

present work is to review the design of the primary system piping supports taking into account the current conditions after the changes and refurbishment.

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STRUCTURAL DESIGN OF A BURIED CONSTRUCTION BUNKER TYPE, INTENDED FOR THE INSTALLATION OF LINEAR ACCELERATOR EQUIPMENT OF ELECTRONS

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External radiotherapy occupies a prominent place in cancer treatments. The constructions of the linear accelerators of electronics bunkers are costly and this factor is limiting so that more equipment is installed. It is necessary to research constructive options with the objective of reducing costs, without loss of the guarantee of structural stability and radiological protection as a barrier. In the screening study of these facilities, various materials may be employed for radiation attenuation. Reinforced concrete is used in many of these facilities, either for its cost or the constructive facility in Brazil, due to the knowledge of this material. The objective of this study was to design and analyze a bunker buried in reinforced concrete and as a comparative of costs the structure of an ungrounded bunker was also designed, also in reinforced concrete. Some advantages and disadvantages of each structural system were indicated, as well as the costs of the basic structure of two models. The structure of the walls, accesses, slabs, beams and pillars, as well as foundations, in terms of cost, has the ratio of 4 times the bunker not buried to the buried bunker, a significant value in the installation of a radiotherapy service.

INSTRUMENTED FUEL ASSEMBLY

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The flow rate in the channel between two fuel assemblies is very difficult to estimate or measured. This flow rate is very important to the cooling process of the external plates. This work presents the project and construction of an instrumented fuel assembly with the objectives of perform more accurate safety analysis for the IEA-R1 reactor; determine the actual cooling conditions (mainly in the outermost fuel plate) and validate computer codes used for thermalhydraulic and safety analysis of research reactors. Fourteen thermocouples were installed in this instrumented fuel assembly. Four in each lateral channel, one in the inlet nozzle and one in