WORLD INSTITUTE FOR
NUCLEAR SECURITY

THE WINS ACADEMY STRATEGY FOR 2013–2015

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Version 2.1

THE WINS ACADEMY

THE WINS ACADEMY VISION

All practitioners with management accountabilities for nuclear security are demonstrably competent and provided with opportunities to become professionally accredited.

THE WINS ACADEMY MISSION

To be the catalyst for professional development, knowledge exchange and leadership innovation in nuclear security management.

THE WINS ACADEMY STRATEGY FOR 2013–2015

ISSUE

This paper is a revision to the WINS Academy Strategy 2012/13, updated to reflect our latest thinking and feedback from our members and partner organisations. The Strategy sets out the programme specification for establishing a WINS Academy (hereafter referred to as the "Academy") to promote nuclear security leadership and establish Nuclear Security Management as a recognised and regulated profession. We believe that promoting certified professional development (PD) at all management levels of nuclear-related organisations will enhance nuclear security worldwide and WINS is positioned to make a significant contribution to fulfil this critical need.

WINS STRATEGY AND WORK PROGRAMME TO DATE

WINS Strategy over the first 3 years–the "Foundational" phase–has been to establish its international standing as an organisation that provides and ensures that those with accountability for nuclear security management have an international forum to share and promote the implementation of best security practices. This was accomplished by producing International Best Practice Guides on a range of nuclear security management issues that complement IAEA guidance and recommendations, and by running effective and innovative workshops that support the production of the Guides. By the end of 2012 and in line with its commitments, WINS had run over 40 International workshops on five Continents, produced 29 Guides and produced the Compendium of Best Practices for Nuclear Security Management, which was distributed at the Nuclear Security Summit (NSS) in Seoul in March 2012. The work to share best practices is aligned to the NSS work plan and is a tangible contribution to the NSS process.

In addition, WINS has achieved broad international and political recognition, grown its Membership to over 1,400 organisations and individuals in 67 states and developed an effective website with publications in up to ten different languages. WINS has so far focused on outreach and products, funded by Foundations and Governments, with a philosophy to provide best practice guidance free of charge to members.

As a result of our experiences during our foundational phase, we have created a library of publications and have gathered an extensive network of forward-looking practitioners that we can join with to provide PD courses on a number of subject matter areas critical to the management of nuclear security. These materials and networks place us in an ideal position to have an Academy for nuclear security management begin operations in time for the 2014 Nuclear Security Summit. In order to achieve this goal, we have developed a short-term work programme which has been updated in light of our recent achievements (Figure 1).

Figure 1: Academy Short-Term Work Programme

	GOAL	TARGET DATE	STATUS
1	**Achieve ISO Accreditation for WINS** as a quality supplier to underpin the Academy concept and professional reputation	December 2012	Completed
2	**Build the Nuclear Security Competency Framework** through Job-task analysis, taking into account regional and cultural differences that affect competencies and behaviours.	August 2012	Completed
3	**Conduct an International Capability and Capacity Review** of existing educational and training opportunities for nuclear security, worldwide.	January 2013	Completed
4	**Examine the Feasibility and Costs associated with providing WINS Accredited courses** via an e-platform.	February 2013	Completed
5	**Produce the Academy PD materials,** and identify and appoint partner organisations to assist with the production of the materials that will be produced to "Business School" standards and which allow for Course participants to be tested on their understanding and competence.	March 2013	Ongoing
6	**Establish Governance Arrangements for the Academy** to ensure that it has the backing and support of key institutes.	May 2013	Ongoing
7	**Select Centres of Excellence and Institutes for WINS Accreditation** and develop the accreditation processes and agreements, including oversight of standards and maintenance of standards.	May 2013	Ongoing
8	**Implement Academy PD Courses** at selected institutes and run any necessary Pilot courses to assist with implementation.	June 2012	Ongoing
9	**Promote the Value of Accredited PD** to the international nuclear and government community in to order to help build sustainable and meaningful improvements in nuclear security professionalism.	Throughout Programme	Ongoing

WHY A WINS ACADEMY?

