# **IMPLEMENTATION SAFEGUARDS IN THAILAND**

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## Backgrounds

#### Abstract

Thailand is a non-nuclear weapon state. The non-nuclear activities are mainly medical, agricultural, and industrial. Therefore, Thailand ratified the Nuclear Non-Proliferation Treaty (NPT) since 1972 and has been entry into force of the Comprehensive Safeguards Agreement (INFCIRC 241) in 1974. Based on the INFCIRC 153, Thailand established a system of accounting for and control of all nuclear material subject to safeguards under the Agreement. In order to ensure the peaceful use of nuclear in Thailand the Nuclear-Non-Proliferation Center of Office of Atoms for Peace (NPC, OAP) was established to act as State level Safeguards. NPC is responsible for keeping records and providing information under requirement of Comprehensive Safeguards Agreement. In addition, the strengthening of cooperation and good coordination between Thailand and IAEA are indeed important and necessary to implementation safeguards in country. Based on the report of IAEA safeguards statement, there is no indication of the diversion of nuclear materials or misuse of the facility or the items in Thailand. Up to present, nuclear activities in Thailand are peaceful without diversion of using. This paper reviews the current status of the implementation Safeguards in Thailand.



Keywords: implementation safeguards, non-nuclear activity

#### **SG** Agreements and other Relevant Undertakings

Safeguards Agreements	Signature	Entry into Force
Agreement between the Kingdom of Thailand and the IAEA for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation on Nuclear Weapons (INFCIRC/241)	16 May 1974	16 May 1974
Protocol Additional to the Safeguards Agreement	22 September 2005	Not yet
Other relevant undertakings	Accepted as of	
General Part of Subsidiary Arrangements in force	12 July 1975	
Subsidiary Arrangements Code 3.1 include provision of		
early design information	12 December 2001	
Theiland is the CCA State with t	the provision for retifier	ation of AD

Thailand is the CSA State with the provision for ratification of AP

## Safeguards Implementation

#### A Research Reactor 2 MW

• TRIGA Mark III • First Critical :1977 • Max. power 2 MW (  $\sim$  1 MW) • Fuel: ~ 20% enrichment uranium • Utilization: 1. *Isotope production* 

2.Neutron Activation Analysis (NAA)

3.Gems coloration

4. Education and training

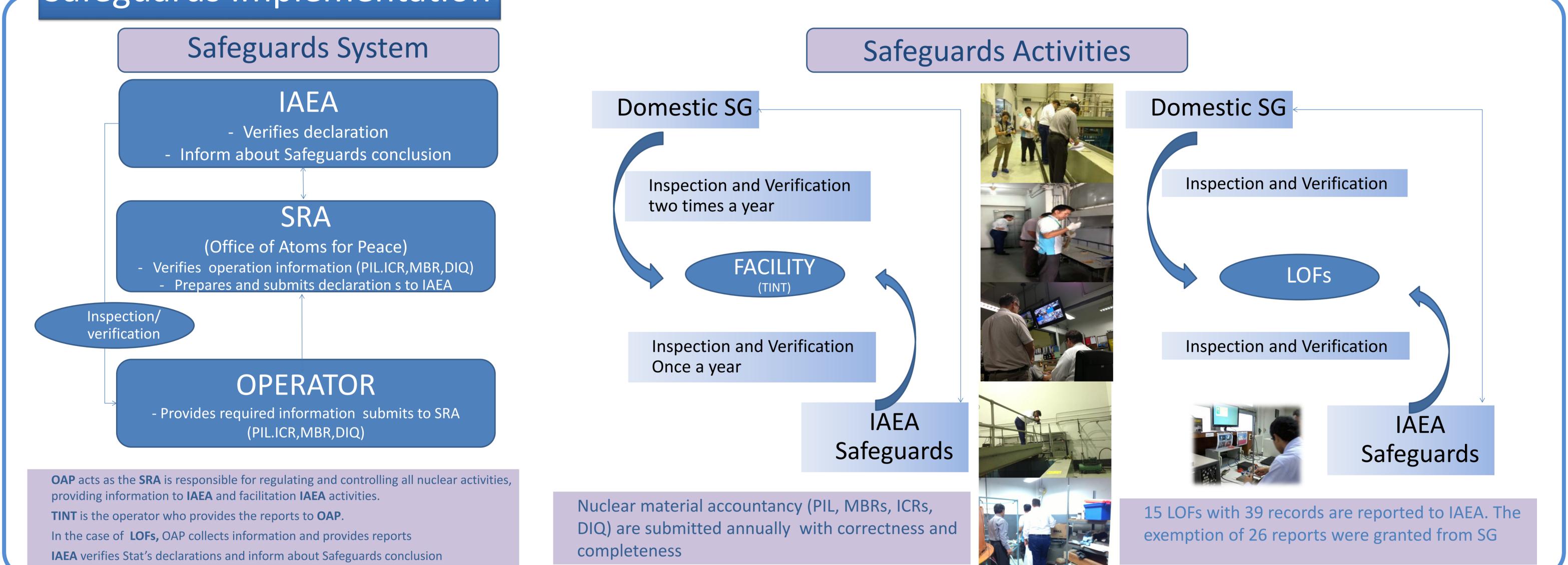


#### Hospitals

Medical isotope, Radiography shielding **Research Institutions** Radioactive isotope, Radiography shielding Universities Radioactive isotope, Radiography shielding **Industrial Companies** 

Radiography shielding, Logging tool calibration **Irradiation Center** 

The nuclear activities in Thailand are peaceful use. The main activity is non-nuclear purposes



### Strengthening Safeguards

Enhancing capability of SRA and operator Staffs



#### Future works

1. Provision for entering into force of Additional Protocol (AP) Collecting information

Workshop on Safeguards Implementation in Thailand

#### National Cooperation

Hospital

University

**Research Institute** 

Intelligence agency

International Cooperation

IAEA EU **US-DOE** 

#### Nuclear Material Library

Collecting information from

- National Licensing System
- Open sources







- Legislation
- Staffs competency
- LOFs information
- 2. Strengthening Thailand's Safeguards Regulatory Authority (SRA)
  - Workshops and training for regulatory staffs and operators
- 3. Enhancing capability of Safeguards Laboratory for supporting the safeguards verification
  - OAP has a high energy gamma spectrometer, a mobile gamma spectrometer(HPGe) and an ICP-MS (and will has a SEM/EDX at the end of this year)
  - Training on NDA/DA in practical.
- 4. Collecting information of nuclear material in location outside facilities
  - Outreach project (training and seminar for stakeholder)

• Survey

#### **Acknowledgement: International Atomic Energy Agency**