

# 11-1 Evaluation of Japan's Nuclear Non-Proliferation Efforts in Terms of Providing Guidance to Other States

— Key Elements to Win the Confidence in the Peaceful Nature of the Nuclear Energy Use and Recommendations for the Future —

**Table 11-1 Key elements for Japan's nuclear non-proliferation efforts and recommendations for the future**

We have identified key elements in seven areas and make recommendations for the future.

Areas	Key Elements	Recommendations for the future
Legislative measures	<ul style="list-style-type: none"> <li>● Pledge to limit nuclear energy use to peaceful purposes</li> <li>● Legislative measures to ensure this pledge</li> </ul>	<ul style="list-style-type: none"> <li>● Preparation of guidelines to ensure peaceful use in the licensing process</li> </ul>
Commitment and contribution to the international regime	<ul style="list-style-type: none"> <li>● Commitment not to acquire nuclear explosive devices</li> <li>● Commitment not to carry out nuclear explosion</li> <li>● Compliance with bilateral nuclear cooperation agreements</li> <li>● Commitments and cooperation for other international efforts or to international organizations</li> </ul>	<ul style="list-style-type: none"> <li>● Proactive contribution to the strengthening nuclear non-proliferation regime</li> <li>● Consideration of options on the Japan-U.S. Nuclear Cooperation Agreement, which expires in 2018</li> <li>● Dispatching more Japanese staff to international organizations</li> </ul>
Safeguards	<ul style="list-style-type: none"> <li>● Ratification of Comprehensive Safeguards Agreement</li> <li>● Establishment of State System of Accounting for and Control of Nuclear Material</li> <li>● Ratification of Additional Protocol</li> <li>● Application of integrated safeguards</li> <li>● Compliance with safeguards agreement</li> <li>● Cooperation with IAEA to address challenges for safeguards</li> <li>● Cooperation for safeguards on institutional and technological aspects</li> </ul>	<ul style="list-style-type: none"> <li>● Optimization of overall safeguards efforts</li> <li>● Incorporation of safeguards measures in the design of next-generation fuel cycle facilities</li> <li>● Proactive contribution to efforts for improving effectiveness and efficiency of IAEA safeguards</li> <li>● Support for the development of safeguards infrastructure in emerging nuclear states</li> </ul>
Measures to ensure transparency	<ul style="list-style-type: none"> <li>● Adoption of nuclear energy policy and its public disclosure</li> <li>● Disclosure of the process for the revision of nuclear energy policy and the participation of general public</li> <li>● Review of the implementation of the nuclear energy policy</li> <li>● Participation in the discussion for international regime for plutonium use</li> <li>● Disclosure of information on plutonium utilization</li> </ul>	<ul style="list-style-type: none"> <li>● Development of rationale to justify the amount of plutonium possessed</li> <li>● Consideration of the feasibility of multilateral scheme to manage backend of nuclear fuel cycle</li> </ul>
Measures at sensitive nuclear facilities	<ul style="list-style-type: none"> <li>● Deployment of proliferation resistant nuclear technology</li> <li>● Cooperation on the conversion of research reactors to low enriched uranium use and the return shipment of high enriched uranium</li> </ul>	<ul style="list-style-type: none"> <li>● Enhancement of proliferation resistance of Fast Breeder Reactor cycle</li> <li>● Development of international consensus on guidelines to evaluate proliferation resistance</li> </ul>
Export control and management of sensitive nuclear technology	<ul style="list-style-type: none"> <li>● Export control in accordance with Nuclear Suppliers Group Guidelines</li> <li>● Participation in other international frameworks for export control and counter-proliferation efforts</li> <li>● Efforts to ensure control of sensitive nuclear technology within the relevant organizations</li> </ul>	<ul style="list-style-type: none"> <li>● Cultivation of nuclear non-proliferation culture within organizations that handle sensitive nuclear technology</li> <li>● Consideration of the introduction of domestic law on the management of sensitive nuclear technology</li> </ul>
Physical Protection and Nuclear security	<ul style="list-style-type: none"> <li>● Ratification of the Physical Protection Convention</li> <li>● Ratification of Nuclear Terrorism Suppression Convention</li> <li>● Implementation of measures in accordance with the latest version of INFCIRC225</li> <li>● Participation in other international efforts for nuclear security</li> </ul>	<ul style="list-style-type: none"> <li>● Consideration for the early ratification of the Amendment to the Physical Protection Convention</li> <li>● Consideration of the reliability check system</li> <li>● Cultivation of nuclear security culture</li> </ul>

A. Necessary items regardless of the existence of nuclear activities

B. Items that accompany nuclear activities

C. Items that accompany nuclear fuel cycle activities

Japan has been implementing a nuclear energy program since the 1950s in a transparent manner, explicitly limiting the use of nuclear energy to peaceful purposes, and it has contributed to international efforts to ensure nuclear non-proliferation. This research is aimed at identifying the elements applicable to other states through a review, an analysis, and an evaluation of Japan's past efforts to ensure nuclear non-proliferation.

In this research, we have reviewed, analyzed, and evaluated Japan's nuclear non-proliferation efforts by dividing them into seven areas, and we have identified the key elements and issues for consideration in the future (Table 11-1). The analysis clearly shows that Japan's nuclear non-proliferation efforts have so far satisfied international standards in the respective areas and have even exceeded them in some areas. We have identified issues to be considered in the future. These include proactive contribution to strengthening the nuclear non-proliferation regime and to

relevant international organizations, optimization of overall safeguards efforts under the integrated safeguards, and the ratification of the amendment to the Convention on the Physical Protection of Nuclear Material.

Japan has a unique status as a non-nuclear-weapon state that pursues nuclear fuel cycle activities such as enrichment and reprocessing. Some features of our nuclear non-proliferation efforts may originate from the unique status. Therefore, we have classified our efforts into three categories: A. Necessary items regardless of the existence of nuclear activities, B. items that accompany nuclear activities, and C. items that accompany nuclear fuel cycle activities.

Our experience with regard to categories A. and B. can serve as guidance for states that plan to introduce nuclear power generation; it can clarify what kind of efforts should be made for nuclear non-proliferation. Japan's role is to help such emerging nuclear states in their effort to ensure nuclear non-proliferation, by focusing on these items.

## Reference

Yamamura, T. et al., Review and Analysis of Japan's Efforts to Ensure Nuclear Non-Proliferation—Significant Elements in Terms of Winning Trust for the Peaceful Nature of the Nuclear Energy Use and Future Challenges—, JAEA-Review 2010-40, 2010, 180p. (in Japanese).