"Sustainable improvements in nuclear security will be underpinned by institutional capacity building, human resource development and education programmes. These programmes recognize that human resource development is critical for States to be able to implement nuclear security and cover a wide range of topics for different staff categories at different levels."
IAEA Nuclear Security Plan 2010–2013

During our foundational phase, it quickly became apparent to WINS that significant international effort has been expended in reducing and repatriating surplus materials, in upgrading physical protection arrangements and in improving the awareness of security-related personnel. Increasingly, however, there is a realisation that many security incidents at nuclear facilities occur despite robust technical systems and awareness training. In these instances a lack of human performance, most often expressed in confused management practices, poor security culture and unclear accountabilities leads to potentially dangerous, embarrassing, and financially damaging outcomes for the organisations involved. These incidents underscore the need for organisational leaders and managers with accountabilities for nuclear security to have PD opportunities available to help them understand the systemic balance between technical performance, human performance and the management of a complex security programme.

> *A human factor is generally a contributor to all nuclear security related incidents as well as malfunctions related to activities involving radioactive material. In this regard, leadership and management can be vital components.*
>
> **Nuclear Security Culture**
> **IAEA Nuclear Security Series No. 7**

Although responsibility rests with individual States for establishing, implementing, maintaining and sustaining a nuclear security regime, they must also ensure that prime responsibility for the security of nuclear material, other radioactive material, associated facilities, associated activities and sensitive information assets rests with the "authorised persons", often referred to as a "Licensee" or "Operator". In order to discharge their responsibilities in an effective manner, States and Operators should ensure that the personnel with accountabilities for nuclear security are demonstrably competent to perform their duties – just as professionals in other disciplines, such as medicine, engineering and accountancy have to demonstrate that they meet the necessary educational and vocational standards required by their professional bodies.

Yet our work on Best Practice Guides and interaction with industry and other nuclear security practitioners has highlighted a stark fact: there is a lack of accredited courses and no structure of required competences for the "profession". As far as we are aware, none of the Nuclear Regulators has specified any requirement for nuclear security accreditation, and we believe this should change: State Regulators should make it a requirement that those personnel, including non-security personnel, with nuclear security management accountabilities are demonstrably competent.

Currently, a dedicated mixture of ex-police, ex-military and/or general managers has assumed responsibility for the work; they are often highly trained and skilled in their respective areas and those with many years of experience in nuclear security likely have the knowledge and skills to perform the job properly. Yet it would be difficult to argue that an expert in securing a nuclear facility would be able to step into the position of a police commander or platoon leader without extensive training; the reverse is also true. The need for a Nuclear Security Professional requires further specialisations that can only be offered by a fully certified and accredited set of structured PD training.

There is a growing recognition of this need for "Training and Education" in nuclear security, and a number of countries are establishing Centres of Excellence (CoE) which appear to focus on nuclear safeguards, safety and security. The IAEA is coordinating these efforts through two separate networks called INSEN (International Nuclear Security Educational Network) and NSSC (Nuclear Security Support Centres). The IAEA has established a core curriculum for a two-year full time Master's degree in Nuclear Security and a one-year Certificate in the same subject and is working with Universities to populate the curriculum. The IAEA has also launched a web "Portal" to encourage collaboration between the different entities involved, who are being asked to submit details of their courses so that there is visibility of State efforts to develop Training and Education.

Gap Analysis

The IAEA programme is of fundamental importance and over time should lead to a new cadre of trained postgraduates entering the nuclear security field. However there are many professionals in managerial levels whose needs are not being addressed and who we believe would benefit from professional development training for nuclear security. To identify these professionals we have undertaken a needs analysis to determine the potential market for nuclear security training using public databases and general assumptions about organisational structures and accountabilities. Individuals identified included security professionals and non-security professionals who have nuclear security responsibilities in their job descriptions, e.g., HR Directors, Technical Managers, etc., and also those managers accountable for radioactive materials in sectors other than nuclear.

