Training the

Newly recruited safeguards inspectors take to the field.

Students gather and chatter nervously at the end of an intensive, three-month course. They are waiting for exam results.

The examiner asks for silence: "Thanks for showing up," he says. "We should now discuss the results of the test.

"Question one was relatively clear. 'Under the Additional Protocol, which of the following statements are correct?' The correct answer is F. Any questions?"

These are not your regular students. They are future IAEA safeguards inspectors and the 'Additional Protocol' is just one of the many aspects of the organisation's system of safeguards they need to understand.

After months of training the new recruits are now embarking on their first inspections at nuclear facilities around the world.

IAEA safeguards are measures through which the Agency seeks to verify that a state is not diverting nuclear material or equipment to develop or produce nuclear weapons or other nuclear explosive devices.

Activities include placing seals, installing cameras and verifying inventories, receipts and shipments at nuclear facilities.

States accept the application of such measures through the conclusion of safeguards agreements with the IAEA and the Agency currently applies safeguards in more than 170 countries and inspects over 900 nuclear facilities.

There are currently 250 inspectors and every year the IAEA runs an introductory course on the safeguards systems for the organisation's newly appointed inspectors.

Therese Renis, an experienced inspector who conducts part of the introductory course, said: "We verify declared nuclear materials at declared facilities. But in addition to measuring nuclear material, reviewing accountancy and auditing the books, we're always looking for signs or indications of potentially undeclared nuclear materials and activities."

"So there is a whole set of tools the inspectors need to learn. They need to understand the safeguards system in general, the legal background, the underpinnings for the activities we conduct."

She added that the inspectors need to learn how to use the various types of field equipment and how to record the results of their inspections once they come back to IAEA headquarters.

"Of course we can't teach the new inspectors everything, but we can arm them with the tools and skills

IAEA Inspectors

by Louise Potterton

they need to first go into the field and start to conduct their activities there," said Ms Renis.

Thirteen fledgling inspectors, recruited from many different countries across the world, took part in the training course, which involved written and oral tests and concluded with an inspection exercise at an operating nuclear power plant.

"The course has been very demanding but also very fruitful," said one new inspector from Mexico adding that he sees his new position as both a "challenge and a privilege".

"This job gives me the opportunity to be part of a system that is working in favour of peace and security in the world," he said.

The physicist, who has previously worked for the Mexican National Commission of Nuclear Safety and Safeguards, added, "Regardless of the background of the attendees, at the end of the course I discovered that everyone was speaking the same language - the language of the safeguards inspectors."

Another student from Nigeria, who was educated in nuclear physics and formerly employed by British Nuclear Fuels, said that he was attracted to the job because he wants to represent Africa on a global stage and be part of a team that 'makes the world more peaceful.'

"As an IAEA inspector we have to ensure that a state is using nuclear technology only for peaceful purposes," he said.

And a new inspector from Indonesia, who worked for 20 years for the Indonesian National Nuclear Energy Agency as a senior safety engineer said: "I learnt so much about the safeguards system, issues that I never knew before. For example, the legal aspects, the technical matters and how we carry out the verifications."

In general the inspectors travel for up to 100 days in a year and, depending on the location, could be away for up to four weeks. They visit a wide range of nuclear facilities, including power plants, research reactors, fuel fabrication and reprocessing facilities. In 2009 over 2000 inspections were performed.

Vacancies for new inspectors are posted periodically on the IAEA's website. Candidates need to have a university degree in engineering or science and experience in the nuclear field.

"There are a wide range of attributes and skills that are desirable, but we recognise that not all candidates will have all skills. So we look for the people with the right sets of skills that will complement the teams we already have at the IAEA," said Therese Renis.

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