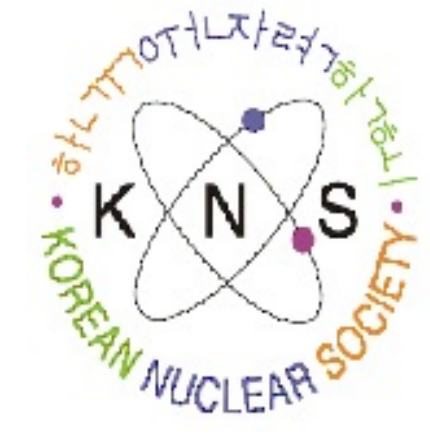


Comparison on Radiation Protection Regulations between Mongolia and Republic of Korea



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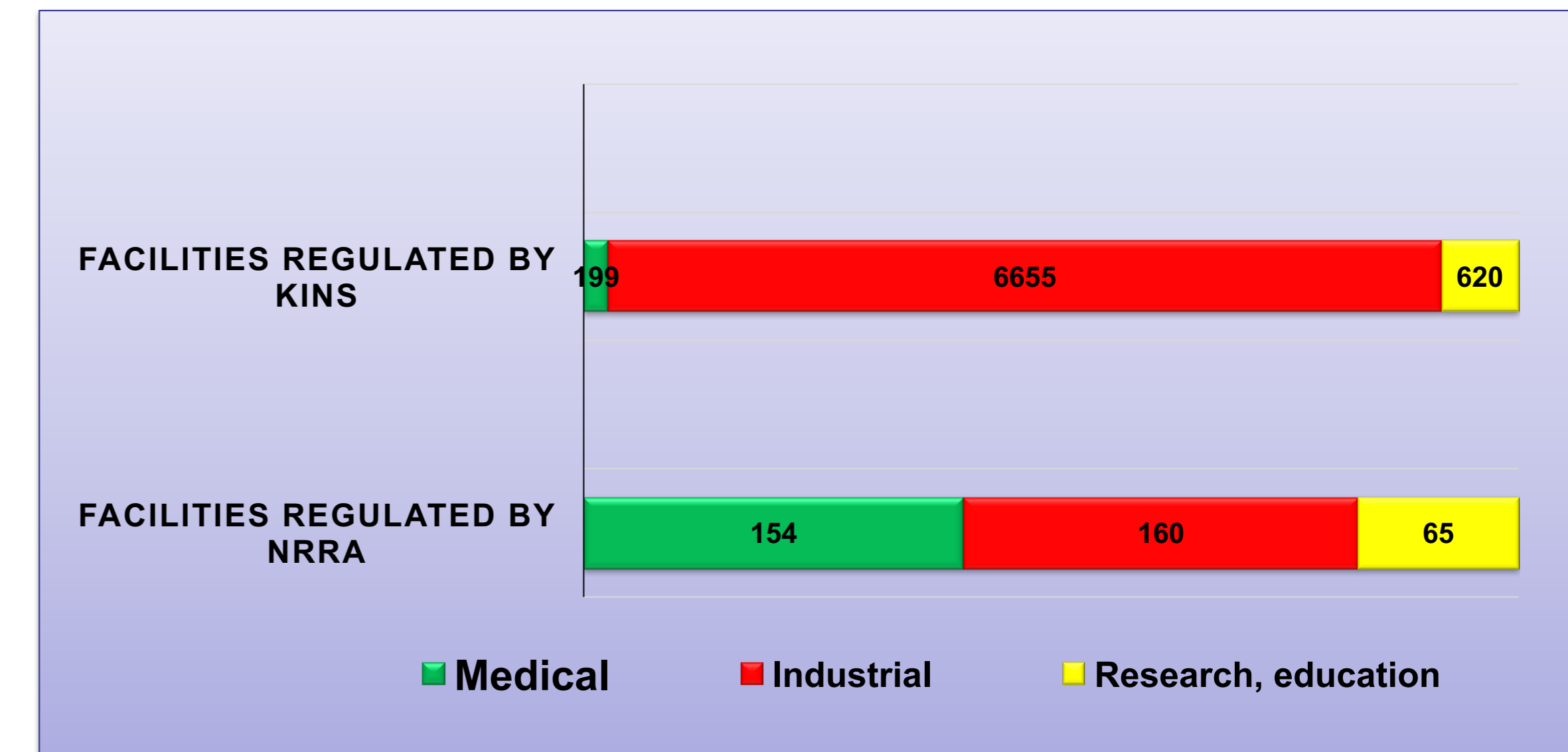
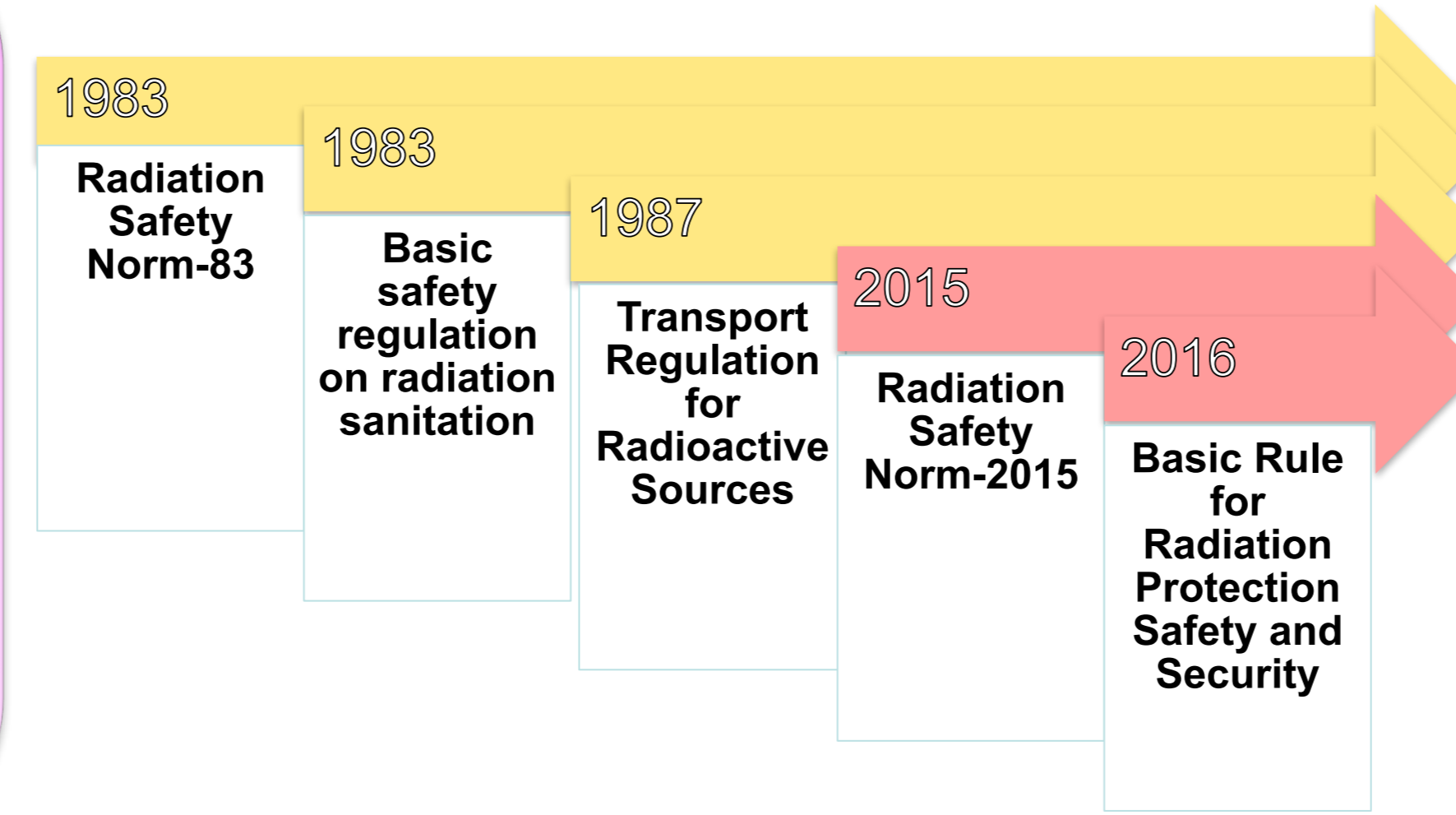
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INTRODUCTION & BRIEF HISTORY

Nuclear and Radiation Regulatory Authority (NRRRA) is Mongolian national regulatory body. The Mongolian “Radiation Safety Norm-2015”, “Basic Rule for Radiation Protection Safety and Security” was revised in 2015 and 2016 based on the IAEA General Safety Requirements Part 3 (GSR Part 3).