Our analysis examined the number of professionals in the civil nuclear industry (nuclear power reactors, fuel cycle facilities), in research facilities (research reactors) and in the radioactive sources sector (medicine, gas and oil companies), as well as off-site professionals such as border guards, emergency response service and regulators. Based on our assessment, we estimate the number of current professionals with accountability for nuclear-related security worldwide to be in the range of 100,000–150,000.

Bearing these numbers in mind, the average age of an employee in a number of developed nuclear programmes is approximately 50 years old. At the same time, countries with developed and planned programmes are aggressively promoting nuclear education and training to address a coming skills shortage. With so many workers eligible for retirement and new staff joining the profession, it is not unreasonable to assume a very conservative annual turnover rate of 10%, implying an ongoing annual demand for training of at least 10,000–15,000 new professionals.

There are numerous general and technical training courses available for this new cadre of workers, but no structured professional development opportunities at a managerial level as far as we can ascertain. Information about the courses that are being developed or considered by the various Centres of Excellence or Nuclear Security Support Centres (mostly for scientists and engineers, police officers, border guards and other off-site professionals) is difficult to establish, but if we assume that they fulfil 50% of the need (and this is highly optimistic) our conservative estimate of global demand remains between 50,000–70,000 existing professionals worldwide, and at least 5,000–7,000 new professionals annually, who would benefit from certified professional training in nuclear security.

WHAT THE ACADEMY WILL DO

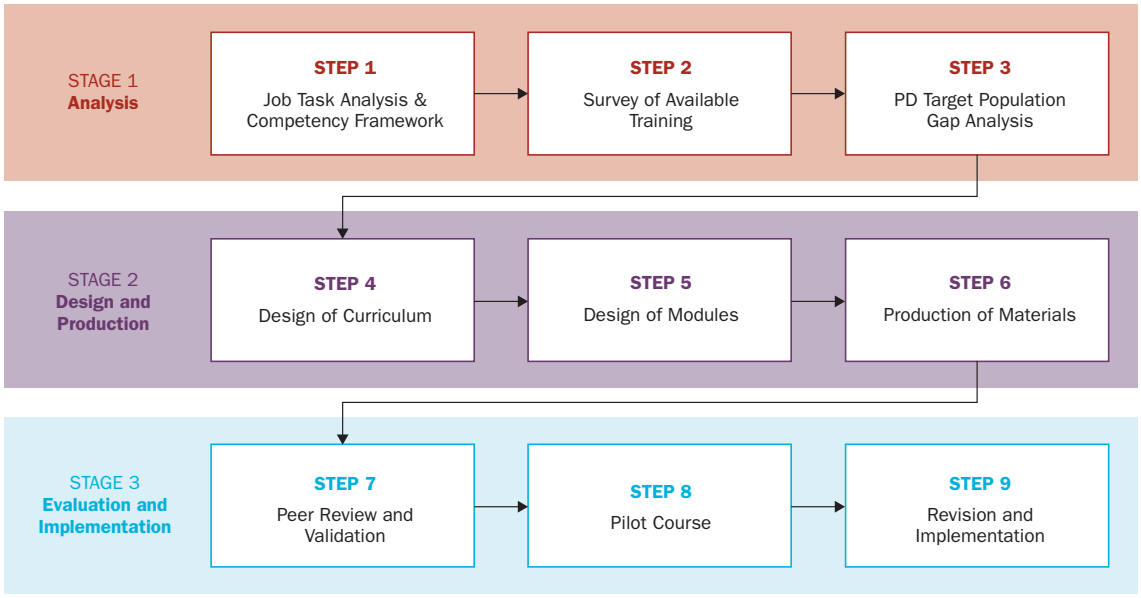
We have established the need for practitioners with accountabilities for nuclear security to have targeted PD opportunities that will help them do their jobs better and make nuclear security as effective as possible. We believe the best approach for addressing this need is through a Systematic Approach to Training (SAT). As a first step, some nuclear organisations have been using job-task analysis to define the training that is required.

