

New Licensing System for Nuclear Reactor in Indonesia

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1. Introduction

In the Presidential Regulation No. 5 Year 2006 on National Energy Policy 2025 states that national electricity plan up to 2025 includes 2% nuclear energy options. Furthermore, the Blue Print on national Energy management issued by Ministry of Energy and Mineral Resources, has established a program on the construction and operation of NPP. To meet the national electricity demands, one out of four NPPs be operated in the year 2016.

To face the construction and operation those NPPs, BAPETEN as the regulatory body performs preparations of NPPs controlling infrastructure, through establishment of regulations, licensing, review and assessment, and inspection and enforcement. Hence, it is implementing the Act No. 10 year 1997 on Nuclear Energy.

To implement article 3 paragraph 3 of Act No.10 year 1997 on Nuclear Energy, the Government Regulations No. 43 Year 2006 on the Licensing of Nuclear Reactor has been issued in December 2006. This government regulates the licensing of nuclear reactors including NPPs. The government regulations objective is to regulate the licensing of the constructions, operation and decommissioning of nuclear reactor, in order to ensure the safety and health of workers, members of the public, as well as the protection of the environment and the security of nuclear Installations and materials.

2. Licensing

Nuclear reactor to be licensed are: (a) Commercial and non commercial power reactors, and (b) Commercial and non commercial non power reactors. Commercial power reactor shall only be constructed based on proven technology.

The construction, operation and decommissioning of non-commercial power reactor or non-commercial non-power reactor are carried out by the promoting body which can cooperate with other government agencies and states universities. And the construction, operation and decommissioning of commercial power or non power, such as a nuclear power plant, is established by Ministry of energy after consulting with House of Parliament.

The operating organizations that will perform the construction, operation and decommissioning nuclear reactor as stipulated in the article 5 shall have a license from Chairman of BAPETEN. This license is issued in several stages, including: (a) site license, (b) construction license, (c) commissioning license, (d)

operating license, and (d) decommissioning license. The operating organization has fulfilled the administrative and technical requirement.

2.1. Site License

Before submitting the applications of site license, the applicant shall perform site evaluation. And this site evaluation can only be conducted after fulfilling the requirements on site evaluation. More detail of those requirements on site evaluation will be further regulated in the chairman of BAPETEN regulation. In applying site license, the applicant shall submit an application to the chairman of BAPETEN. After receiving the site license application document further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the license for the site.

2.2. Construction License

The applicant shall submit an application for the construction license in a period of maximum 4 (four) year after the issuance of site license. This application is submitted to the Chairman of BAPETEN by attaching the administrative and technical requirement. After receiving the construction license application document further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the license for construction. The construction license is valid for period of maximum 5 (five) year after the date of issue.

2.3. Commissioning License

An application for commissioning license could be submitted to the Chairman of BAPETEN when: (a) the construction activities have completed; (b) the applicant has already had possessed the license to utilize nuclear material; and (c) the reactor operator possessed the license. This application is submitted to the chairman by attaching the administrative and technical requirement. After receiving the Commissioning license application document further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the license for Commissioning. The Commissioning license is valid for period of maximum 2 (two) year after the date of issue.

2.4. Operating License

The applicant may submit an application for an application for an operating license to the chairman of BAPETEN when: (a) the Commissioning activities have completed; (b) the applicant has already had possessed the license to utilize nuclear material; and (c) the reactor operator possessed the license. This application is submitted to the chairman by attaching the administrative and technical requirement. After receiving the operating license application document further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the operating license. The Operating license is valid for period of maximum 40 (forty) year after the date of issue.

2.5. Combined Operating License

For nuclear reactor with modular design certificate by vendor regulatory body, the applicant may submit an application for combined license after possessing site license. The combined license is a combination of construction, commissioning and operating license. And the applicant shall submit an application of combined operating license within maximum period of 2 (two) year since the issuance of the site license. When the applicant does not apply for combined operating license within the period of 2 year, the site license is declared not valid.

This application is submitted to the chairman by attaching the administrative and technical requirement. After receiving the operating license application document further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the combined operating license. The Combine operating license is valid for period of maximum 45 (forty five) year after the date of issue.

2.6. Decommissioning License

Decommissioning activities shall performed when: (a) Nuclear employer apply, before operating license or combined operating license expired; (b) Nuclear employers will not renew the operating license or combined operating license; (c) Application for operation and combine operating license renewal is refused by the chairman of BAPETEN based on the safety and/or security problems; or (d) There is severe accident or an event threatening the safety and/or security of nuclear reactor operation. This application is submitted to the chairman by attaching the administrative and technical requirement. After receiving the operating license application document

further BAPETEN will conduct review and assessment. If the application fulfill the requirement and technical acceptance criteria BAPETEN will stipulated the license for Decommissioning. The Decommissioning license is valid after the date of issue until the declaration of the free radiation and contamination release of site is issued by the Chairman of BAPETEN.

2.7. Termination of License

The termination of license, which is not applied for the site and decommissioning license, is subject to: (a) the expiration of the license; (b) the nuclear employer go bankrupt; (c) license revoking by BAPETEN; or (d) an application by the nuclear employers.

In the case the license termination as mentioned above, the nuclear employers still have the responsibility for the performing of decommissioning and management of nuclear reactor, nuclear fuel, and radioactive waste complying with applied regulations.

3. Modification

The nuclear reactor license could perform the modification of system, structure and components of a nuclear reactor after meeting the modification requirement.

4. Inspection

Inspection for the regulatory control to ensure the site, construction, operation and decommissioning of nuclear reactor licensing requirement are complied with, are performed by BAPETEN. Those inspections are performed (periodically or incident, with or without any notification) by inspectors who are appointed and dismissed by the chairman of BAPETEN.

5. Conclusion

Indonesia is already prepares the new licensing system for nuclear reactor by issued Government Regulation No. 43 Year 2006.

Facing the first nuclear power plant construction, BAPETEN as soon as possible accelerates the establishment of regulations and guide to support the government regulations No. 43 Year 2006.

REFERENCE

- [1] Act No. 10/1997 on Nuclear Energy, BAPETEN, Indonesia, 1997.
- [2] Government Regulation No. 43/2006 on Licensing of Nuclear Reactor, BAPETEN, Indonesia, 2006.