

# **ESTABLISHING NUCLEAR SECURITY CULTURE IN MALAYSIAN MEDICAL INSTITUTIONS: INSIGHTS AND FUTURE PLAN**

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Ministry of Health Malaysia



Kementerian Kesihatan Malaysia



**IAEA**

International Atomic Energy Agency



# Agenda

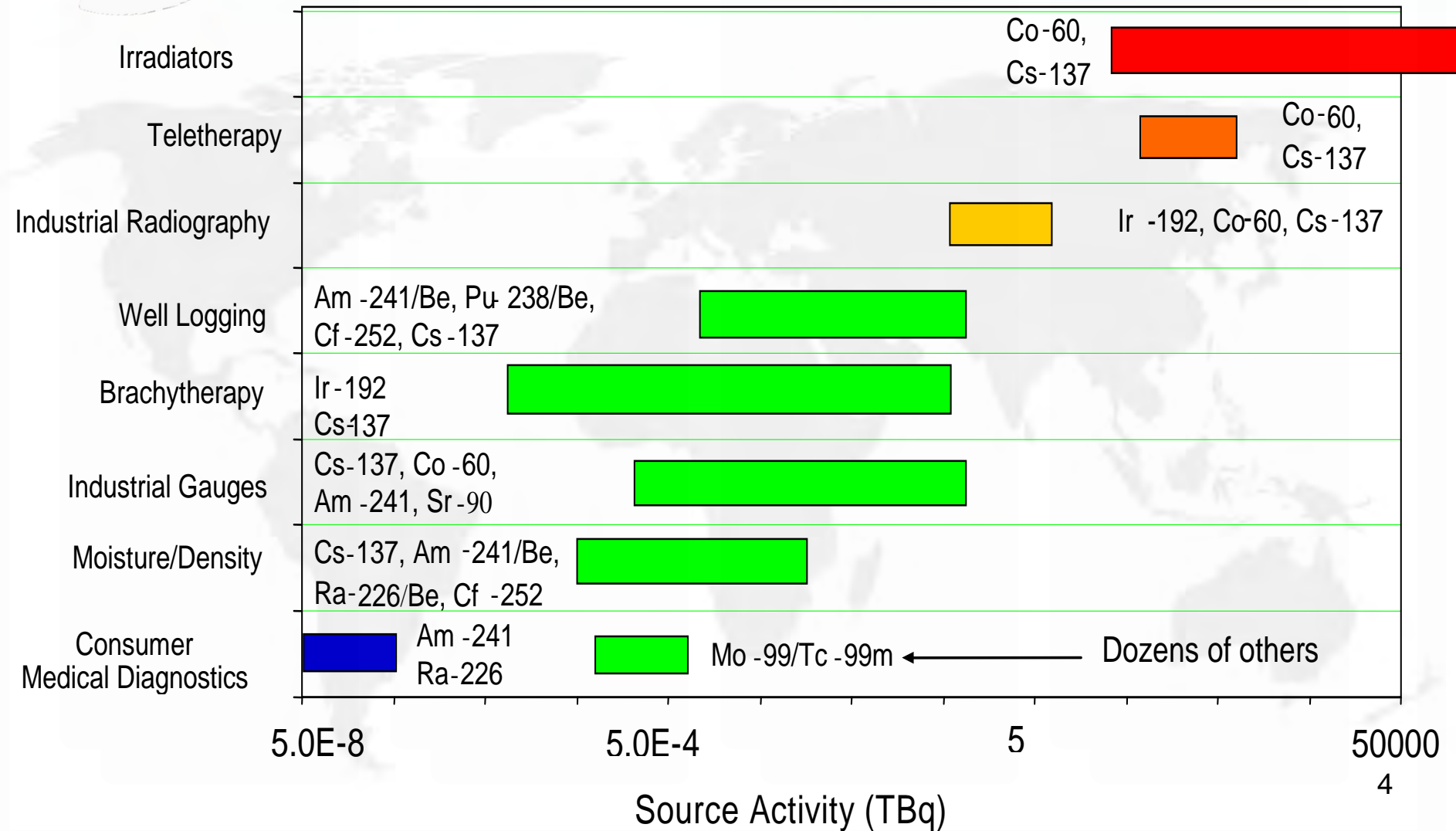
1. Radioactive Sources used in medical applications in Malaysia
2. Security Culture Programme
3. MOH Achievements
4. MOH Future Plans and Efforts
5. Acknowledgement



# **1. Radioactive Sources used in medical applications in Malaysia**



# Practices using sealed radioactive sources





# Blood Irradiator, Gamma Knife and Brachytherapy in Medical Facilities



# Security Level

TABLE 4. CATEGORIES OF RADIOACTIVE SOURCES FOR COMMON APPLICATIONS

Category	Activity ratio (A/D) <sup>a</sup>	Applications <sup>b</sup>
1	$A/D \geq 1000$	Radioisotope thermoelectric generators Irradiators Teletherapy Fixed multibeam teletherapy (gamma knife)
2	$1000 > A/D \geq 10$	Industrial gamma radiography High/medium dose rate brachytherapy
3	$10 > A/D \geq 1$	Fixed industrial gauges that incorporate high activity sources <sup>c</sup> Well logging gauges
4	$1 > A/D \geq 0.01$	Low dose rate brachytherapy (except eye plaques and permanent implants) Industrial gauges that do not incorporate high activity sources Bone densitometers containing a radioactive source Static eliminators
5	$0.01 > A/D$ and $A >$ exempt <sup>d</sup>	Low dose rate brachytherapy eye plaques and permanent implant sources X ray fluorescence devices containing a radioactive source Electron capture devices Mossbauer spectrometry Positron emission tomography check sources

TABLE 3: SECURITY LEVELS AND ASSOCIATED SECURITY GOALS AND SUB-GOALS BY SECURITY FUNCTION (cont.)

Security function	Security level A	Security level B	Security level C
	<i>Goal</i>		
	Provide a <i>high</i> level of protection of radioactive material against unauthorized removal <sup>a</sup>	Provide an <i>intermediate</i> level of protection of radioactive material against unauthorized removal <sup>a</sup>	Provide a <i>baseline</i> level of protection of radioactive material against unauthorized removal <sup>a</sup>

# Why we need Nuclear Security Culture ?

**IAEA International Conference on Nuclear Security, Global Directions for the Future (London), March 2005.**

*“The fundamental principles of nuclear security include embedding a nuclear security culture throughout the organizations involved. By the **coherent implementation of a nuclear security culture, staff remain vigilant of the need to maintain a high level of security.**”*



# How it should be developed and maintained ?

## IAEA Code of Conduct on the Safety and Security of Radioactive Sources

*“Every State should, in order to protect individuals, society and the environment, take the appropriate measures to ensure ... the promotion of safety culture and of security culture with respect to radioactive sources.” [Basic Principle 7(b)]*



