

Implementation of NSS-31 G On Review of Nuclear and Other Radioactive Material Security Training Capacities



Indragini

National Nuclear Energy Agency, Jalan Lebak Bulus Raya Pasar, Jumat, Jakarta 12420, Indonesia

indragini@batan.go.id

1. Background and Goal

Based on IAEA Nuclear Security Series document, Implementing Guide NSS-31 G, National Nuclear Energy Agency (BATAN) as an operator has roles in developing its own capacity building programs through developing strong training programmes including frequent exercises and maintaining skills and developing test plans and helping reinforce the attitudes and behaviours that contribute to a robust nuclear security culture.

To do its roles, Batan develops its nuclear security training capacities. To conduct the training program efficiently and effectively, it is necessary to review periodically the training capacities. The objective of this paper is to review Batan's nuclear security training capacities using IAEA Implementing Guide NSS-31 G document.

2. Batan's Nuclear Security Training Capacities

Based on IAEA Implementing Guide NSS-31-G, condition needed at organizational level for nuclear security training is illustrate in Figure 1.



Figure 1. Nuclear Security Training Capacity at Organization Level

2.1. Nuclear Security Training Programme

Batan has been conducting training programmes, including nuclear security trainings, based on Systematical Approach to Training (SAT). Training scheme is an output of training need analysis step. Batan's modified nuclear security training scheme includes capacities for each level of group training. At organizational level, the capacity should cover (a) General knowledge; (b) Legislation; (c) Regulatory control; (d) Information security; (e) Coordination; (f) technical measures; (g) International cooperation; (h) Threat and risk assessment (IAEA, NSS 31-G). Thus, Batan's nuclear security training scheme ver. 2014 should be modified by including capacity Building Elements information.

Table 1. Cross-referencing Batan's Training Scheme with NSS-31-G

Capacity Building Elements - Training	Batan's Programmes
<ul style="list-style-type: none"> Nuclear security culture Nuclear security roles and responsibilities Legislative and regulatory frameworks Laws and regulations pertaining to collection and handling of evidence within a nuclear security event Nuclear detection operations, technologies, protocols and communication mechanisms overview of nuclear forensics roles and responsibilities for response to nuclear security events responsible organizations, procedures and protocols for assessing nuclear security alarm and alerts 	<p>Awareness</p> <ul style="list-style-type: none"> Security Culture Introduction to Nuclear Security (including response to nuclear security events) Introduction to nuclear forensics
<ul style="list-style-type: none"> information on legislation related to the security of nuclear or other radioactive materials coordination and communication mechanism across multiple competent authorities and organization develop risk based regulation on nuclear security provide knowledge of security requirements for the transport of nuclear or other radioactive material coordination and cooperation during response to nuclear security event in the international transport of nuclear or other radioactive material information security and handling of sensitive information provide information about organizations with nuclear security responsibilities development, validate policies and planning and evaluate operational activities for nuclear detection procedures and protocols related to response to nuclear security events to develop inventory system of nuclear materials and radioactive sources nuclear security system and measures and a graded approach to implement prevention, detection and response capabilities development and function, implementation of integrated management system and installation of equipment and system to facilitate communication operate nuclear detection equipment, including the appropriate concept of operation for the application of 	<p>Basic</p> <ul style="list-style-type: none"> PPSM of Nuclear Material and Facilities PPSM of Radioactive Sources School on Nuclear Security INFCIRC 225/Rev 5 Front line officers <p>Intermediate</p> <ul style="list-style-type: none"> Gap analysis of INFCIRC 225/Rev 5 Nuclear Security Management System PPSM for Medic Facilities PPSM for Research Reactor Threat assessment and risk analysis Protection and Prevention Measures against sabotage Insider Threat PP Inspection PP Evaluation Computer security Intelligent security Performance testing Security investigation Nuclear Security in transport on NM and RS

3. Conclusions and Acknowledgements

Effective dan efficient training program could be achieved through implementation of systematical approach to training (SAT). Accurate training need analysis plays an important step, thus nuclear security training scheme must be reviewed periodically. Besides availability of supporting training facilities such as smart classroom and field exercise facility, qualified in-house trainers and coordination with related other national institutions also have their own important contribution to improve nuclear security training capacity.

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<p>nuclear security</p> <ul style="list-style-type: none"> nuclear detection plans, policies and procedures in a variety of operating environments and situations procedures and protocols related to response to nuclear security events development, validate policies and planning and evaluate operational activities engagement across regional, national and international programmes to focus on best practices and methods for building, maintaining and continuously improving the human resources for a nuclear security regime maintenance and calibration of nuclear security equipment provide information on international standards, agreement and obligations regarding the security of nuclear or other radioactive material reviewing and mitigating potential insider threats, including information about implementing a trustworthiness programme document process for identifying and addressing current threat information in its security plans or equivalent 	<ul style="list-style-type: none"> PPS Equipment (including operation, installation and maintenance) Contingency Plan Nuclear crime scheme Nuclear forensics <p>Advanced</p> <ul style="list-style-type: none"> ToT on operation, installation and maintenance nuclear detection equipment PPS design and evaluation PPS on Inspection Vulnerability of PPS ToT on PPSM ToT on Vulnerability Assessment ToT on Security Culture ToT on Nuclear Forensics (specific training) HRP/ trustworthiness
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Note: The fonts in red color are proposed modification to Batan's nuclear security training scheme ver 2014.

2.3. Training and Exercise Supporting Facilities

To support training program implementation, In second semester of 2019, Batan has been developing field exercise facility in Serpong (Figure 2) and two "smart class" at Center for Education and Training Pasar Jum'at.

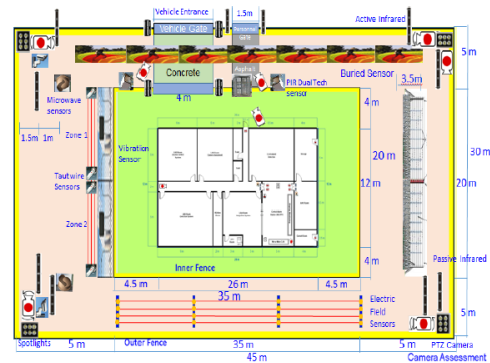


Figure 2. Tentative layout of Batan's Field Exercise in Serpong (Asmoro, 2017)

2.4. Qualified In-House Trainers

Qualified in-house trainers might come from Instructor Group and or Security Personnel Group. From Batan's Programmes in Table 1. To be an qualified Nuclear Security in-house trainers, a trainer candidate personnel must accomplish advanced training level and Train of Trainer in Teaching Style Training and Teaching Material Development Training. Batan needs to identify clearer related to individual competency of each trainer. Knowledge Management in Nuclear Security and Other Radioactive Material also need further attention.

2.5. Coordination and Formal Arrangement with Other National Institutions

Batan coordinates and develops formal arrangement in nuclear security with other national institutes as illustrate in Figures 3.

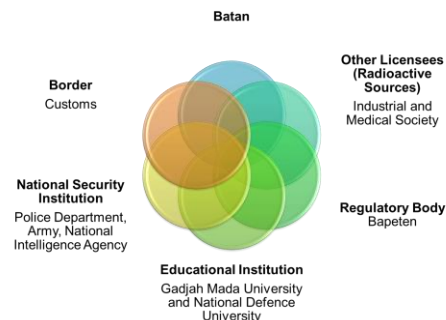


Figure 3. Coordination and Formal Arrangement with Other National Institution for Training Purposes

Strengthening coordination among institution will accelerate training capacity at organization level that contribute to national security.