

The Safe Use of Radiation for Medical Treatment

2005.10.25

The Atomic Energy Council (AEC) has always acted as a safeguard for the use of radiation in medical treatment. In addition to exercising control over the production of radiopharmaceuticals, the Council in recent years has promoted a system to guarantee its quality and thus improve its safety.

A medical cyclotron is capable of producing radioactive material for PET/CT scans which, because of their high degree of accuracy in diagnosing cancer, heart and brain disease, have gained great favor in the medical community. As a result the use of PET/CT scans has developed rapidly in advanced countries around the world, and Taiwan is no exception.

Taiwan's first cyclotron came on line in 1992. In the past three years five cyclotron permits have been issued by AEC and currently one additional cyclotron is under construction. All together, there are some 10 cyclotrons either operating or under construction in the country today, and they are very much in demand.

To guarantee the safety of the PET/CT scanning technique, AEC has adopted a very careful and cautious approach regarding the equipment used. During the licensing review of each of three phases—installation, test operation and formal operation— AEC invites specialists and academics from throughout the country to participate in the process and act as guarantors.

Beginning July 1, 2005, AEC began working on guarantees that would reduce and minimize the risks of unnecessary radiation exposure to patients during the PET/CT scanning process. It focused on the linear accelerator, the Co-60 teletherapy equipment and the remote-control afterloading brachytherapy equipment. In addition to requiring that hospitals develop appropriate plans and employ quality assurance organizations and personnel, AEC also conducts on-site inspections to make certain that hospitals are carrying out their commitments.

As expanding prosperity enables people to increasingly enjoy the benefits of new medical technologies, AEC will continue to work hard on improving its regulatory capabilities and on promoting guarantees for the safe use of radiation in medical treatment in the hope that the public will be fully able to enjoy this type of medical care free from worry.