

# WINS Academy

## Peer-Review Report – STE Module

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### Introduction

In response to the lack of professional development and certification in nuclear security *management*, WINS has created the WINS Academy. This initiative will provide professional development and certification opportunities to practitioners who are accountable for managing nuclear materials. The WINS Academy, to be fully launched in 2014, will be the first online certified professional programme that serves this purpose and will initially address the needs of eight different audiences (Appendix).

### Status of the programme

The preparation of professional development Modules for the WINS Academy is currently well underway and we plan to have the entire programme online by the end of 2014 (Table 1).

Table 1: Status of Academy Modules

Module	Status
Foundation Module	In technical editing
Elective for Scientists, Technicians and Engineers	Complete
Elective for Senior Administrators and Board Directors	In technical editing
Elective for Executive Managers	Under development
Elective for Response Force Managers	Under development
Elective for Radioactive Materials Managers	Under development
Elective for Regulators	To be started in Q1 2014
Elective for Security Programme Managers	To be started in Q1 2014
Elective for Civil Society Engagement	To be started in Q1 2014

### About the Elective for Scientists, Technicians and Engineers

The Elective for Scientists, Technicians and Engineers (STEs) aims to:

- enhance the scientific and engineering community's understanding of nuclear security;
- facilitate the relationship between the security and scientific communities;
- and develop a culture of responsibility that prevents the misuse of scientific knowledge and encourages active involvement of the scientists and engineers in security matters.

The module (and the establishment of the Academy and much of our work to date) has been developed thanks to the support of the U.S. State Department's Partnership for Nuclear Security (PNS). To ensure the quality of the programme is in line with our commitment to ISO 9001 standards, we have undertaken a peer review of the STE Module. The objective of this peer-review is to evaluate the content of the materials and to accumulate constructive feedback to help with iterative improvements, just like our Best Practice Guides.

## **Methodology**

### **Selected peer reviewers**

We selected 15 subject matter experts and STE practitioners to review the STE Module. Our goal was to represent a diverse range of views, and with that in mind we selected practitioners from a number of different countries and types of organizations. Of the 15 experts selected, 13 experts (representing 11 countries) returned a completed evaluation. Their contribution will be highlighted in Academy materials.

### **The peer review process**

Each person selected to peer-review the STE Module has been requested to sign, in advance, a non-disclosure agreement in line with our ISO 9001 quality control standards. Subsequently, all peer reviewers were given a password-protected copy of the Module and a peer-review evaluation form, also available in an online version. Instructions to complete the evaluation have been included in the first page of both the 'paper' evaluation form and the online tool.

The peer reviewers have been asked to provide comments and grades from 1 (very poor) to 5 (excellent) for the learning objectives, written content, case studies, assignments, further reading, and quiz or test question of each sub-unit of the module. In total, each peer reviewer evaluated 4 units comprising 17 sub-units in addition to the self-assessment and post self-assessment sections of the 154-page master document.

Peer reviewers were given a month to complete the review and the results were collected on 15 December 2013. Throughout the process, information has been collected in English.

## **Results**

### **Grading of the module**

The mean score provided by reviewers for each section (including sub-sections) of the STE Module was **4.3** out of 5 (Very good to Excellent). The results by section average are outlined in Table 2.

Table 2: STE Module Grades

Unit	Section	Average grade (scale of 1-5)
<b>Self Assessment</b>	<b>Unit Average</b>	<b>4.7</b>
<b>Unit 1</b>	Section 1	4.1
	Section 2	4.3
	Section 3	4.4
	Section 4	4.2
	Test	4.2
	<b>Unit Average</b>	<b>4.2</b>
<b>Unit 2</b>	Section 1	4.2
	Section 2	4.2
	Section 3	4.3
	Section 4	4.1
	Section 5	4.2
	Test	4.4
<b>Unit Average</b>	<b>4.2</b>	
<b>Unit 3</b>	Section 1	4.2
	Section 2	4.2
	Section 3	4.3
	Section 4	4.3
	Test	4.4
<b>Unit Average</b>	<b>4.3</b>	
<b>Unit 4</b>	Section 1	4.1
	Section 2	4.2
	Section 3	4.4
	Section 4	4.2
	Test	4.4
<b>Unit Average</b>	<b>4.3</b>	
<b>Post Self Assessment</b>	<b>Unit Average</b>	<b>4.4</b>
<b>Aggregate Mean Score</b>		<b>4.3</b>

### Peer Reviewer comments and suggestions

The comments provided by peer reviewers varied greatly and suggestions often conflicted with each other. Comments covered numerous aspects of the materials, from copy editing work to suggestions for further readings and comments on written content, case studies, and assignments. Overall, the comments and suggestions were positive and tended to provide additional information and materials for reference.

Having such a large pool of reviewers was useful in filtering ‘outlier’ responses, while also highlighting areas of specific concern. Weaknesses highlighted include:

- The written content of Unit 1.1 would benefit from additional graphs or a case study.
- The case study in Unit 1.2 should be nuclear related (example of decision to add a reinforced containment structure to prevent against airplane crashes).
- Unit 3.2 would benefit from a more expanded case study.
- A number of the sections would benefit from additional further readings.

### Endorsement

7 of the 13 peer reviewers decided to endorse the module and provided an endorsement quote, as outlined below:

*This is a full fledged course, excellent for preparing STEs to effectively engage in nuclear security*

Kaoru Naito, President, Nuclear Material Control Center

*Nuclear security is our responsibility; whether you are a scientist, technician or manager. This course highlights the why, where and how's*

Philip Beukes, Radiation Biophysics, iThemba LABS, South Africa

*Nuclear security for Scientists, Technologists and Engineers, in synergy with nuclear safety, is a social responsibility*

Ian Castillo, Chemical Scientist - Section Head, Atomic Energy of Canada Limited

*A coherent and constructive course that will further promote discussion about the role of scientists, technicians and engineers in championing safety and security culture in the nuclear sector*

Michael Saleh, PhD Candidate, Structural Integrity, Institute of Materials Engineering, Australian Nuclear Science and Technology Organisation

*The future development of nuclear security experts requires a comprehensive combination of suitable qualification and experience*

Dr. Philip Beeley, Professor of Practice and Program Chair, Nuclear Engineering, GNEII Director, Khalifa University of Science, Technology & Research

*The WINS Academic Module 2013 for STEs will assist me to develop the high level of professionalism that is necessary for me to become an Engineer with a specialized level of competence in nuclear security, so that I can give meaningful contributions to my organisation's security matters*

Jonathan Oruru, Nigerian Nuclear Regulatory Authority

*This course is an all encompassing one that will help equip STEs with the requisite knowledge vital to their success in their chosen nuclear profession*

Gustav Gbeddy Kudjoe, National Radioactive Waste Management Centre, National Nuclear Research Institute, Ghana Atomic Energy Commission

## Conclusion

Analysis of the data collected throughout the peer-review process shows that the general impression tends to be positive towards the quality of the module. However, we recognize that this is a merely the beginning and comments and suggestions for improvement will be continually taken into account. You can contribute to the process by adding your own observations and suggestions for improvement, and by providing further case studies, content, readings, and ideas for assignments that you consider relevant for this Elective module.

## Appendix

- **Appendix 1: Design of the WINS Academy Programme**

