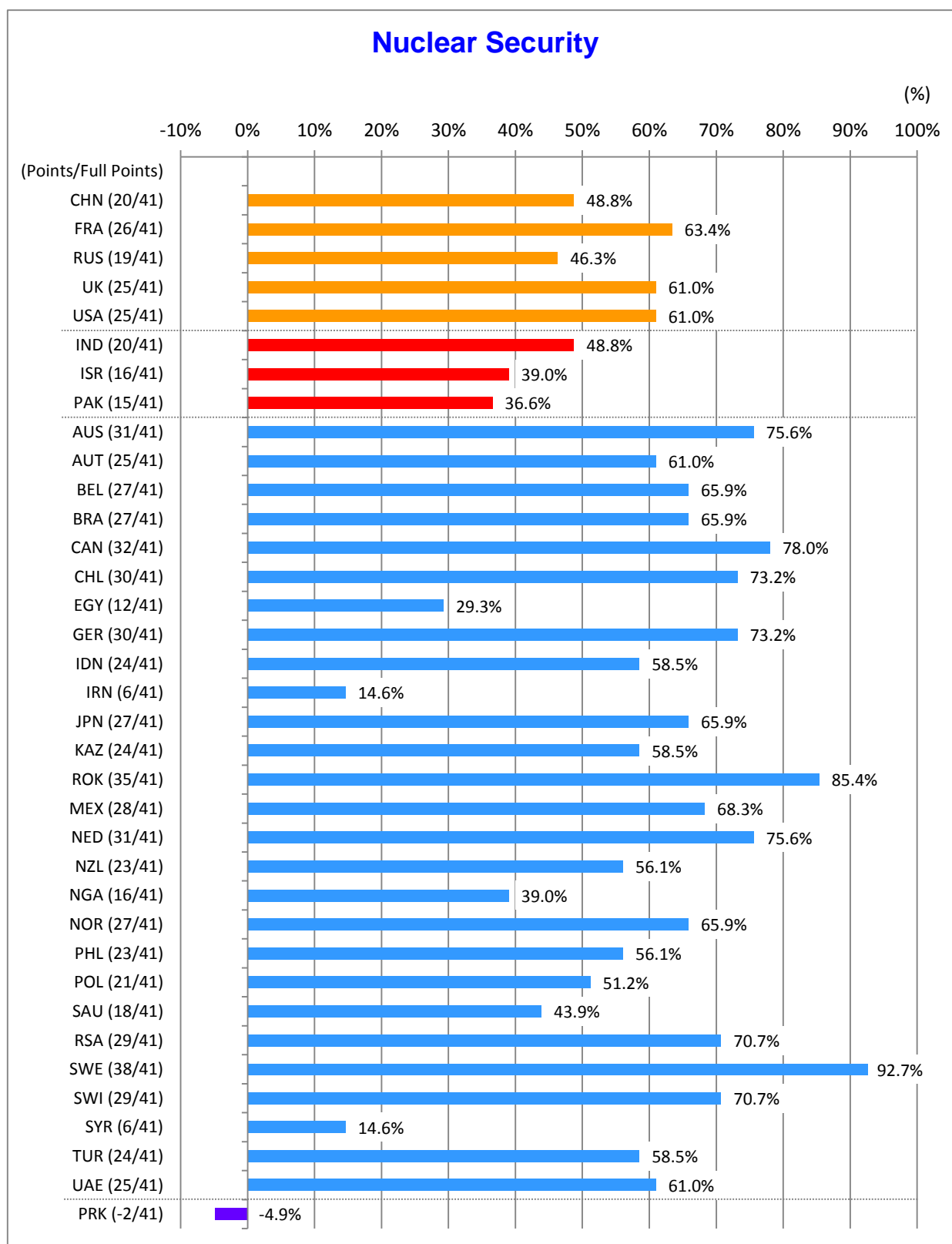
#### **(2) Status of Accession to Nuclear Security and Safety Related Conventions, Participation in Nuclear Security Related Initiatives, and Application to Domestic Systems**

- Most of the surveyed countries have acceded to treaties and conventions on nuclear security and safety. Countries of proliferation concern, such as Iran and North Korea, have failed to achieve substantive progress on joining those treaties and conventions.
- Promotion of early ratification of the CPPNM Amendment has been regarded as one of the main issues. However, numerous countries have yet to ratify. Implementing INFCIRC/225/Rev.5 is a key for strengthening nuclear security. Countries with advanced civil nuclear programs have been in the process of incorporating it into their nuclear security regulations.
- Countries of proliferation concern have neither joined the several treaties on nuclear security and safety nor applied INFCIRC/225/Rev.5 to their national security systems. In order to prevent nuclear terrorism, improvement of their activities on nuclear security is the urgent challenge. In some cases, there are negative trends on disclosing relevant information and transparency improvement.

#### **(3) Efforts to Maintain and Improve the Highest Level of Nuclear Security**

- Efforts for minimizing HEU in civilian use have achieved some positive results and continued to be further promoted under, among others, the Global Threat Reduction Initiative (GTRI).
- The number of countries with advanced civil nuclear programs, which have accepted the IAEA’s advisory services, such as International Physical Protection Advisory Service (IPPAS) reviewing and recommending nuclear security of the recipients, has increased.
- International cooperation has been promoted for research and development of nuclear forensics, whose role is to investigate the original location, history, and transport path of any seized material, and the intent of its removal, by analyzing its composition and physical and chemical form.
- In response to increased awareness about the importance of nuclear security capacity building and international cooperation in this area, many states with advanced civil nuclear programs have established, or are establishing, Centers of Excellence (COE) for nuclear security training. The International Network for Nuclear Security Training and Support Centres (NSSC Network) has been assuming a key role on facilitating further exchange of information between those COEs.





**About Hiroshima Report**—*Hiroshima Report 2015: Evaluation of Achievement of Nuclear Disarmament, Non-Proliferation and Nuclear Security in 2014* is an outcome of the “Hiroshima Report Publication Project,” commissioned by Hiroshima Prefecture to the Japan Institute of International Affairs (JIIA). As published in 2013 and 2014, *Hiroshima Report 2015* is published in both English and Japanese. This project has been conducted as a part of the “Hiroshima for Global Peace” Plan launched by Hiroshima Prefecture in 2011.

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