



International Journal of Nuclear Security

Volume 2

Number 2 ASTECHNOVA Conference

12-24-2016

Legal and Regulatory Framework of Nuclear Security in Indonesia

Dahlia Cakrawati Sinaga

Installation and Licensing Directorate of Nuclear Material Nuclear Energy Agency

Follow this and additional works at: <http://trace.tennessee.edu/ijns>

 Part of the [Defense and Security Studies Commons](#), [Engineering Education Commons](#), [International Relations Commons](#), [National Security Law Commons](#), [Nuclear Commons](#), [Nuclear Engineering Commons](#), [Radiochemistry Commons](#), and the [Training and Development Commons](#)

Recommended Citation

Sinaga, Dahlia Cakrawati (2016) "Legal and Regulatory Framework of Nuclear Security in Indonesia," *International Journal of Nuclear Security*: Vol. 2: No. 2, Article 3.

Available at: <http://dx.doi.org/10.7290/V7V40S4P>

This Article is brought to you for free and open access by Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in International Journal of Nuclear Security by an authorized editor of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

Legal and Regulatory Framework of Nuclear Security in Indonesia

Dahlia Cakrawati Sinaga

Installation and Licensing Directorate of Nuclear Material
Nuclear Energy Agency

Abstract

Nuclear security is one of the most important topics for regulatory purposes in Indonesia. Nuclear security measures exist to prevent, detect, and respond to unauthorized removal of radioactive material and the sabotage of nuclear and radiation facilities. Indonesia participates in bilateral and multilateral cooperation and international events such as the Nuclear Security Summit. Indonesia has also ratified several international instruments related to nuclear security. Based on commitment to international events and ratification, Indonesia has developed nuclear security infrastructures by strengthening legislation and regulation, enhancing building capacity, and strengthening equipment and facilities. Badan Pengawas Tenaga Nuklir (BAPETEN) is Indonesia's nuclear energy regulatory agency. Indonesia has issued regulatory acts related to nuclear security as a basis for BAPETEN's regulatory activities. Indonesia has also issued several government regulations and BAPETEN Chairman Regulations addressing nuclear security. Indonesia is still developing legal and regulatory infrastructures by strengthening international cooperation and coordination with other stakeholders.

I. Introduction

Indonesia participates in several global nuclear security events as well as international and bilateral cooperation. Indonesia participated in three nuclear security summits in Washington DC, Seoul, South Korea, and Den Haag, Netherlands.

At the 2012 NSS in Seoul, Indonesia submitted a non-paper, or an aide-mémoire, on a National Legislation Implementation Kit for Nuclear Security. Twenty-six countries support this non-paper. They are: Australia, Canada, Czech Republic, Finland, Hungary, Japan, Kazakhstan, Malaysia, Morocco, the Netherlands, New Zealand, Norway, the Philippines, Poland, Republic of Korea, Romania, Singapore, Spain, Sweden, Thailand, Turkey, United Arab Emirates, United Kingdom, United States, Vietnam, and Indonesia.

Indonesia has developed nuclear security infrastructures since their first nuclear security summit in several ways. One such way was through law. Indonesia has strengthened their nuclear security legislations and regulations. Indonesia has also enhanced national coordination among related ministries and agencies. And finally, Indonesia has created Indonesia's Center of Excellence on Nuclear Security and Emergency Preparedness (I-CoNSEP).

Indonesia has also developed nuclear security infrastructure through the strengthening of nuclear security equipment and facilities. Enhanced building capacity is one major change. However, Indonesia has also enhanced regulatory activities on the security of nuclear and radioactive materials, nuclear installations, and radiation facilities.

II. The Ratification of international Nuclear Security Instruments

Indonesia has ratified several international nuclear security legal instruments. The types of national legal instruments range from legislative acts to presidential regulations depending on the content of the instruments. Table 1 shows the ratification of international legal instruments.

Table 1. Ratification of International Legal Instruments

No.	Title Legal Instruments	Ratification Instruments
1.	Non-Proliferation Treaty	Act No. 8 (1978)
2.	South East Asia Weapon Free Zone	Act No. 9 (1997)
3.	Comprehensive Nuclear Test Ban Treaty	Act No. 1 (2010)
4.	International Convention on Suppression Act of Nuclear Terrorism	Act No. 10 (2014)
5.	Convention on Physical Protection of Nuclear Materials	Presidential Regulation No. 49 (1986)
6.	Amendment of Convention on Physical Protection of Nuclear Materials	Presidential Regulation No. 46 (2009)

III. Nuclear Security Legislation and Regulation

A. Establishment of a Regulatory Body (BAPETEN)

BAPETEN is Indonesia's nuclear energy regulatory agency that establishes regulations, processes licenses, and conducts safety, security, and safeguard inspections. BAPETEN was established based on Act No. 10 on Nuclear Energy (1997) and is directly subject to the President of Indonesia.

