

An Analysis for International Norms for Physical Protection of Nuclear Material by Sea: INFCIRC/225/Rev.5 and ISPS Code

Chan Kim^{a*}

^aKorea Institute of Nuclear Nonproliferation and Control(KINAC)

1418 Yuseong-daero, Yuseong-gu, Daejeon 34101

*Corresponding author: ckim@kinac.re.kr

1. Introduction

For safe international transport of nuclear material, not only domestic laws and physical protection regulations, but also standards and technical measures provided by international norms must be satisfied. Because of the transport of nuclear material overseas has to be the form of air or marine transportation, it has to satisfy the International Civil Aviation Organization (ICAO) or International Maritime Organization (IMO) Convention, in addition to complying with CPPNM or INFCIRC/225/Rev.5 primarily. In this paper, we investigate related international norms that must be implemented for international maritime transport of nuclear material and its physical protection, and try to discuss the insufficient points in the current framework, which might be supplemented for the future physical protection regulations.

2. International Norms

2.1 Convention on the Physical Protection of Nuclear Material (CPPNM, INFCIRC/274/Rev.1, May 1980)

CPPNM came into force on February 8, 1987 and was revised on November 25, 2005. This convention is the only international legally binding undertaking in the area of physical protection of nuclear material. It establishes measures related to the prevention, detection and punishment of offenses relating to nuclear material. It consists of 23 articles and two annexes, and especially the article 3, 4, 7 address the responsibilities, the obligation not to permit the import and export of unprotected nuclear materials, and punishment duties for illegal transit of nuclear material for state parties who participate in international transport [1].

2.2 INFCIRC/225/Rev.5

This publication is a recommendations level document for the physical protection of nuclear material and nuclear facilities, and applies in particular to the physical protection of nuclear materials, including its physical protection during transport, and of nuclear facilities against malicious acts. These recommendations are provided for consideration by States and their competent authority but are not mandatory upon a State and do not infringe on the sovereign rights of State [2].

Regarding international transport of nuclear material, the clauses of 3.4, 3.5, 3.6, and 3.7 of INFCIRC/225/Rev.5 address the requirements like the table below. Also, the clause of 6.22 and 6.33 state the submission and approval of transport security plan and what it should contain.

Table I: provisions related to international transport of INFCIRC / 225 / Rev.5

	Contents
3.4	<ul style="list-style-type: none">· Ensuring the control and physical protection responsibility for nuclear materials· Specification of supervision of international transport activities
3.5	<ul style="list-style-type: none">· Requirements for prior consideration by the country of origin for permitting international transport
3.6	<ul style="list-style-type: none">· Whether the relevant countries are notified according to the transit· whether domestic laws are complied
3.7	<ul style="list-style-type: none">· Whether the responsibility for physical protection measures is specified in the written arrangements accepted by States· Whether transport security plan and physical protection measures are in accordance with domestic law of concerned states

2.3 SOLAS

SOLAS (International Convention for the Safety of Life at Sea) was first enacted in 1914, and revised in 1928, 1948, and 1960, respectively. Since then, it has been steadily revised a number of times as the standards have been reinforced with changes in the times and advances in shipbuilding and sailing technologies.

It is a convention concluded with the aim of promoting the safety of life at sea by setting internationally unified principles and rules for the structure and equipment of ships. The International Maritime Organization (IMO) is convening international conference for this convention which is dealing with the rules for ship inspection, certificates, structure and stability of the ship, electrical equipment, fire detection and extinguishing, lifesaving equipment, radio communications, navigation safety, cargo-dangerous goods transportation, and nuclear powered vessel [3].

