



Republic of the Philippines
Department of Science and Technology



PHILIPPINE NUCLEAR RESEARCH INSTITUTE

30 September 2020

PNRI INFORMATION NOTICE 2020-04

NEW REGULATION: CPR PART 30, "SAFETY REQUIREMENTS FOR RESEARCH REACTORS"

ADDRESSEES

Nuclear Reactor Operations Section (NROS) of PNRI and other interested parties who will be involved in the siting, design, construction, operation/commissioning and decommissioning of research reactors, including critical and subcritical assemblies.

PURPOSE

The Philippine Nuclear Research Institute (PNRI) is issuing this information notice to inform addressees of the new Code of PNRI Regulations (CPR) Part 30, "Safety Requirements for Research Reactors". This Part is promulgated pursuant to Republic Act No. 2067: "Science Act of 1958", as amended by Republic Act No. 3589 and Republic Act No. 5207: "Atomic Energy Regulatory and Liability Act of 1968", as amended by Presidential Decree No. 1484, to establish the safety requirements for the siting, design, construction, operation/commissioning, and decommissioning of research reactors, including critical and subcritical assemblies in the Philippines.

DESCRIPTION OF CIRCUMSTANCES

The Philippines Nuclear Research Institute (PNRI) was mandated to undertake research and development activities in the peaceful uses of nuclear energy, to institute regulations on the said uses and to carry out the enforcement of said regulations to protect the health and safety of radiation workers and the general public. By law (RA2067), PNRI facilities, which includes the Philippine Research Reactor 1 (PRR-1), are exempted from the regulatory requirements established by the Institute. However, upon the recommendation of the IAEA to instill the regulatory independence, PNRI Office Order No. 2 Series of 2004, "Regulatory Control Program for PNRI Nuclear and Radiation Facilities and Laboratories" was issued to set up an internal authorization process for all the PNRI nuclear and radiation facilities and laboratories, which includes PRR-1. Previously, the regulatory requirements imposed in the activities of PRR-1 was mainly based on the

available CPRs. In 2016, Technical Cooperation Project PHI0015, "Building Capacity in Nuclear Science and Technology by Re-establishing the Research Reactor-I as a Triga Fuel Subcritical Assembly" was approved and part of the output of this project is to develop a regulation for the safety requirements for research reactors which will apply to the existing research reactor and to any additional research reactors, including critical and subcritical assembly, in the country. Hence, following a request from PNRI, the IAEA held a national consultancy meeting from 12 to 16 June 2017 to provide technical assistance for developing the safety requirements for research reactors in Philippines. The objective of the meeting was to support PNRI to develop the safety requirements for research reactors consistent with the IAEA Specific Safety Requirements No. SSR-3, "Safety of Research Reactors" and other existing CPRs. As a result of this meeting and with the contribution of the IAEA experts, NRD Review Team, and other stakeholders, this regulation was approved and subsequently published in the Official Gazette.

This new regulation will be in conjunction with the radiation protection and safety requirements of CPR Part 3 – "Standards for Protection against Radiation", the safe transport requirements of CPR Part 4 – "Regulations on the Safe Transport of Radioactive Material in the Philippines", siting requirements of CPR Part 5 – "Requirements for Siting of Nuclear Installations", general licensing process requirement for nuclear installations of CPR Part 7 – "Licensing of Nuclear Installations and the security requirements of CPR Part 26 – "Security of Radioactive Sources", and CPR Part 27 – "Security Requirements in the Transport of Radioactive Materials" and other applicable regulations.

DISCUSSION

The CPR Part 30 was published in the Official Gazette Vol. 116 No. 32 on 10 August 2020 and took effect fifteen (15) days thereafter. The requirements in this regulation are applicable to all addressees involved in the establishment of research reactors, including critical and subcritical assemblies.

The CPR Part 30 is mainly focused on the technical safety requirements for all the stages in the lifetime of research reactors, including critical and subcritical assemblies.

It is composed of nine (9) Chapters.

Chapter I of the regulation provides the general requirements for the application which states the purpose and scope of the regulation, the definition of terms used, among others.

Chapters II to III of the regulation provides for the overall requirements for management system to ensure safety. This defines the duties and responsibilities of the applicants/licensees to the organization as stated in their company safety policy objectives.

Chapter IV provides the detailed requirements for safety verification process. It also establishes requirements regarding the evaluation and selection of the research reactor site and deals with the evaluation of new sites and the sites of existing research reactor facilities based on the safety criteria set forth in CPR Part 5, "Requirements for Siting of Nuclear Installations".

Chapter V establishes the requirements for the safe design of all types of research reactor taking into account the following:

- Research reactors with power levels in excess of several tens of megawatts, fast reactors and reactors using experimental devices such as high pressure and temperature loops and cold or hot neutron sources may require the application of supplementary measures or even the application of requirements for power reactors and/or additional safety measures.
- For a specific research reactor, critical assembly or subcritical assembly, the application of certain requirements may be graded with account taken of the nature and possible magnitude of the hazards presented by the given facility and the activities conducted.

Chapter VI establishes the requirements for the safe operation of research reactor, including commissioning, maintenance, utilization and modification.

Chapter VII establishes the requirements for the preparation for the safe decommissioning of a research reactor.

Chapter VIII provides requirements for the interfaces between safety and security for research reactor.

Chapter IX establishes the effectivity of the regulation which is fifteen (15) days after publication in the Official Gazette or news paper of general circulation.

Appendix I provides a list of the selected postulated initiating events to be considered in the safety analysis for a research reactor. Appendix II deals with the operational aspects warranting particular consideration.

The new CPR Part 30 is now available and can be downloaded from the PNRI website. (www.pnri.dost.gov.ph).

REQUIRED LICENSEE/APPLICANT RESPONSE

The new regulation contains requirements that all addressees are required to comply.

CONTACT

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