

## International Education & Training Centre (Nuclear security & Nonproliferation) and Ideas for Educational Test Facilities in the centre

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### 1. Background

With respect to the nuclear security-related multilateral agreements, many states and international societies recognize the importance of evaluating and improving their physical protection systems to ensure that they are capable of achieving the objectives set out in relevant IAEA Nuclear Security Series documents. Under this circumstance, finally, on April 12-13, 2010, US President Obama hosted a Nuclear Security Summit in Washington, DC, to enhance international cooperation to prevent nuclear terrorism, an issue which he has identified as the most immediate and extreme threat to global security. The goals of the Nuclear Security Summit were to come to a common understanding of the threat posed by nuclear terrorism, to agree to effective measures to secure nuclear material, and to prevent nuclear smuggling and terrorism. The Summit focused on the security of nuclear materials, nonproliferation, disarmament, and peaceful nuclear energy. At the summit, the Republic of Korea was chosen as the host of the next Summit in 2012. After President Barack Obama declared the opening of the Summit and explained the purpose of the meeting, he designated Korea as the host of the Second Nuclear Security Summit, which was unanimously approved by the participating leaders. During the Summit, President Lee introduced Korea's measures for the physical protection of nuclear materials and laid out what contributions Korea would make to the international community. He also stated that the North Korean leader would be welcomed at the next summit only if his country made substantial pledges toward nuclear disarmament during the Six-Party Talks and announced that Seoul would host the general assembly of the Global Initiative to Combat Nuclear Terrorism in 2011 and would share its expertise and support the Summit's mission by setting up an education and training center on nuclear security in 2014.

### 2. Description of the centre

President Lee addressed the establishment of 'International education & training centre (Nuclear Security & Nonproliferation)' and stated that ROK would share its experiences and expertise along with making effort to complete the Summit's mission by establishing the centre.



Items	Area(m <sup>2</sup> )
Total land	42,900
Total Floor area	4,950
Training & Test field	24,750
Landscape & Access roads	13,200
Others	660

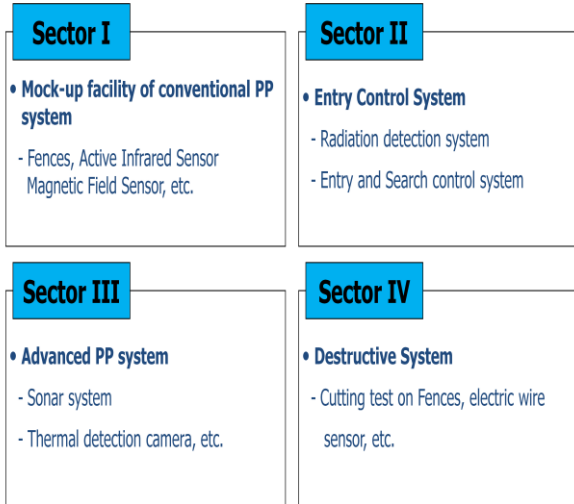
Items	Estimated (USD)
Total cost	31million
Land	16 million
Construction	8 million
Facilities	5 million

A blueprint for the centre had been proposed and significant action plans to keep the preparation measures on the right track were made throughout several panel discussions and in-depth meetings. The above picture is the bird's-eye view of the centre. None of the figures in tables has been approved by competent authorities but still the pictures and the tables would be enough to perceive the plan as an ambitious one. If the plans for the centre proceeded as expected, it is expected that the centre plays significant roles to enhance nuclear transparency through performing training courses on nuclear control (physical protection, Safeguards, Export/Import control) and improve security capability by developing technologies and equipments for the advanced nuclear control and support the human resource development for the newcomers of the peaceful use of nuclear energy.

The centre aims at propagating the concept and the culture for the nuclear materials control within the ROK. Furthermore, after solidifying domestic capability of nuclear control through customized education programs and courses, the centre has great intent to be a hub international training centre in the Northeast Asia. In order to achieve its goal, there are some major

challenges to solve such as the development of English version of courses materials, approval of the IAEA which can be started by hosting RTC or ITC successfully on a regular basis and securing trainers/lecturer force.

### 3. Ideas for Educational Test Facilities



#### <Sector I >

This sector would be used for both tests and educational purpose. In terms of tests, it can be used to conduct tests on existing sensors which are currently deployed at nuclear facilities in the ROK. The tests would include performance tests, environmental effect tests and other tests to produce data for the input of VA (Vulnerability Assessment) codes. Infrastructure and some basic facilities would need to be set up for this purpose. The sensors installed in this sector could also be used for the training of security personnel from the facilities. Modular facilities could be an excellent measure to evaluate customized sensor configuration and determine the mutual effect of individual sensors in the integrated physical protection (or security) system.

#### <Sector II>

The sector II would be mainly proposed for training purpose. The entry control system and its effectiveness is a major concern when it comes to the evaluation of the overall physical protection system of a nuclear facility. In this sense, it is very important for operators to make sure that the portal gate of a facility is secured by managing the entry control system in a very accurate and effective manner. The actual entry control barriers and equipment installed in this area would be a great hands-on training facility for the people who are involved in and responsible for the first line security measure. Sea-land containers/vehicle inspection pad and radiation portal monitoring system could be installed under the cooperation with DOE (Department of Energy, USA).

※ As part of ‘Second line of defense program’, DOE has been carrying out ‘Megaports Initiative(MI)’. Megaports Initiative has a goal that states equipping over 100 seaports with radiation detection equipment, scanning approximately 50% of global shipping traffic by 2015.

It could set an excellent example to global initiatives if this sector could be a training field for operation and management personnel from those countries which completed installations of radiation detection equipment under MI.

#### <Sector III>

The third sector would be a testbed for newly developed sensors or state of the art technologies which can be applied to a nuclear facility in the near future. This sector could provide a place where vendors can generate related test data they need in the process of developing so that information sharing channel over sensors can be established between a regulatory body and manufacturers. The information achieved through this channel could help KINAC draw up adequate and effective guidelines/regulation and get involved from the beginning of installation of new sensors.

#### <Sector IV>

One of the major limitations of the existing testbed is ‘very hard to replace and relocate sensors and equipments’. For this reason, several key tests couldn’t proceed as planned at the first place. Some destructive experiments and tests which need additional equipments and extraordinary safety measures would be conducted in this area. The sector IV would be specially utilized for the test related penetration time and effect according to types of attack.

## 4. Conclusion

It has been decided that 2012 Nuclear Security Summit will be held in the ROK and President Lee made a official comment the ROK would open its international training centre to the world by 2014. There have been and there will be a lot of discussions and debates what role we should assign to the centre and what role we shouldn’t. Fortunately, it seems critical functions and roles of we cannot afford to overlook have been determined. Nevertheless, if we try to put all the functions and roles on the centre within few years, it would be highly likely we get no result in a way we expected. Now the time is up for us to verify what to choose and how to focus on those.

## REFERENCES

- [1] Fact Sheet ‘NNSA Second Line of Defense Program, NNAS Public Affairs, 2009
- [2] Brief overview on International Training Center for Nuclear Security and Nonproliferation, Mr. Hosik Yoo, 2010