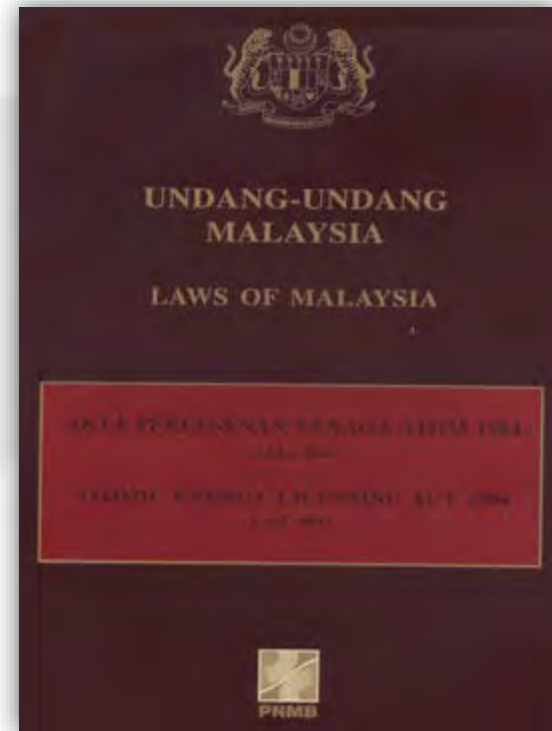


# Nuclear Security Legislation

## Atomic Energy Licensing (Basic Safety Radiation Protection) Regulations 2010:

### Security and protection of radiation source

70. The licensee shall take all measures to ensure the security and protection of all radiation sources in his possession or under his control to prevent theft, loss or sabotage.



# Nuclear Security Legislation

## Atomic Energy Licensing (Basic Safety Radiation Protection) Regulations 2010:

### Notification of theft, loss or sabotage

71. (1) The licensee shall, upon discovering any theft, loss or sabotage of any radiation source in his possession or under his control—

- (a) notify the appropriate authority of such theft, loss or sabotage within twenty-four hours after discovering the theft, loss or sabotage; and
- (b) submit a complete report of the theft, loss or sabotage in writing to the appropriate authority within thirty days after the notification to the appropriate authority.

651

P.U. (A) 46.

#### ATOMIC ENERGY LICENSING ACT 1984

#### ATOMIC ENERGY LICENSING (BASIC SAFETY RADIATION PROTECTION) REGULATIONS 2010

#### ARRANGEMENT OF REGULATIONS

#### PART I

#### PRELIMINARY

#### Regulation

1. Citation and commencement
2. Application
3. Interpretation

#### PART II

#### SYSTEM OF RADIOLOGICAL PROTECTION

4. Justification of practice
5. Optimization of protection and safety
6. Dose constraint
7. Dose limit
8. Dose limit for workers
9. Dose limit for members of the public
10. Dose limit for apprentices and students
11. Dose limit in special circumstances
12. Verification of compliance with dose limit
13. Evaluation of equivalent dose and effective dose
14. Other methods of compliance with dose limit

#### PART III

#### OCCUPATIONAL EXPOSURE

15. Responsibilities of licensee and employer
16. Employment of radiation protection officer and qualified expert
17. Classification of working areas
18. Administrative procedures in supervised area and controlled area

# Radiation safety and Security Policy Statement


**Improving The Safety and Security Skills, Awareness and Culture at The Premises**



## RADIATION SAFETY AND SECURITY POLICY STATEMENT

THE MINISTRY OF HEALTH MALAYSIA SHALL PROVIDE A SAFE, SECURE AND HEALTHY WORKING ENVIRONMENT, BY ESTABLISHING AND MAINTAINING THE REQUIRED MEASURES TO PREVENT INTENTIONAL AND UNINTENTIONAL ACTS ON THE RADIOACTIVE SOURCES AND RELATED FACILITIES WHICH MAY ENDANGER THE STAFF AND THE PUBLIC AND CAUSE ADVERSE IMPLICATIONS ON THE ORGANISATION, THIS WILL BE DONE BY:

- INSTITUTING SAFETY AND SECURITY PROTOCOLS TO REDUCE THE RADIATION RISK TO PERSONNEL AND PUBLIC
- IMPROVING THE SAFETY AND SECURITY SKILLS, AWARENESS AND CULTURE AT THE PREMISES
- PROVIDING CONTINUOUS EDUCATION AND TRAINING TO ENSURE SAFE AND SECURE PRACTICES
- ESTABLISHING CONTINGENCY PLANS FOR EMERGENCIES

  
DATUK DR. NOOR HISHAM ABDULLAH  
Director General of Health Malaysia

Date: 09/31/16

# Guidance Document On Security of Radioactive Sources For Blood Irradiators at Medical Facilities



KEMENTERIAN KESIHATAN MALAYSIA

## GUIDANCE DOCUMENT ON SECURITY OF RADIOACTIVE SOURCES FOR BLOOD IRRADIATORS AT MEDICAL FACILITIES

Malaysian Guidance Document on Security of Radioactive Sources for Blood Irradiators at Medical Facilities

### INTRODUCTION:

The various uses of radioactive (RA) sources in medical facilities necessitate robust physical security features which can be sustainably maintained and secured from all types of unwanted access or removal, sabotage, theft or any unauthorised relocation.

Currently in Malaysia, Category 1 medical RA sources are mainly used for blood irradiation and cancer treatment. Category 1 sources if not safely managed or securely protected would be likely to cause permanent injury to a person who handles them, or who was otherwise in contact with them. It would probably be fatal to be in close proximity to this amount of unshielded material for a period of a few minutes to an hour.

An example of a RA source being stolen happened in 1987, Goiânia, Brazil due to an incident involving improper management of a medical RA source. An old 1375.68 Ci (50.9 TBq) Cs-137 teletherapy unit was stolen from an abandoned clinic and the source capsule was punctured, releasing caesium powder and ultimately resulting in four deaths. Approximately 112,000 people were monitored for (RA) contamination and 249 were found to be affected by radiation. While the exposure to radiation in this case was accidental, similar consequences could result from the use of a RA source in a Radiological Dispersion Device (RDD) or "dirty bomb".

There is a necessity to have proper security for RA sources and all medical facilities with blood irradiators will have to comply with the IAEA's Security of Radioactive Sources Implementing Guide. The risk-based security options stated in this guide will help to meet the main goal which is "to prevent unauthorised removal of radioactive sources". In a case of an attempt of unauthorised removal, detection and assessment must occur immediately to enable personnel to respond in time with sufficient resources to interrupt the adversary and prevent the source from being removed. The basic principles of deterrence, detection, delay, response and security management will help to ensure the security of RA sources is continuously maintained.

### OBJECTIVES:

This document is intended as a guide to:

- i. implement security features and management of RA sources.
- ii. prevent unauthorised access or damage to, and loss, theft or unauthorised transfer of, RA sources.
- iii. enhance security awareness of the personnel by providing adequate education and training.
- iv. promote security culture
- v. establish contingency plans for emergencies.