> *An effective nuclear security culture depends upon staff having the necessary knowledge and skills to perform their functions to the desired standards. Consequently, a systematic approach to training and qualification is required.*
>
> **Nuclear Security Culture**
> **IAEA Nuclear Security Series No. 7**

We have taken this preliminary analysis to the next step. In conjunction with the U.K. National Skills Academy (Nuclear), WINS has developed a Best Practice Guide on Developing Competency Frameworks for Managers with Nuclear Security Accountabilities. This guide was the first step in developing the exact knowledge, skills and personal attributes managers with nuclear security accountabilities need to perform their jobs successfully. In addition, WINS has been reviewing existing materials that are currently being developed, in use, or under consideration by security training suppliers, the IAEA, and those involved in providing security training, in order to establish the best practices and the most relevant content. In that context, WINS has actively participated in the IAEA-coordinated International Network for Nuclear Security Training and Support Centres (NSSC).

Now that nuclear security competencies and available trainings are better understood, WINS is establishing the mechanism for promoting PD in the nuclear security field and creating an environment that leads to the Nuclear Security Manager as a recognised and regulated profession. This includes ensuring that other key organisational positions (such as scientists, engineers, safety management, senior management, off-site armed response agencies, hospital administrators, regulators, emergency response providers, etc.) have PD materials available to them. WINS is undertaking a systematic process for creating these PD materials to a high-quality outcome-based standard as illustrated in Figure 2.

Figure 2: Academy Systematic Approach to Training



As part of the course design process, the Academy will combine subject matter experts (SMEs) with experts in developing courses. We already have a pool of top SME experts both internally and through our contracted work on Best Practice Guides. Courses will be designed based on how people learn, with a focus on training practicing managers through problem-based learning (e.g. case studies and role playing). The courses will evolve the thinking of participants through cross-functional training, sharing of experience across diverse specialities and identifying future challenges in the field. Moreover, they will provide managers with an opportunity to understand the fundamental issues associated with nuclear security and ensure that they are able to communicate effectively with expert groups below or senior leaders above. In addition, there will be an assessment and examination process; course participants will be assessed on logic used to solve real-life problems and examined against their core competencies.

Establishing a competency-based assessment and examination process which leads to accreditation could be a difficult process. Other sectors, however, can provide us with a blueprint and lessons learned. In December 2012, WINS convened a Roundtable in Vienna to discuss the feasibility of creating a Certified Professional Development Programme for Nuclear Security. On that occasion, the aviation industry was asked to present its experience on setting up an accredited, competency-tested programme. It quickly became obvious that the experience of the aviation sector was highly relevant to the initiative underway at the Academy and subsequent professional exchange sessions have helped facilitate the implementation of our accreditation programme.

In addition to the aviation industry, we have reached out to the world's largest provider of educational training and certification to help us develop our accreditation programme. Through this collaboration we are exploring methods to establish an eligibility-based exam for prospective test takers to verify that they have learned the necessary knowledge or

skills from WINS approved courses. Corporations, individuals, and WINS could purchase and share voucher codes to take this accredited exam, which could be particularly useful for initiatives to support participants from developing countries and provide a measurable impact.

Finally and of critical importance, we will ensure that these courses cover the obligations of operators/licensees as set out in INFCIRC/225 and IAEA guidance. We have identified several foundational courses that will be designed for the management of nuclear security to include Executive Management, Technical Management, Management for Nuclear Security Professionals, and Radioactive Source Management. Similar to practitioners, Regulators and Off Site Response Forces should be competent at their job in order to effectively regulate and interact with licensees; we will work with the IAEA and appropriate national authorities to help support existing courses for these professions.