Table II: Major Amendments to the Maritime Security
SOLAS Agreement

	Amendments	Contents
Amendment to the 1974 SOLAS Convention	Chapter V.	Revision of provisions related to the timely installation of AIS · Promoting of early setup of AIS
	Chapter XI-1.	Revision of special measures for maritime safety · Revision of ship identification number · New introduction of ship history record
	Chapter XI-2.	Establishment of special measures for maritime security · Consists of 13 rules, and details are delegated to the separately adopted ISPS Code
ISPS Code	Part A&B	1) Part A (Mandatory Requirements): SOLAS Convention XI-2 2) Part B (Guidance) * Other definitions of security plans, security officers and security levels not specified in the SOLAS Convention
11 resolutions related to the Convention and Regulations	N/A	Adoption of a number of resolutions to further revise maritime security regulations in the future

2.4 ISPS Code

After the 911 terror in 2001, IMO decided to make SOLAS chapter XI to XI-1 (Special measurements to enhance maritime *safety*), and establish the new chapter of XI-2(Special measurements to enhance maritime *security*) to enhance security for ships and port facilities, in December 2002. Based on this amendment, the ISPS Code was enacted and entered into force in July 2004 to strengthen security standards for ships and port facilities significantly. It includes ship security, obligations and responsibility of the state party, port facility security, ship inspection and issuance of certificates [4].

Due to the different legislative purpose and scope of the SOLAS and ISPS code, it was difficult to accept ISPS code into SOLAS. But it turned out to be the most appropriate convention was SOLAS to accommodate ISPS Code, with the United States' intensive demand for prompt enactment of strong regulations to prevent maritime terrorism [5].

3. Concerns

The contents of INFCIRC/225/Rev.5 seem to carry legal binding force due the presence of CPPNM and the bilateral nuclear cooperation agreement where if it states the details can be implemented as written in INFCIRC/225/Rev.5. However, since INFCIRC/225 does not specify all the details of regulation for air or sea transportation, it is important to check whether the provisions of ICAO, ISPS, or higher-level agreements for air-marine transportation of the nuclear material are designed secure enough in terms of physical protection.

For example, contingency plan and its following details for a transportation by ship should be stated in its transport security plan and its approval. However, due to the nature of confidentiality clause of ISPS Code for ship security plan that deal with those aforementioned details, it cannot be inquired or affirmed. The inquiry of these relevant documents is strictly limited, so governments nor regulatory authorities where review transportation security plans cannot access it. This can be understood as the strong enforcement of SOLAS and ISPS code, but on the other hand, it may indicate that the review process and verification of the transport security plan might not be enough to be approved.

In addition, another concern is the international ship security certificate, which is an endorsement that the ship verified any associated security equipment in accordance with the ISPS Code, and it provided an approved ship security plan. This certificate is intended to be issued by the flag State, and the concern is whether all the flag states are issuing the ship security certificate in consistent level of procedure and manner. To address this concern, the contents of CPPNM or INFCIRC/225 might be revised preemptively in the direction of having compulsory enforcement clauses or at least granting a permission to appropriate authorities for the inquiry ·verification of such confidential.

4. Conclusion

For the approval of international maritime transport of nuclear materials, various international norms must be considered, and a corresponding transport security plan must be prepared. This transport security plan should contain detailed response measures and information to implement physical protection measures in response to various possible emergencies, but some cannot be described or verified further. Such loose areas between complicated international conventions should be supported by the continuous problem indication and systematic complement for more secure physical protection measures of international transportation for nuclear material.

REFERENCES

- [1] IAEA, Information Circular, INFCIRC/274/Rev.1/Mod.1, “Amendment to the Convention on the Physical Protection of Nuclear Material”, 9 May 2016.
- [2] IAEA, Nuclear Security Series No.13, “Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities(INFCIRC/225/Revision5)”, Vienna, 2011.
- [3] IMO, “International Convention for the Safety of Life at Sea”, retrieved Feb 2020.
- [4] IMO, “the International Ship and Port Security Code”, SOLAS/CONF.5/34 Annex I, retrieved Feb 2020.
- [5] 해양수산부 (Ministry of Oceans and Fisheries), 한국해양수산연구원 (Korea Institute of Maritime and Fisheries Technology). “ISPS Code 의 국내수용방안 연구”, p.15, Jul 03, 2003.