### BACKGROUND:

Blood irradiators are used in hospitals, blood centres and research facilities, primarily to inactivate lymphocytes in order to help prevent Transfusion Associated Graft Versus Host Disease (TA-GVHD) in patients receiving a blood transfusion.

TA-GVHD is a rare complication of transfusion and may be acute or chronic. It results from viable lymphocytes from cellular blood components engrafting in an immunocompromised patient or in an immunologically normal patient after transfusion of a relative's blood. This condition should be suspected in a patient who develops fever, skin rash, diarrhoea, elevated liver enzymes and pancytopenia 1-6 weeks following transfusion. Diagnosis of TA-GVHD could be made by skin biopsy or cytogenetic/ Human Leucocyte Antigen (HLA) analysis to establish presence of third party lymphocytes. Directed donation from relatives to a recipient should be avoided in view of the possibility of shared HLA haplotype. TA-GVHD is prevented in immunocompromised recipient by gamma irradiation of cellular blood components at the recommended dose of 25-30 Gy.

Blood irradiators mainly use Caesium-137 (Cs-137) as the radioactive source with activity ranging from 54 to 2703 Ci (2 to 100 TBq). These sources are assigned to Category 1, corresponding to security level A. The categorisation and security level for RA sources is based on the International Atomic Energy Agency (IAEA) technical document which is described in detail in Appendix A – Table A and Table B.

The blood irradiator should be located in a dedicated room with enough space for the irradiator and the operating staff and as approved by the Ministry of Health (MOH).

The staff places the blood in the canister, sets the time and starts the irradiation process. During the irradiation process there is no necessity for the staff to be present in the irradiator room.



# Site Security Plan (SSP)

Operator prepares and submits to regulatory authority as part of the authorization. Typically includes:

- Organisation Structure
  - Positions, security roles and responsibilities
- Objectives
  - Compliance to obligations, regulation and governance
  - Policies and procedures
  - Considers facility operations, business & nuclear safety
  - Efficiency and cost effectiveness
- Facility Description
  - Radioactive source inventory Greater detail for sources in higher security categories
  - Security arrangements and procedures
- Contingencies
- Review periods or due to changes






## **2. Security Culture Programme in Malaysia**

# Establishing the Security Culture





# Pilot project objectives

- **To provide a clear picture** of the extent to which nuclear security is part of an organization's culture.
  - **To get feedback and establish a baseline** before the actual self-assessment conducted.
  - **To focus on staff** in the Department of Pathology consist of management, technical and support staff.
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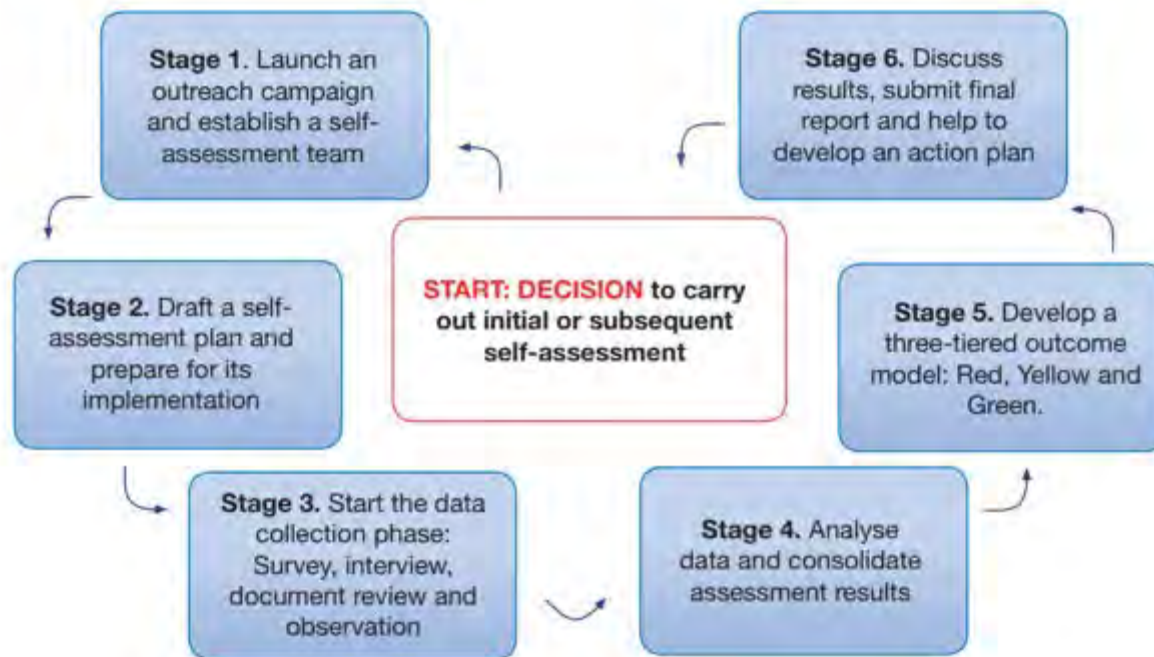


# Two medical institution are selected as participating pilot sites

- **National Blood Centre**
- **Hospital Ampang**
- Pre-requisite for pilot sites:
  - ✓ The earliest medical institution installed blood irradiator and physical protection.
  - ✓ End to end commitment given by the medical institution.
  - ✓ Located within Kuala Lumpur vicinity.



# The Process



*FIG. 2. The six stage process of self-assessment of nuclear security culture.*

# Stage 1: Establish a Self-Assessment Team

- Self-assessment team members – 6-8 persons
- Different level of the organisations
- Consist of Security Personnel, Safety Personnel, Human Resources Personnel, Management





# Introductory Workshops and Activities

- **December 2014** – National Workshop on Radioactive Source Security (RSS) Culture in Medical Facilities
- **April 2015** – National Workshop on Security Culture Self-Assessment for Radioactive Sources At Medical Institutions
- **December 2015** – Support for Security Culture Self-Assessment Trial at Medical Institutions in Malaysia







## Stage 2: Planning & Drafting

Main Points that should be discussed:

- Areas/Characteristics to be assessed – based on IAEA security model.
- Indicators on each characteristic
- Personnel to be assessed – security personnel and non-security personnel.
- Tools to be applied – survey, interview, focus group, document reviews and observations.
- Scenarios/Issues to be examined for each tools.