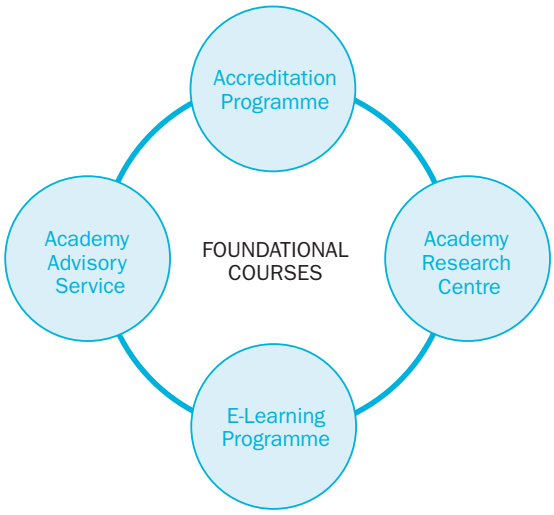
The responsibilities for implementing the various elements of physical protection within a State should be clearly identified... the prime responsibility for the implementation of physical protection of nuclear material or of nuclear facilities rests with the holders of the relevant licences or of other authorizing documents (e.g. operators or shippers).

INFCIRC/225/Revision 5
IAEA Nuclear Security Series No. 13

HOW THE ACADEMY WILL OPERATE

Our foundational courses are the first step in a broader vision of where we will take the Academy in the next three years. By the end of 2015, we envision having a well developed programme as outlined in Figure 3. Each service will feed into and compliment our foundational courses.

Figure 3: The Academy Roadmap



Accredited Partners

A recent report prepared for the Stanley Foundation entitled, "An Assessment of the Nuclear Security Centres of Excellence", specifically calls for the various CoEs to "partner with WINS and include its professional development material in their training curricula" and "to consider establishing an accreditation methodology so that there is an internationally recognised quality assurance standard for the training offered by the centres".

We agree with this recommendation and plan to implement this call for new partnership arrangements. As of March 2013, WINS has initiated partnership arrangements with a number of organisations from multiple continents. By engaging globally and with a diverse population, we hope to encourage regional centres of excellence to adopt nuclear security PD leadership programmes that we hope will spread to neighbouring countries. A number of these organisations or countries have expressed interest in being a pilot provider and/or early adopter of WINS accreditation. They would be responsible for translating the PD material to course participants into the local language, if necessary, and most appropriate format. A point of consideration is to have different modules for different organisations/countries. For example, potential partners could host one of the following modules:

- Executive Management
- Functional Directors
- The Security Programme
- Scientist & Engineer Engagement
- Radioactive Source Security

When considering various CoEs and Institutes for accreditation, WINS will select partners who seek to provide excellent and relevant security management programmes for their personnel with accountabilities for nuclear security within the State. (See Figure 4 for the selection process).

Academy partner activities should satisfy the needs of industry and complement legal and regulatory standards of the individual States. Accreditation of training partners is always voluntary unless determined otherwise by the State, and partners can provide certification to students as supported or required by the State.

Figure 4: Academy Partnership Selection Process

STEP	OBJECTIVE	ACTIONS
1	Introductory Meeting	Partner meets with the Academy team to learn about the Academy, discuss their nuclear security PD programme, and learn how WINS can assist with their training requirements.
2	Facility Proposal	Partner proposes a training facility or on-line facilities to be used for Academy accredited PD training.
3	Memorandum of Understanding (MOU)	The Partner and the Academy sign an MOU outlining the terms of cooperation.
4	Course Selection	The Partner and Academy team agree on WINS designed courses, or pre-existing partner courses, that will meet the requirements for the Partner's nuclear security PD programme.
5	Accreditation Review	WINS reviews Partner course(s) against outcome and competency-based learning objectives. Course(s) that meet objectives receive WINS accreditation.
6	Alumni and Recertification	The Partner joins the Academy Community of Practitioners and agrees to the recertification process for its accredited and certified professionals. The Academy will arrange periodic visits to the training Partner to ensure quality of training to accredited standards.
7	Reassess Cooperation	The Partner and Academy team meet periodically to assess cooperation and explore new avenues for collaboration.

Academy Research Centre

The Academy Research Centre will comprise a partnership between leading training institutions, industry and security experts and will bring together practitioners to develop case studies, role play scenarios, simulations and problem-based exercises based on real life events. It will look at past challenges for lessons learned and also examine emerging and long-term strategic issues. These outputs will feed directly into the foundational Academy courses, and will be the basis for the content of future courses.

