

**International Conference on Occupational Radiation Protection:  
Strengthening Radiation Protection of Workers –Twenty Years of Progress  
and the Way Forward**

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## **OCCUPATIONAL RADIATION PROTECTION IN MEDICINE IN VETERINARY FACILITIES –A CHALLENGE**

The Brazilian National Nuclear Authority (CNEN) is the government institution responsible for licencing and regulation of all kinds of facilities that uses sources or equipment that produce ionizing radiation, except the ones for medical diagnosis and odontology uses. New technologies, and new uses of ionizing radiation can be a challenge to the Nuclear Authority, as an example of the medicine veterinary facilities.

The pet industry in Brazil was responsible for seven billion dollars billing in 2019, an increase of 3% compared to 2018 and the absolute second place in the world market, behind only the United States. To date, CNEN regulates 4 veterinary facilities, 2 radiotherapy and 2 nuclear medicines, but these numbers are growing as the pet market becomes more important in the country. These types of facilities are unique and have specific licensing aspects to address.

In December 2019, CNEN held the “I Workshop on Radiological Protection and Safety in Veterinary Medicine” . Several aspects of veterinary practice involving ionizing radiation were addressed during the discussions, and a consensus was the need for CNEN to develop a Regulatory Standard that would involve veterinary practice.

In 2020, the project for the preparation of the study committee for this Veterinary Standard was started, and after internal discussions it was decided that this Standard should cover regulatory aspects both in the radiotherapy, as well as in veterinary nuclear medicine, with the objective of elaborating a single standard to license the facilities that already existed in Brazil, and those that would exist in the future. The risk associated with radiotherapy and nuclear medicine veterinary facilities is relevant and a consistent regulatory effort is required in terms of the elaboration of guides and standards. There are specificities in the licensing and control of these facilities not provided in the basic standards, which justify the elaboration of a standard for this practice. The elaboration of the CNEN Standard NN 6.12: “SAFETY AND RADIOLOGICAL PROTECTION REQUIREMENTS FOR VETERINARY RADIOTHERAPY AND NUCLEAR MEDICINE SERVICES” was proposed after several discussions between the CNEN members and the technical staff of the veterinary facilities.

In many situations, the handling of animals in veterinary medicine involves the presence of additional persons, such as animal handlers, in veterinary facilities during procedures for diagnosis and therapy, and this necessitates additional protective measures (IAEA TECDOC). One important aspect issued in the elaborated Veterinary standard was the Occupational radiation protection. Differently from facilities that treat humans, where radiation protection of patients are an important aspect, in this regulatory standard the workers and public were the main concern. Table II shows important aspects in the standard concerning to workers.

The publication of this Veterinary Standard showed to be of great importance in Brazil, as the number of new veterinary facilities is growing fast, and there are relevant specificities about those facilities that must be considered during the licensing process.

### **REFERENCES**

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