# Stage 3: Data Collection





## Stage 4: Data Analyzing

- Analyze The Result From Each Tools
- Make Connection And Statistics
- Relate With The Model Of Security Culture: Indicators
- List Down & Evaluate The Respondent's Suggestion
- Findings





# Workshops and Activities on Baseline Assessment

- **February 2016:**
  - Part I - Training On Tools For Culture Self-Assessment**
  - Part II - Training On the Analysis of Culture Self-Assessment and Support for the Analysis of Survey Results**
- **November 2016:**
  - The Support For The Final Analysis Of The Results Of The Security Culture Self-Assessment Trial**



# Stage 5: 3-tiers Outcome Model

STRONGLY NOT AGREE	NOT AGREE	SLIGHTLY NOT AGREE	NOT SURE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
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## To Assist The Level Of The Culture In The Organisation

**Green level** could signify good performance, while also showing what needs to be reinforced to maintain good performance.

**Yellow level** could indicate that, despite some positive elements, certain gaps or weaknesses need to be dealt with.

**Red level** could indicate serious problems that need to be addressed as a priority



## Stage 6: Discuss Results, Submit Final Report & Develop an Action Plan

- After the findings has been finalized, they **initiate specific actions designed to improve security culture.**
- **Follow-up assessments** using a combination of old and new indicators can help identify trends while ensuring that implementation of the action plan is helping to enhance nuclear security culture.
- **Management assigns responsibilities for implementing elements** of the action plan and monitors progress on the actions. The action plan may also provide inputs into future rounds of self-assessment.



# Challenges

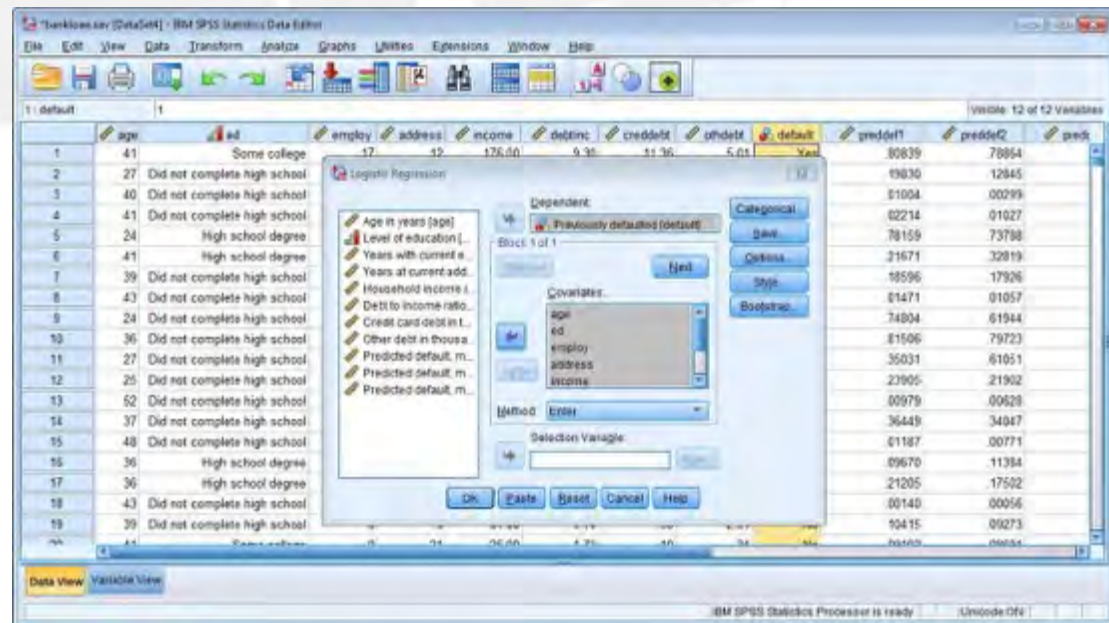
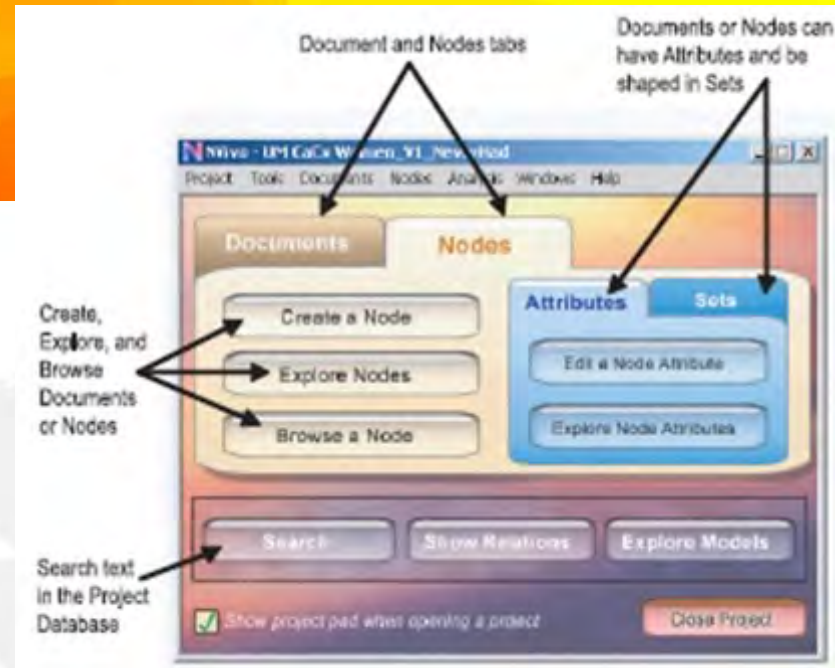
- Commitment from top management.
- Characteristics under 'management system' & 'behaviour'.
- Development of questionnaires.



