

SETT facility of International Nuclear Security Academy

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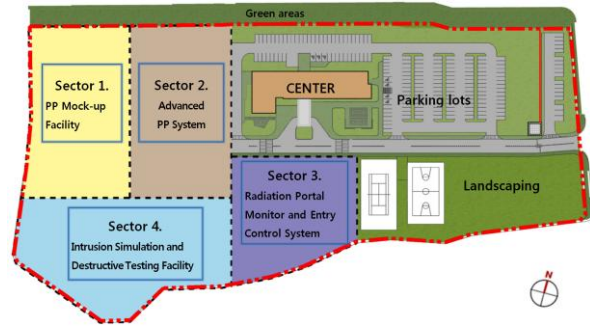
1. Introduction

After the Cold War was put to an end, the international community, especially the Western world, was concerned about Soviet nuclear materials falling into wrong hands, especially of terrorists. Later, the growing threat posed by terrorist networks such as the Taliban and al Qaeda led to a global campaign to deny such networks materials which may be used for the development of Weapons of Mass Destruction (WMD). The 9 11 attacks made a section of the international community highly apprehensive of WMD terrorism, especially its nuclear version. From this point of view, it is clear that nuclear facilities which contain nuclear materials are very attractive targets for those who have intention of nuclear terror.

2. Build up nuclear security capability

For most of cases in real nuclear facilities, the primary precaution to protect the facilities from sabotage or attempts of physical attack is Physical Protection System which is characterized as combination of various detection sensors, physical structure for delay and assessment tools for response. In order to generate solid backup data for reviewing and revising DBT (Design Basis Threat) and to assess components reliability of the conventional physical protection system, KINAC(Korea Institute of Nuclear Nonproliferation and Control) has operated a outdoor test facility for the physical protection system named 'KINAC Test Bed' since 2008. Throughout tests and trainings that have been conducted at Test Bed, sizable progress in capability building has been made. Given that the ROK successfully hosted Seoul Nuclear Security Summit and pledged to continue proceeding international cooperation in terms of human resource development through the education centre, it is time to set up new infrastructure for further tests on physical protection system and in-depth hands on training. In this sense, current Test Bed has been gearing up for 'SETT Facility: SEcurity Training and Test Facility (Evolved version of KINAC Test Bed)' which will be constructed in line with the establishment of the international nuclear security academy. The SETT facility will play a core role for nuclear security capability building throughout tests and field training conducted at SETT facility. The SETT facility will be characterized as four sectors that have distinguishing utilization purpose for each zone

3. Description of four sectors

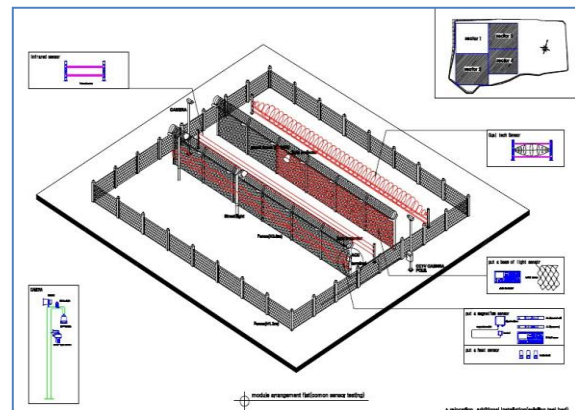


The picture above shows the overall layout of the academy and locations that the sectors will be located in. The SETT facility aims at carrying out hands-on exercises of international nuclear security education and training courses and equipment performance tests.

Sector 1: mock-up facilities of conventional PP system, Sector 2: test-field for advanced PP system, Sector 3: radiation portal monitoring and entry control system, Sector 4: simulation and destructive test facilities.

<Sector 1>

- Mock-up facilities of conventional PP system
- Equipped with commercial security devices and physical protection system components currently available at nuclear facilities in the ROK
 - fences, active infrared sensor, CCTV, magnetic field sensor, PIR etc.
 - training infrastructure for guards, security management personnel from nuclear facilities
- Sector will be used for performance tests and practical exercises.