In this paper, the Mongolian radiation protection regulations are compared with radiation protection provisions in “Nuclear Laws of Republic of Korea”. The Finland Guide YVL C.2 on radiation protection and exposure monitoring of nuclear facility workers is also considered in the comparison.

OBJECTIVE

The purpose of this research is to identify the gaps between Mongolian and Korean regulations and offer suggestions for the improvement in regulatory framework of both countries in order to protect the people and environment from harmful effects of radiation.

RESULTS OF COMPARISON

It was noticed that Korean regulations explicitly described requirements of radiation protection; some current GSR Part 3 requirements were missing from the Korean regulations. The differences between the Korean and the Mongolian regulations, identified by the comparison method mentioned earlier, are discussed here.



- Laws
- Resolutions
- International agreements & conventions
- Rules & Regulations
- National Standards

1. Planned, emergency and existing exposure situations

The new concept of radiation exposure situations is mentioned in Mongolian regulation “Basic Rule for Radiation Protection Safety and Security. This concept classifies the radiation exposure into three types of exposure situations as per GSR Part 3. The list of facilities which fall under each type of exposure situation need to be addressed in Korean regulations.

2. Dose Limit for lens of eye

Dose limits are specified in the Mongolian regulations. The ICRP suggested in the recent epidemiological studies that an eye is more sensitive and there are some tissue reactions. The new dose limit is also mentioned in ICRP 118. Therefore, the lens of the eye should be protected and the dose limit of 20 mSv per year as specified in Mongolian regulation as well as GSR Part 3 requirement need to be addressed in the Korean regulations.

3. Requirements for scanning of Humans

Human imaging is a non-medical use of ionizing radiations. As radiation is harmful to the human body and humans cannot be exposed regularly due to the health effects. It is the decision of governments to decide whether to allow or not allow such human imaging. The requirements regarding the justifications and radiation protection need to be addressed in Korean regulations.

4. Requirements for injected dead persons

Radiation sources are used for medical purposes and have a certain half-life. there is a possibility that the patient may die and the radioactive material will remain inside the body. The existence of radioactive material in corpses can cause radiation exposure to the general public before the body is either buried or cremated. Mongolian regulation includes GSR Part 3 and ICRP requirements related to the handling of deceased persons. These requirements for the handling of deceased persons need to be addressed in the Korean regulations.

5. Special measures for less than 18 years of age & visitors

The workers who are less than 18 years of age may be allowed to work as trainees under supervision only. There should be special instructions for such personnel. The requirements for trainees and others personnel involved in handling of radiation sources, and visitors need to be addressed in Korean regulations

6. Requirements for existing exposure situations

The concept and the requirements of existing exposure in Korean regulations are separately provided in different national acts. Therefore, this exposure situation needs to be addressed together with the other exposure situations such as planned and emergency situations in accordance with the IAEA GSR Part 3.

7. Compensation for Nuclear Damage

The requirements for compensation in case of nuclear damage need to be included into Mongolian regulation as addressed in the Korean regulations.

- Act
- Decree
- Regulations
- Guidelines
- Technical Standards

CONCLUSION

In Mongolia, the Nuclear Energy Commission (NEC) prepares regulations for nuclear and radiation safety. The General Agency for Specialized Inspection (GASI) is responsible for conducting inspection of these facilities and controlling their safe operation. Mongolian national regulations and Nuclear Laws of Korea provide guidance and regulatory requirements for licensees, for the safe operation of radiation facilities. As result of this study, it was found that there are some areas need to be addressed in Korean and Mongolian regulations.