Parallel SESSION 7.B: Regulatory aspects of accelerator facilities Paper No. 56

REGULATORY CONTROL AT THE CONSTRUCTION STAGE OF A RADIOPHARMACEUTICALS PRODUCTION FACILITY WITH CYCLOTRON IN THE CONTEXT OF COVID-19 PANDEMIC

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Inspections and regulatory processes at the construction stage of a radiopharmaceuticals production facility with cyclotron have certain particularities that distinguish them from the processes related to other stages of the life of a facility.

There are a series of considerations that have to be taken into account in order to assure the conditions stipulated during the design phase, concerning radiation protection of workers, the public and the environment.

Particularly, the construction of a bunker of great thickness, such as a non-self-shielded cyclotron bunker, requires a set of specific controls by the regulatory body for the purpose of avoiding construction failures that could ultimately affect the safety conditions during the operational phase.

Furthermore, since March 2020, the Government of Argentina has stablished restrictions to the circulation due to the sanitary emergency that was declared in view of the new coronavirus COVID-19, which affected the development of on-site regulatory tasks.

The Nuclear Regulatory Authority, through the "Class I Particle Accelerators Control Department", describes in the present paper its regulatory action in the context of the construction process of the facility denominated "Cyclotron-Radiopharmacy Laboratory" from Oulton Institute located in Córdoba City, Province of Córdoba, Argentina, during COVID-19 pandemic; and addresses the difficulties that had to be overcome, the technical solutions and the work methodology that were successfully implemented.

REFERENCES

- [1] Autoridad Regulatoria Nuclear, "Norma AR 10.1.1. Norma Básica de Seguridad Radiológica Revisión 4", (2019).
- [2] Autoridad Regulatoria Nuclear, "Norma AR 5.1.1. Exposición ocupacional en aceleradores de partículas Clase I Revisión 1", (2002).
- [3] Autoridad Regulatoria Nuclear, "Norma AR 5.7.1. Cronograma de la documentación a presentar antes de la operación de un acelerador de partículas Revisión 1", (2002).
- [4] Foro Iberoamericano de Organismos Reguladores Radiológicos y Nucleares (FORO), "Criterios para el licenciamiento y requisitos de inspección en instalaciones con ciclotrones para producción de radioisótopos utilizados en aplicaciones e investigaciones médicas", (2013).
- [5] IAEA, TRS N°471 "Cyclotron produced radionuclides: Guidelines for setting up a facility", (2009).
- [6] IAEA, "Cyclotron Produced Radionuclides: Guidance on Facility Design and Production of [18F] Fluorodeoxyglucose (FDG)", (2012).