

CRITERIA ACCORDING TO THE NATIONAL COMMISSION OF NUCLEAR ENERGY - CNEN, FOR THE MANAGING OF RADIOACTIVE WASTE IN NUCLEAR MEDICINE

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Introduction The radioactive waste, in a nuclear medicine service is presented as solid or liquid with vary variable activities and half-life, and for this, have to be object of a controlled elimination. The evaluation of this waste takes into account its characteristics such as conventional waste or sewage, or if it is a kind of waste under governmental regulation (CNEN).

Materials and Methods According to the regulatory commission two criteria are adopted to eliminate the radioactive waste in conventional litter or in the sewage. The first criterion is given by an exemption level, in which a total daily activity is admitted and varies from $0,1\mu\text{Ci}$ to $100\mu\text{Ci}$, depending on the radioisotope and its biophysical characteristics, except for tritium which is exempted to 1mCi . In nuclear medicine it is under this criterion also the feces and urine of patients under radiotherapeutic treatment. The second criterion is given by a generic authorization and, in this case, he radioisotopes are classified in six categories, varying from $0,01\mu\text{Ci}$ to $1000\mu\text{Ci}$ or for activity concentration up to 70Bq/g . If the radioactive waste does not meet any of these two criteria, an specific authorization will be necessary and we will have to be managed by the country regulatory commission.

Conclusion According to the criteria established by regulatory commission, the services in nuclear medicine have to stock the materials for a certain period for radioactive decay, after that they can be eliminated as conventional waste, except those which are under the other criteria mentioned. We observed that the present criteria obey to a regulation which is not in accordance to international criteria.

MANAGEMENT PROGRAM FOR LOW-LEVEL RADIOACTIVE WASTE FROM RESEARCH LABORATORIES AT UNIVERSITY OF SÃO PAULO - RIBEIRÃO PRETO

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Introduction: A Management Program was developed by health physicists and safety engineers of DHSMT in order to address the destination of radioactive waste produced by research laboratories at USP - Campus of Ribeirão Preto. A project of a warehouse for temporary storage was designed for the amount and characteristics of the radioactive waste produced. Responsibilities and safe procedures were also established.

Materials and Methods: Data of radioactive waste production was estimated for 32 laboratories from Medicine, Dentistry and Pharmaceutics Colleges. The amounts obtained for each radionuclide are presented at the table below:

Monthly Production	^{14}C	^{51}Cr	^3H	^{125}I	^{32}P	^{35}S
solids (Bq/kg)	3.7×10^4	5.5×10^5	2.0×10^5	5.0×10^5	3×10^5	3×10^5
aqueous solution (liters)	11.5	--	10.0	27.0	19.0	--
organic solvent solution (liters)	40.0	--	12.5	13.5	5.5	--

The project consisted to adapt an old deposit to comply with national standard requirements⁽¹⁾. The constructed area was approximately 20 m^2 , walls and floor were covered with washable material. The floor drain was conceived to conduct to a dry tank; liquid from the tank could be inspected and liberated to local sewage, from outside the building. Inside, two features were specially projected: shelves for low energy beta-emitters and a concrete box for high energy beta and gamma-radiation. Procedures were written in order to discipline collection, classification and transportation to the deposit as well as procedures for predisposal management or transfer to a permanent repository, according to legal limits in force.

Conclusion: The store-house was finished by December, 1996, and received the license from the National Commission on Nuclear Energy (CNEN). A draft of procedures is already written and shall be published by May, 1996, as an internal regulation to be adopted in the Campus. The program shall be in full operation in July.

(1)CNEN-NE-6.05-National Regulation on "Management of Radioactive Waste"