E-Learning

WINS has undertaken an e-Learning feasibility study under the assumption that the Academy may also serve as a provider of online PD courses. Of primary concern, we must understand what an Academy e-learning programme will look like, and in that context have examined the market, cost, technical considerations, and delivery methodologies. Our initial research has shown that in order for a potential eLearning programme to be successful, peer collaborative work is critical, but it must be done in conjunction with facilitators or coaches that constantly monitor the proceedings and include a face-to-face component ("blended learning").

Academy Advisory Service

Hand in hand with the development of the Academy we must encourage the nuclear industry and its regulators that peer review of corporate security oversight, as an integral part of the nuclear safety/emergency planning/response arrangements, is an acceptable and desired goal. If regulators and industry accept this requirement it will only be a matter of time before the peer review process highlights and encourages PD in the security management of both types of organisation and the need for a framework with which to address the problem, just as INPO did from the 1980's in relation to nuclear safety.

Furthermore, WINS has received inquiries about customising its PD courses for in-house training at nuclear organisations. As we continue to roll out courses and develop accreditation partnerships, we expect demand for this type of service to increase. As such, we will establish a mechanism to fulfil this need as part of our Academy Advisory Service.

Governance and Oversight

In order to gain and maintain credibility, the Academy must have an oversight body to guarantee the quality and high standards or our materials and accredited partners. As currently planned, this body will be called the Academy Advisory Council (AAC). The AAC will have breadth and visibility across the field – including influential people who have international reputations in the Academy target populations.

CONCLUSION

WINS is taking the lead on the initiative to promote PD opportunities in nuclear security and will begin Academy operations during 2014. We believe that the concept of the Academy appeals politically; not only does it convey the right image through outcome-based standards, but it will also make good financial sense to establish the core competency-based training materials once for adoption by the COEs and other establishments and institutions that are involved with training. Feedback on the concept has been positive and a number of organisations are supporting our work programme. We must always stay alert to new questions, issues, challenges and opportunities and actively seek answers that help meet the goal of improving the professionalism and effectiveness of nuclear security management. We list our current Q&A as an appendix to this report.

WE WELCOME YOUR COMMENTS

We plan to continually update our thinking on the Academy to reflect new and innovative ideas. Therefore, we ask that after reading this Strategy you consider providing us feedback on how it can be improved. We are always open to partnership inquiries and other proposals that support our vision to ensure that all people with accountabilities for nuclear security are demonstrably competent and provided with opportunities to become professionally accredited and certified.

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APPENDIX: Q&A

Following are answers to some frequently asked questions about the Academy's goals, policies and partnerships.

— *States are accountable for nuclear security. What has this to do with WINS or the WINS Academy?*

Responsibility rests with individual States for establishing, implementing, maintaining and *sustaining a nuclear security regime*[1] who must also ensure that prime responsibility for the security of nuclear materials, other radioactive materials, associated facilities, associated activities and sensitive information assets rests with the "authorised persons", often referred to as a "Licensee" or "Operator".

In order to discharge their responsibilities in an effective manner, States and Operators should ensure that the personnel with accountabilities for nuclear security are demonstrably competent to perform their duties – just as professionals in other disciplines, such as medicine, engineering and accountancy have to demonstrate that they meet the necessary educational and vocational standards required by their professional bodies.[2]

WINS aims to support these efforts in the same way as do many other professional associations. An accreditation from WINS is entirely voluntary unless determined otherwise by the State, although WINS believes that State Regulators should make it a requirement that those personnel, including non-security personnel, with nuclear security management accountabilities are demonstrably competent.

— *Why was the Academy established?*

Through our work on Best Practice Guides and interaction with industry and practitioners we have identified that people with management accountabilities for nuclear security need no formal training. There are no accredited courses and no structure of required competences for the "profession."

— *How does the Academy receive funding?*

Currently, WINS and the Academy receive funding from a number of governments and organisations. However, the Academy will become less reliant on government support in the long term.