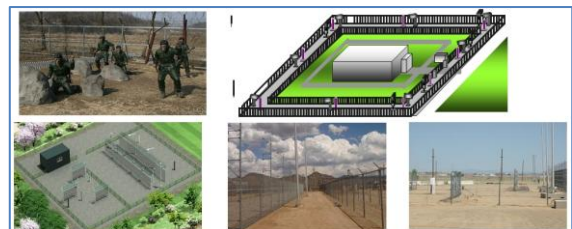
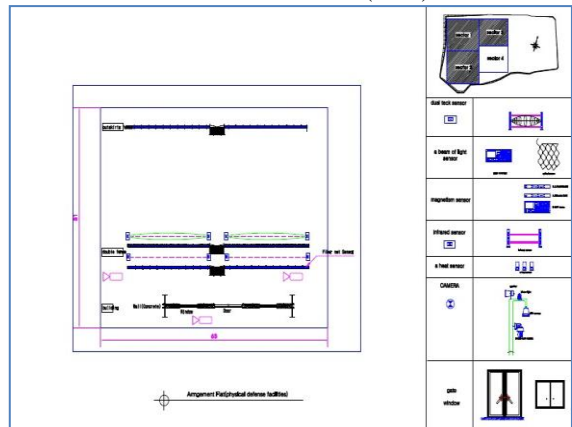
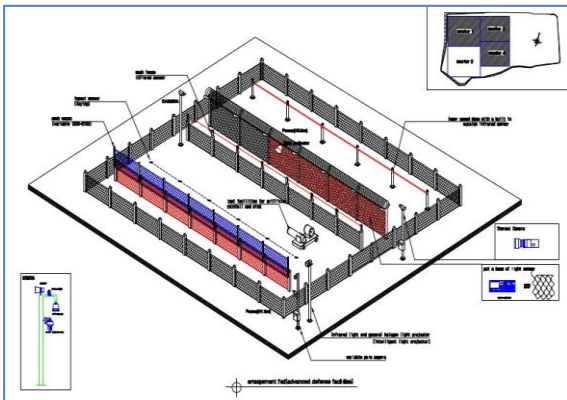


<Sector 2>

- Equipped with state of the art technology applied equipment and recently developed security devices
 - Thermal detection camera, Sonar, Laser Fence, Laser Camera etc
- Sector will be used for performance tests and practical exercises

<Sector 4>

- Equipped with physical protection simulation facility and equipment for the durability and reliability test of the facility and equipment
 - Cutting test on Fences, Crash test on barriers, etc.
- Sector will be used for performance tests and practical exercises such as Force on Force (FOF)

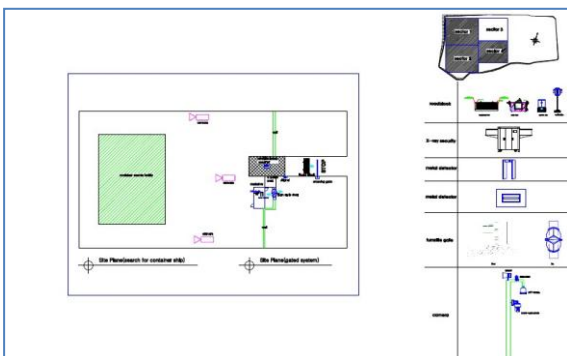


<Sector 3>

- Equipped with security inspection equipment for entrance control and container scan to prevent radiological terrorism
- Sector will be mainly used for education and practical training exercises

3. Conclusion

President Lee made a pledge at the Washington Nuclear Security Summit that the ROK would establish an international nuclear security academy and open it for the international community by 2014. The ground was broken for the construction of the academy in March, 2012. The vision of the academy is 'Becoming a centerpiece of the nuclear security education and training in the Asia-Pacific region'. There are more than 10 countries, including Japan China India, that have specific plans to have a similar training centre. The SETT facility mentioned here is the key feature which characterizes the academy and makes it unique.



REFERENCES

[1] International Training Centre in the ROK (Nuclear Security & Nonproliferation), KINAC, 2011