# Improvements

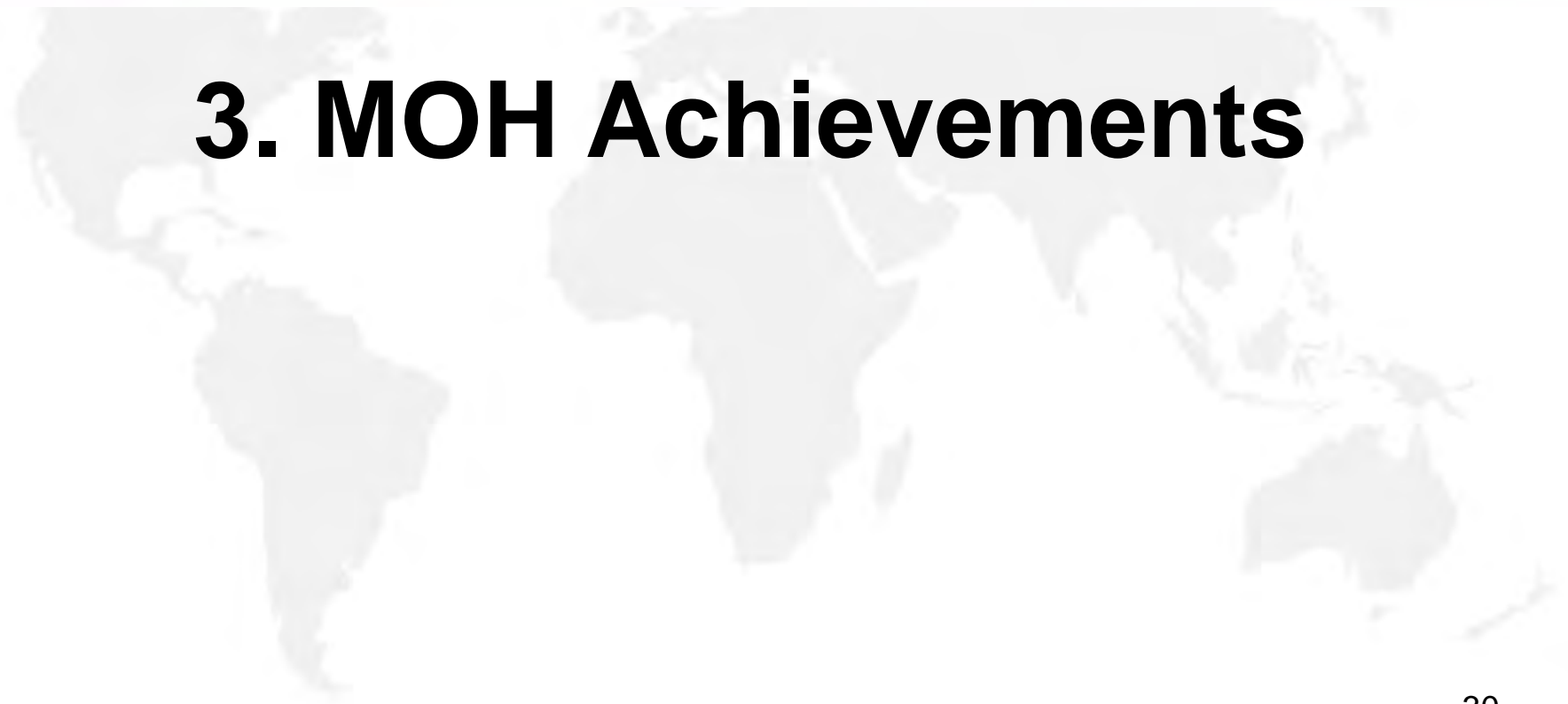
- Data analysis
  - Qualitative
  - Quantitative
  - SPSS Statistic
  - NVIVO

- Interviewing skill





# 3. MOH Achievements



# Participation of MOH in International Conferences

## International Conference on Nuclear Security: Commitments and Actions 2016 hosted by IAEA, Vienna, Austria.



**SECURITY CULTURE ASSESSMENT: MALAYSIA'S EXPERIENCE AS THE PIONEER COUNTRY IN PROMOTING SECURITY CULTURE IN MEDICAL FACILITIES**

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<sup>1</sup>Ministry of Health Malaysia, <sup>2</sup>National Blood Centre, <sup>3</sup>Armping Hospital, <sup>4</sup>Farhans Hisham@mo.gov.my

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### 1. Background and Goals to Establish Security Culture Self-Assessment

As the first country to introduce security culture (SC) self-assessment at medical facilities with radioactive (RA) sources, Malaysia had to undergo many challenges to convince the industry for SC as the main priority of the medical staff were "Patient Care" and "Safety".

SC is crucial to the implementation of a good security system in the organisation. The SC self-assessment is essential to detect the insider threat by analysing the behaviour of the staff. The main goals for SC self-assessment in the organisation are as follows:

- To obtain a clear measurement regarding the strengths and weaknesses of SC in the organisation.
- To identify the obstacles, incentives and motivation required for improvement of security performance.
- To provide a better/clearer understanding for the top management regarding the employees' concerns, needs, aspirations and motives for security elements.

Initially, two medical facilities (Facility A and Facility B) with Category 1 RA sources were chosen by the Ministry of Health (MOH) as the pioneer institutions to implement the SC self-assessment.

### 3. Data Analysis and Assessment Results

#### 3.1 Results from Survey Data Analysis

The self-assessment teams from both medical facilities were trained to conduct SC narrative analysis by comparing with the IAEA Nuclear Security Culture Model Framework.

Graph A and B show the output data on percentage of overall assessing scores for Facility A and Facility B respectively.




Graph A: Overall Survey Data Percentage of Overall Assessing Score For Facility A

Graph B: Overall Survey Data Percentage of Overall Assessing Score For Facility B

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### 2. Survey Method as Starting Point to Assess Nuclear Security Culture

With technical support and expertise from the International Atomic Energy Agency (IAEA), a number of self-organised missions were held as listed below:

Date/Year	Activities/Workshop/Workshop/Source Security (RSS) Culture in Medical Facilities
December 2015	National Workshop on Radioactive Source Security (RSS) Culture in Medical Facilities
April 2016	Nuclear Workshop on Security Culture Self-Assessment for Radioactive Sources at Medical Institutions
February 2016	Support for Security Culture Self-Assessment Year at Medical Institutions in Malaysia
February 2016	Part 1: Training On Tools For Culture Self-Assessment and Support To the Establishment of Security Regulators
November 2016	Support for Security Culture Self-Assessment Year at Medical Institutions in Malaysia



IAEA Experts and Participants during one of the training sessions

#### 3.2 Findings Based on Security Culture Self-Assessments

The data analysed from the survey questionnaires have to be compiled and summarised together with the data analysed from the other methods (i.e. interviews and observations) before the SC self-assessment at the organisations could be concluded.

Based on the current data analysis, the findings given by Facility A and Facility B were as follows:

- The SC was not fully produced by all staff because they did not believe that a real threat exists.
- There was inadequate enforcement regarding SC among the staff.
- Continuous training and assessments are needed to motivate the staff to maintain and continue with the existing SC and to adhere to good security practices.
- Management focuses the need for structured training module to ensure better staff understanding.

The difficulties to establish the nuclear SC in the medical facilities are:

- Time constraints. The main commitment of the staff is saving lives and patient care.
- Limited financial support.

However, the core staff are committed to sustain the SC at their premises.

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### 2.2 Survey Method as Starting Point to Assess Nuclear Security Culture

At the beginning, both medical facilities decided to go for the survey method to evaluate their staff awareness regarding security in their organisation.

A self-assessment team was responsible for developing the survey statements derived from the culture indicators of the IAEA Nuclear Security Culture Model. A pre-pilot survey was done in a small group of staff members to test their understanding regarding the statement before being used in the actual self-assessment.

An in-house training was conducted to expose the staff to the concept of security of RA sources and the necessity for SC within the organisation. After the training, the pilot self-assessment was conducted to determine their understanding and the effectiveness of the SC course.

Facility A started awareness training in November 2015 and completed their self-assessment (50 survey statements) in January 2016. There were 62 respondents - 3 security and 59 non-security personnel.

Facility B started awareness training December 2015 and completed their self-assessment (50 survey statements) in January 2016. There were 61 respondents - 45 security and 23 non-security personnel.