1 IAEA, "Objective and Essential Elements of a State's Nuclear Security Regime," Nuclear Security Series No. 20; http://www-pub.iaea.org/MTCD/Publications/PDF/Pub1590_web.pdf.

2 A professional association (also called a professional body, professional organisation, or professional society) is usually a nonprofit organisation seeking to further a particular profession, the interests of individuals engaged in that profession, and the public interest; http://en.wikipedia.org/wiki/Professional_association.

— *What makes the Academy credible? Who assures its quality and relevance?*

The Academy will have an oversight body, the Academy Advisory Council (AAC). The AAC will have breadth and visibility across the field and will be responsible for guaranteeing the quality and high standards of our materials and accredited partners. In addition, WINS has received ISO 9001 certification that demonstrates our commitment to quality, accountability and continuous improvement. We will seek additional ISO certification as required to ensure the quality of our PD materials.

— *How is professional development different from awareness training?*

Learning objectives for PD are outcome-based and relevant to the job of participants. PD programmes also test course participants on their competency through an assessment or examination process.

— *What is the advantage of a university programme receiving accreditation from WINS?*

By receiving accreditation from WINS or other professional organisations, universities make sure that course materials are relevant for the actual implementation and/or management of nuclear security. Typically, subject matter experts in the management of nuclear security come from the field and not from academia.

— *Why do people join professional organisations/chartered bodies when they already have academic accreditation?*

PD programmes raise the professional status of practitioners, allowing them to gain greater recognition and reward for accredited levels of expertise and to contribute to the development of policy in their areas of specialism.

— *Will Academy accreditation help me get a better job?*

In the same way that university accreditation provides people with an avenue for an entry level position at an organisation, PD programmes and their associated credentials provide practitioners with a career ladder to more senior positions within their organisations.

— *Won't this be expensive?*

Not necessarily. When compared to awareness-based training, PD programmes protect public and industry interests by promoting the most effective, focused value for taxpayer and corporate money.

— *What do you mean by a PD programme for nuclear security?*

A PD programme identifies evidence of what works in nuclear security. It provides access to a body of knowledge that is informed by evidence-based research and best practice; develops an understanding of the evolving threats; examines the challenges of leading complex organisations and enables the organisations to develop the capabilities needed; and ensures that participants are able to share and access the very best thinking from across the world.

— *Safeguards doesn't certify practitioners, many Safety personnel are not certified, so why should security be certified?*

Nuclear facility plant operators undergo extensive training within their specific area of nuclear safety and operations. The training and experience requirements are provided by educational institutions and INPO and WANO. There currently exists a strong safety culture surrounding the operations of a nuclear facility. WINS believes that by offering certified professional training to those in the nuclear security arena we will be able to raise the security culture to the same level that presently exists on the safety side of the nuclear field.

— *Why are you choosing to work with certain training institutions and universities and not others?*

WINS decision to partner with certain training institutions and universities is based on having a shared vision of the need for professional development.

— *When will Academy courses be available?*

We will be running pilot courses with partner institutions in 2013. We expect to begin Academy operations by the time of the Nuclear Security Summit in March 2014.

— *How long will Academy courses take to complete?*

In today's world, nuclear security practitioners (especially high-level managers) almost certainly do not have the time, support or resources to take a time-intensive, residential course. Therefore, Academy courses will be short, modular and focused on issues that affect professionals in their jobs today. In the future, courses will have an expanded online presence to lessen the need for in-person training.

— *How many people will participate in your courses?*

It's impossible to know at this time how many people will take Academy accredited courses.

However, our market analysis indicates a large underserved population of professionals and we have already received strong interest in our activities from a number of organisations.

OUR VISION
To help improve security of nuclear and high hazard radioactive materials so that they are secure from unauthorised access, theft, sabotage and diversion and cannot be utilised for terrorist or other nefarious purposes.

OUR MISSION
To provide an international forum for those accountable for nuclear security to share and promote the implementation of best security practices.

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