The regulatory activities for nuclear energy accomplish several things. First, they strive to assure the welfare, security, and peace of the people, as well as the health and safety of workers and the public. They also endeavor to protect the environment. Second, they strive to maintain legal order for implementing the use of nuclear energy. Third, they strive to increase the legal awareness of nuclear energy users and develop a safety culture in the nuclear field. Fourth, they attempt to keep the goals for using nuclear material in alignment. Finally, they strive to maintain and increase worker discipline when using nuclear energy.

Figure 1 shows the organization of the regulatory body of BAPETEN.

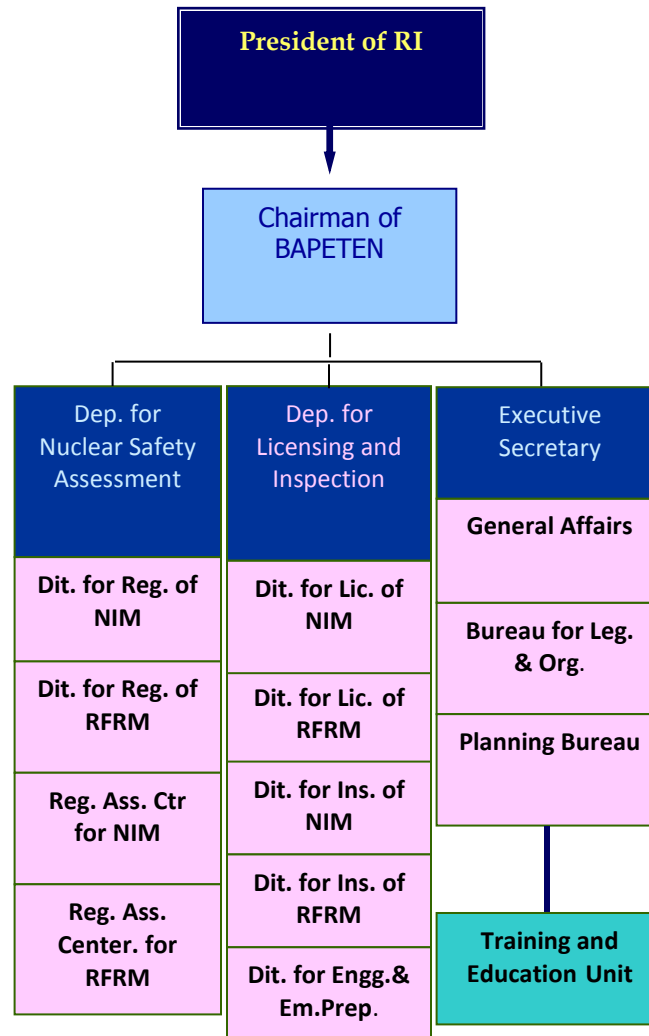


Figure 1. The organization of BAPETEN.

B. Development of Legislation and Regulation

Indonesia bases the development of any act, law, or regulation on the implementation of international legal instruments, referred to as international standard publications. Development is also based on the acts, laws, and regulations of other countries (for example, the USA, Australia, Japan, and Korea). These acts, laws, and regulations cover topics such as the physical protection of nuclear installations and

materials, radioactive source security, and safeguards. International legal instruments include the International Treaty Convention in the UN and International Atomic Energy Agency Information Circular (IAEA INFCIRC) documents.

Figure 2 shows the hierarchy of legislation and regulation in Indonesia.

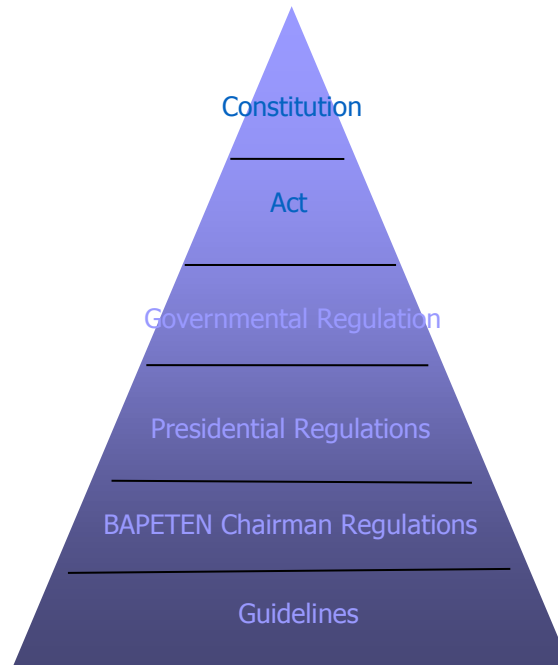


Figure 2. Hierarchy of legislation and regulation

Indonesia has issued regulatory acts related to nuclear security as a basis for BAPETEN's regulatory activities[1]. Act No. 10 on Nuclear Energy (1997) repealed BAPETEN. The basic policy in Article 16 of Act No. 10 states: "Any nuclear energy uses shall be implemented to ensure the safety, security and safeguards." Another regulatory act, Act No. 15 on the Establishment of the Government Regulation (2003), replaced Act No. 1 on Terrorism (2002).

