ABSTRACT

The utilization of radioactive sources in nuclear medicine, in addition to providing benefits, also has the potential to cause adverse effects. Radiation protection efforts are needed for the use of radioactive sources through the principles of justification, dose limitation, and optimization. The purpose of this final report is to ensure that radiation workers receive doses that are still within the dose limit values set by Bapeten and to provide recommendations for dose limit values as an optimization effort for the principles of radiation protection and safety for radiation workers. This final report evaluates the doses of radiation workers during the period 2020 to 2024. Data analysis was carried out by comparing the doses of radiation workers with the NBD of radiation workers that have been set by BAPETEN, then determining the dose limit value for radiation workers. The final results show the average dose value of radiation workers for five years for Nuclear Medicine Specialists of 0.9821 mSv, Medical Physicists of 0.73 mSv, Central Nurses of 0.93 mSv, Rira Nurses of 2.22 mSv, Radiopharmacists of 2.83 mSv, and Radiographers of 1.74 mSv. Of all radiation workers, it is certain that they receive a dose that is still within the safe limit of the dose limit value set by Bapeten. The dose limit for Doctors is 1.13 mSv/year, Medical Physicists of 1.21 mSv/year, Central Nurses of 1.06 mSv/year, Rira Nurses of 2.55 mSv/year, Radiopharmacists of 3.05 mSv/year, and Radiographers of 2,00 mSv/year.

***Keyword**: Radiation Worker, Radiation Protection, Optimization, NBD, Dose Limitation*