### 4. Nuclear Security Culture in Medical Facilities: Going Forward

MOH is fully dedicated in promoting SC by:

- Introducing nuclear security culture in the other facilities with Category 1 and Category 2 RA sources.
- Formulating the Guidance Booklet on Security Culture Self-Assessment Survey Questions for Medical Facilities in Malaysia.
- Organising training for existing and contractual awareness for the new self-assessment team from other medical facilities.
- Enhancing the culture by including the self-assessment report to be one of the future training criteria.
- Enforcing the SC self-assessment by performance assessment/audit and regular reviews.

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### 2.2 Other Self-Assessment Methods

In February 2016, Training on Tools for Culture Self-Assessment workshop was held by IAEA to give guidance to these two medical facilities for executing the following methods in their assessments:

- Focus Group: The groups comprised participants from different categories of staff.
- Interview: The self-assessment team conducted the interviews and the interviewees were from the security and non-security personnel.
- Observation: This was done during the monthly meetings. Focus group interviews, the working environment etc. by the team. Some of the methods are in the progress of data collection and are in the final stage of analysing. Follow up meetings were held with the facilities regarding the current status.

### 4. Conclusions

- MOH will continuously seek to sustain and improve the SC among the management, regulators, operators and staff within the medical facilities.
- In future, Malaysia will not only be known as the first country to promote SC self-assessment in medical facilities, but will also be a positive model for the establishment of medical RA source SC.

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### 5. Acknowledgements

Appreciation to the IAEA experts for the support given in the establishment process of SC and thanks to Facility A and Facility B for their commitment and hard work in making SC self-assessment endeavour a success.

### 6. References

Public Ref. Number: 296

International Conference on Nuclear Security: Commitments and Actions, Vienna, Austria, 8-9 December 2016.

# Recognition by IAEA

## Nuclear Security Report 2016

*Report by the Director General*

### Summary

This report has been produced in the context regular session (2016) of the General Conference in response to resolution GC(59)/RES/10 in which the General Conference requested that the Director General submit an annual report on activities undertaken by the Agency in the area of nuclear security, and on internal uses of the Incident and Trafficking Database (ITDB) and its past and planned activities of educational, training and collaboration services, as well as highlighting significant accomplishments of the previous year within the framework of the Nuclear Security Plan and indicating programmatic goals and priorities for the year to come. This report covers the period 1 July 2015–30 June 2016.

### Recommended Action

It is recommended that the Board of Governors take note of the Nuclear Security Report 2016.

## D.6.2. Nuclear Security Culture in Practice

71. Nuclear security culture motivates personnel to remain vigilant and take sustainable measures to protect against credible insider and outsider threats, thereby ensuring and sustaining the security of nuclear and other radioactive material during its use, storage, transportation and disposal. In response to requests from Member States, the Agency accelerated its efforts to develop and provide practical solutions for the applications of nuclear security culture to organizations that are responsible for nuclear and other radioactive material.

72. The Agency has been directly involved in supporting a nuclear security culture self-assessment trial at two medical institutions in Malaysia. With the completion of this trial at the end of July 2016, Malaysia will become the first country in the world to apply the Agency's methodology of nuclear security culture self-assessment to medical institutions. During its first expert mission in December 2015, the Agency supported the development of a self-assessment plan and self-assessment survey statements. In the second expert mission in February 2016, the Agency provided training on tools and



# Participation of MOH in International Conferences

**6th Regional Review Meeting: Session on Alternative Technologies to High Activity Radioactive Sources** hosted by AERC, Colombo, Sri Lanka, 2018.



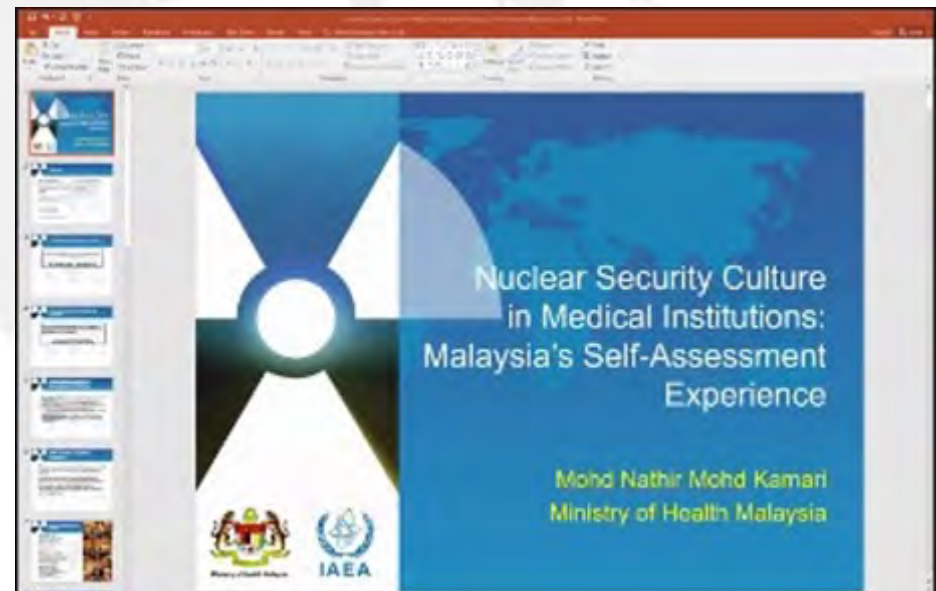
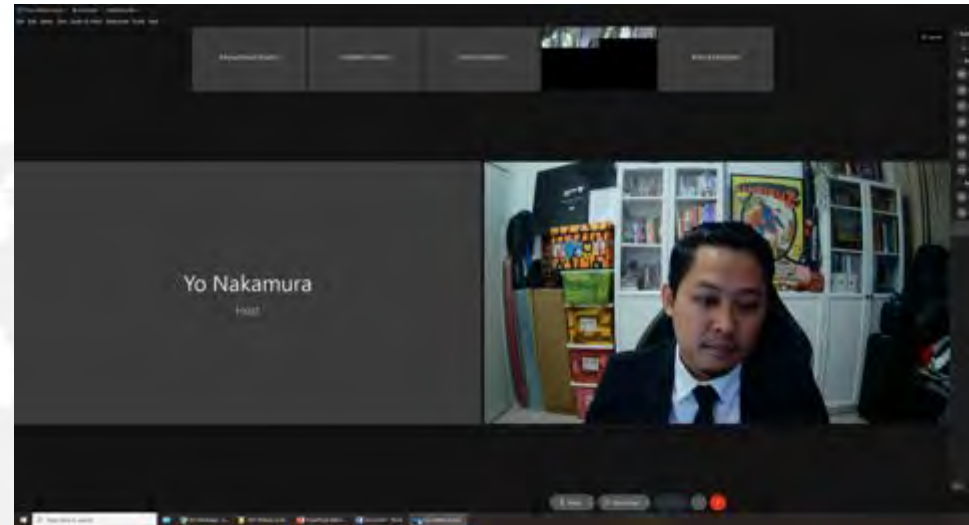
# Participation of MOH in International Conferences