The act on Nuclear Security is not yet written, and the Inter Ministry and Agency is still discussing its terms.

There are several government regulations (GR) regarding nuclear security [2]. These regulations include:

- a. GR No. 54 on the Safety and Security of Nuclear Installations and Material (2010);
- b. GR No. 2 on Licensing of Nuclear Installations and Materials (2014);
- c. GR No. 33 on Safety of Ionizing Radiation and Security of Radioactive Sources (2007); and
- d. GR No. 29 on the Licensing of Ionizing Radiation Sources and Nuclear Material (2008).

Besides acts and government regulations, there are some BAPETEN Chairman Regulations (BCR) pertaining to nuclear security as well [3]. These regulations include:

- a) BCR No. 1 on the System of Physical Protection of Nuclear Installations and Materials (2009);
- b) BCR No. 9 on Nuclear Material Accountancy and Control (2006); and
- c) BCR No. 2 on DIQ (2009), and BCR No. 7 on Security of Radioactive Sources (2007).

C. Licensing System

BAPETEN's licensing system has several stipulations. The nuclear security requirement must be met to install nuclear and radiation facilities. The requirement includes physical protection and radioactive source security aspects. According to GR No. 2, licensing requires documentation of physical protection of nuclear material and nuclear installation (NM&NI) [2]. The physical protection of NM&NI documents requires the establishment of a design basis threat, as well as specific requirements for facilities, equipment, and procedures. These documents, as well as GR No. 29, entail a management system that includes human resources and the implementation of security culture.

GR No. 29 also contains the framework for the licensing requirements of radiation facilities. One requirement is having a security plan for radioactive sources. The content of the security plan requires facilities, equipment, and procedures, as well as a management system.

D. Inspection System

The final aspect of regulatory activities is inspections. Inspections verify licensee fulfillment of acts and regulations, including those related to nuclear security. Inspections also check to see if licensees meet the license conditions provided by BAPETEN. An inspection team assigned by the BAPETEN Chairman conducts the inspections, based on Article 20 of Act No. 10 [1].

If the inspection team finds a violation, they can implement enforcement through an administrative sanction or through a penal sanction, depending on the severity of the violation. The level of radiation risks, as well as the hazards to the public and the environment caused by the violation, determine the violation's severity.

IV. Challenges

Developing nuclear security infrastructures has presented Indonesia with several challenges. One issue, related to writing the Nuclear Security Act, was the inability to cooperate with the National Legislation Program during 2015-2019. Another issue was attempting to harmonize with other national laws and regulations. Yet another issue was the attempt to coordinate functions and tasks with stakeholders.

Indonesia faces other issues related to the strengthening facilities, equipment, and developing of the Indonesia Center of Excellence of Nuclear Security and Emergency Preparedness (I-CoNSEP). Some challenges include trouble cooperating with IAEA and other organizations in other countries, coordinating with other ministries and agencies, and strengthening human resources.

V. Conclusion

Indonesia is committed to developing nuclear security infrastructures. This can especially be seen through their legislations and regulatory infrastructure developments. It can also be seen through their strengthened building capacities, strengthened equipment and facilities, and continued development of I-CoNSEP.

Indonesia is also committed to strengthening international cooperation, as demonstrated by their cooperation with the International Atomic Energy Agency (IAEA) [4].

Finally, Indonesia places great focus on developing legal and regulatory infrastructures in nuclear security. Such developments enhance coordination with other stakeholders, relevant ministries, and

agencies. This is evidenced through their Nuclear Security Act, which is currently being written, as well as through the development of I-CoNSEP.

VI. Works Cited

1. Act of the Republic of Indonesia - Law on Nuclear Energy.pdf, (available at http://www.vertic.org/media/National%20Legislation/Indonesia/ID_Law%20on%20Nuclear%20Energy.pdf).
2. Government Regulation on Licensing of Nuclear Installation and Utilization of Nuclear Material.pdf, (available at <http://pse.ugm.ac.id/wp/wp-content/uploads/GOVERNMENT-REGULATIONGR-ON-LICENSING-OF-NUCLEAR-INSTALLATION-AND-UTILIZATION-OF-NUCLEAR-MATERIAL.pdf>).
3. S. Zahir, Indonesia's Activities to Improve Safeguards and Nuclear Security (2008), (available at <https://www.jaea.go.jp/04/np/activity/2008-06-24/2008-06-24-2-2.pdf>).
4. International Atomic Energy Agency, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, (available at http://www-pub.iaea.org/MTCD/Publications/PDF/p1531interim_web.pdf).

VII. Author Bio and Contact Information



Dahlia Cakrawati Sinaga

Sinaga graduated from Universitas Gadjah Mada's Industrial Safety Engineering graduate program and Universitas Indonesia's undergraduate program. She is currently the Director of Nuclear Installation and Materials at BAPETEN, Indonesia's nuclear energy regulatory agency.

email: d.sinaga@bapeten.go.id