

Session 1: Safety of Nuclear Facilities on the Korean Peninsula

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Summary

The session started with the introduction of the session itself and panelists. Prof. Chang from KAIST, the moderator, started the session by raising a question “What kind of knowledge is necessary to enhance the nuclear safety?” to Dr. Paik from KAERI. He started his remark by stating the goal of nuclear safety: it is to protect individual, society and environment from nuclear facility. There are two levels of safety; (1) minimum required level (2) desirable safety level. The minimum required level is satisfied in Korea’s case, however further improvement is necessary to satisfy the desired safety level. He revealed the R&D areas which can further improve the nuclear facility safety such as advanced reactors with high level of safety, design basis revision for natural and manmade hazards, understanding of cooling mechanism and so on.

The second panelist Prof. Yoichi mainly focused on the Fukushima accident and lessons learned. The major points of the Fukushima accident are that due to high magnitude of earthquake and high Tsunami wave the emergency diesel generator failed responsible for removing the decay heat from the reactor core. Due to the generator failure the reactor core degraded and the hydrogen exploded. The lessons learned as well as future works to be done are: clean-up issue of polluted water and soil, severe accident management has to be revised, the inherent safety features have to be checked, reactor parameters should be measured at all cost. He closed his summary with noting the audience that information regarding the accident will be opened to the international community.

The third panelist from IAEA, Dr. Kang, added the discussion of lessons learned from the Fukushima accident that can be directly applicable to a Korean nuclear facility. He mentioned that the current good operating history does not promise the future safety of a nuclear facility. He especially emphasized that the off-site emergency management has to be reviewed since the communication between different stake holders and command chain was not well organized. He also stressed that the radiation measurement outside the nuclear power plant even during severe condition. Finally, he ended his statement by saying that the communication with public during this type of event cannot be overlooked at any cost.

The fourth panelist, Dr. Lee, summarized the Korean response to the Fukushima accident to demonstrate how the safety of Korean nuclear facility is managed. After the Fukushima accident, Korea operated an emergency response team 24 hours a day to check and monitor the border regarding radioisotopes, constantly reviewing information released to public and responding to public needs. He also further discussed that the recent investigation initiated by the president of South Korea concluded that all nuclear facilities in Korea. Finally he summarized the identified points raised by other panelists which can improve the safety of nuclear facility in Korea.

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