**International Conference on the Security of Radioactive Material 2018** hosted by IAEA, Vienna, Austria.



# Participation of MOH in International Conferences

**Webinar on Nuclear Security Culture 2021** hosted by IAEA, Vienna, Austria.





# Participation of MOH in International Conferences

**International Conference on Nuclear Security: Shaping the Future 2024** hosted by IAEA, Vienna, Austria.







# **4. MOH Future Plans and Efforts**



# Guideline on Nuclear Security Culture Programme for Medical Facilities



- As a Guidance For The Development Of Security Culture Self-assessment Questions For New Medical Facilities
- Main Reference For Security Culture Self-Assessment Programme
- Question Banks
- This document is mainly based on the recommendations from the IAEA NSS No.7, IAEA NSS 28-T, IAEA NSS 38-T and IAEA Experts Training Materials.

# Working Committee of Security Culture Development Programme (Ministry Level)

## LAMPIRAN 1

### SENARAI JAWATANKUASA KERJA PEMBANGUNAN PROGRAM SECURITY CULTURE PERINGKAT KEMENTERIAN KESIHATAN MALAYSIA BAGI PENGGAL 2024 – 2026

Kaanggotaan	BB	Jawatan & Organisasi	Ahli Ganti Jawatan & Organisasi
Pengerusi	1	Dr. Ahmad Lutfi bin Yusoff Jabatan Radioterapi dan Onkologi Hospital Universiti Sains Malaysia	
	2	En. Mohd Khairudin Bin Mohamed Samsi Ketua Penolong Pengarah Kanan, Seksyen Kod & Standard, BKRP	
	3	En. Mohd Reduan bin Abd Razak Ketua Penolong Pengarah Kanan, Seksyen Perlesenan, BKRP	
	4	Pn. Maznah binti Mohamad Ketua Penolong Pengarah, Seksyen Pembangunan Latihan, BKRP	
Ahli Jawatankuasa	5	En. Matal Ibrahim bin Malai Muhammad Ketua Penolong Pengarah Kanan, Unit Kawalselia Radiasi Perubatan, JKN Sabah	Ts. Wilfred Intang Ketua Penolong Pegarah, Unit Kawalselia Radiasi Perubatan, JKN Sabah
	6	En. Hendra Pawitra bin Jajat Sudrajat Ketua Penolong Pengarah, Unit Kawalselia Radiasi Perubatan, JKN Kelantan	Pn. Mutia Schaibah binti Abdullah Penolong Pengarah Kanan, Unit Kawalselia Radiasi Perubatan, JKN Kelantan
	7	Dr. Nafisah binti Ahmad Pakar Perubatan Transfusi, Hospital Tengku Ampuan Rahimah Klang	
	8	En. Mohammad Azwin bin Abdul Karim Pegawai Sains (Fizik), Jabatan Radiologi, Hospital Kuala Lumpur	
	9	En. Mohd Izzan bin Mamat Razmi Pegawai Sains Fizik, Jabatan Radiologi, Hospital Ampang	
	10	Pn. Haw Kim Fong Pegawai Sains (Biomedikal), Jabatan Patologi, Hospital Ampang	
	11	Pn. Shanizah binti Mohd Shafiee Ketua Unit Distribusi Darah, Seksyen Pengurusan Bekalan Darah, Pusat Darah Negara	
	12	Dr. Muhammad Nur Awis bin Azizari Timbalan Pengarah (Perubatan) 1, Hospital Tunku Azizah	

## Term of References:

- Plan and discuss the implementation of activities under the security culture program from a technical aspect in order to be in line with the direction of the Nuclear Security Program Development Steering Committee at the MOH.
- Develop and finalize proposal papers/policies/policies/related to the security culture program for medical purposes to ensure compliance with Act 304, KKM policy as well as in line with international requirements and standards.



# Security Culture Enhancement Programme 2024

## a) Plan of Action (POA) by Hospital Ampang

ITEM	CATEGORY	DETAILS OF PROGRAMME
<b>TRAINING</b>	1. Security Awareness	Nuclear Security Culture Enhancement Training Programme on 09/2023 -participants from Pathology & Haematology
	2. Security Procedure	CME Blood Irradiator on 12/2023 -all staff of Pathology Dept
	3. Radioactive emergency drill	Under Discussion (Involving other department)
<b>PROMOTIONAL PRODUCTS</b>	Security Procedures for staff and Visitors	Face Detector Device at The Main Entrance -Give awareness to all staff including Haematology staff
	ANNOUNCEMENT "Department area as gazetted prohibited area"	-Announcement be done during the monthly meeting -Declaration on the "Prohibited Area" still under review
	POSTERS /INFO GRAFIC: Security Awareness/Security Procedure/Flow Chart of Emergency Management	- Plan to distribute in September 2024
<b>SELF ASSESSMENT</b>	Survey V2.0	- Plan to be executed in September 2024 - Through Google Form



# Security Culture Enhancement Programme 2024

## b) Plan of Action (POA) by National Blood Centre

ITEM	CATEGORY	DETAILS OF PROGRAMME
<b>TRAINING</b>	Security Culture Awareness	<ul style="list-style-type: none"> <li>• CME on Introduction to Nuclear Security and Security Culture on 4/2023</li> <li>• CME on Characteristic of Nuclear Security Culture on 4/2023</li> <li>• Kursus Enhancement of Nuclear Security Culture PDN 2023</li> <li>• CME on Self Assessment: Concept &amp; Practice on 5/2023</li> </ul>
<b>PROMOTIONAL PRODUCTS</b>	POSTERS /INFO GRAFIC:	<ul style="list-style-type: none"> <li>• Infographic 1- 10/4/2023</li> <li>• Infographic 2- 17/4/2023</li> <li>• Infographic 3- 3/5/2023</li> <li>• Infographic 4- 7/6/2023</li> </ul>
	Video Sharing	<ul style="list-style-type: none"> <li>• Do's &amp; Don't's in Nuclear Security Culture (Target May 2024)</li> </ul>
<b>SELF ASSESSMENT</b>	Survey v2.0	<ul style="list-style-type: none"> <li>• Pre Test: 14 – 27 Mac 2023</li> <li>• Post Test Analysis: 14 July – 30 Nov 2023</li> <li>• 50 respondents</li> </ul>





# Self-Assessment Establishment Programme 2024

## Government Hospital:

- Hospital Wanita Kanak-kanak Sabah
- Hospital Tunku Azizah

## University Hospital:

- Hospital Universiti Sains Malaysia
- Hospital Canselor Tuanku Mukhriz

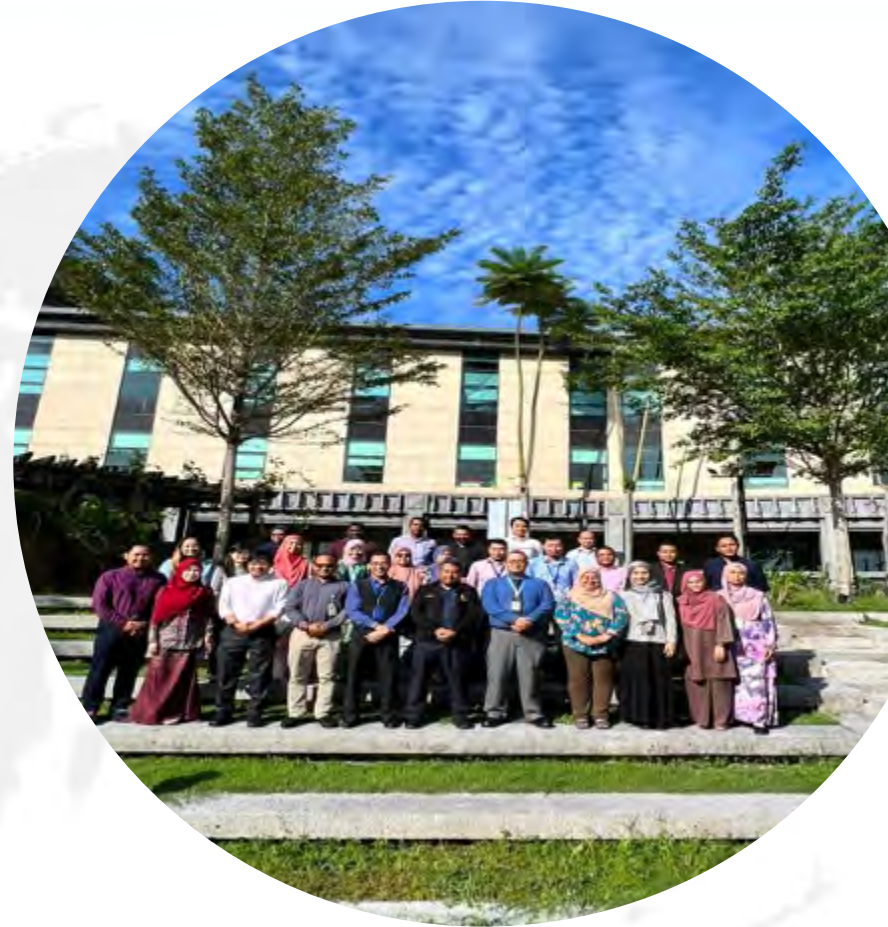
## Private:

- Hospital Gleneagles (KL)



# Nuclear Security Culture Establishment Programme (Engagement Session)

- 24-25 July 2023
- MCMC Center of Excellence, Cyberjaya
- 20 Participants – Site NSC Coordinators Teams
- Objectives:
  - To give exposure regarding NSC Programme to the NSC Coordinators.
  - To discuss regarding NSC self-assessment methods.
  - To develop site self-assessment plan.





# Nuclear Security Culture Establishment Programme (Engagement Session)





# Awareness Programme For Category 2 Medical Facilities

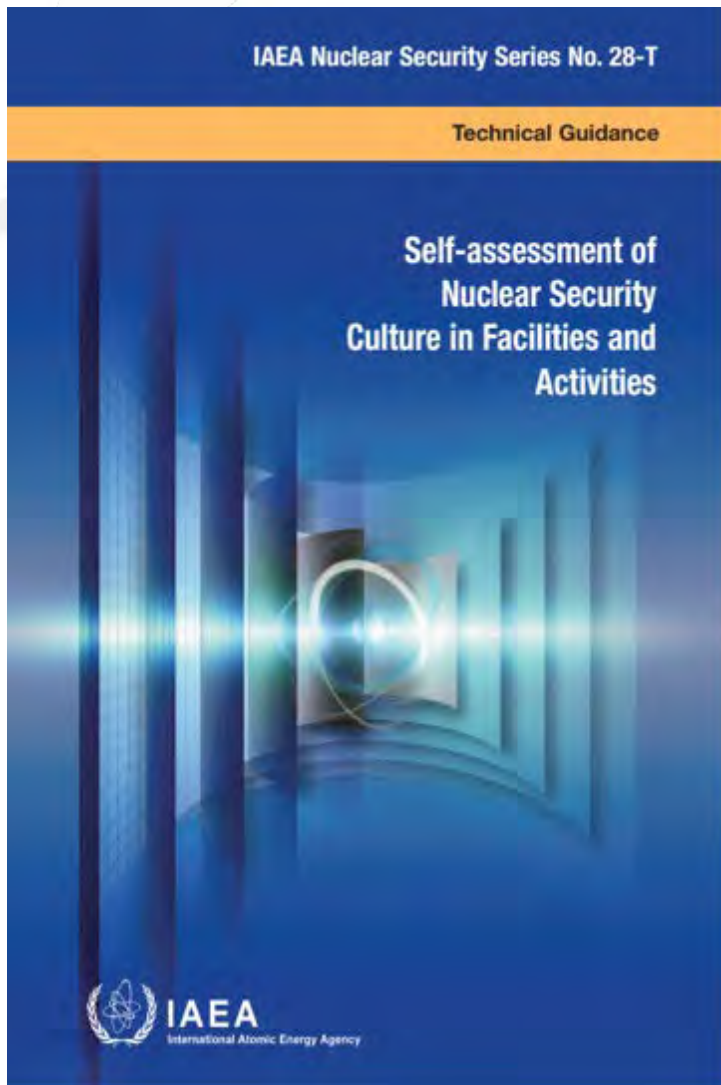
- 13hb Jun 2024
- Bangi Resort Hotel, Selangor
- 40 Participants – 19 Category 2 Medical Facilities
- Objective:
  - To give awareness and exposure regarding the importance to establish nuclear security programme –physical protection and security management, for Category 2 medical facilities.
- Recommendation
  - Awareness programme + 2 Method (Survey & Document Review/observation)
  - Phase 1 engagement for category 2 facilities is carried out after phase 3 engagement of category 1 facilities is completed.



# Awareness Programme For Category 2 Medical Facilities



# Self-Assessment Establishment Programme 2025



## University Hospital:

- Universiti Malaya Medical Center
- Advanced Medical And Dental Institute, USM
- Hospital Sultan Abdul Aziz Shah, UPM

## Private:

- Pantai Hospital Kuala Lumpur
- Sunway Medical Center





# Summary

1. **Security culture** is a **prerequisite** for establishing well-functioning institutions that place safety of patients first.
2. **Top-down communication** is most effective to help create and reinforce the supervisor's power.
3. **Continuous learning** contributes substantially to a positive safety culture.



# Acknowledgements



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Australian Government



**KING'S**  
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**LONDON**



**Thank you**