

Re-designation of KAERI as an IAEA ICERR

Sung Ho Ahn^{a*}, Youngmi Nam^b, Gwang Min Sun^a, Jin Won Shin^c, Young Soo Han^d, Jintae Hong^e, Dosik Kim^f
^aHANARO Utilization Division, ^bNuclear Training and Education Center, ^cHANARO Management Division, ^dNeutron
Science Division, ^eRadioisotope Research Division, ^fPost Irradiation Examination Division, Korea Atomic Energy
Research Institute, 111, Daedeok-daero 989beon-gil, Yuseong-gu, Daejeon, 34057, Korea
*Corresponding author: shahn2@kaeri.re.kr

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1. Introduction

IAEA initiated the IAEA designated International Centre based on Research Reactor (ICERR) in 2014 which intends to help Member States gain timely access to relevant nuclear infrastructure based on the research reactors and their ancillary facilities. Research reactors and their ancillary facilities in seven IAEA Member States are currently designated as ICERRs, serving as centres for education, training, and joint R&D projects.

KAERI was designated as an ICERR by IAEA on July 2019. The expiration of the ICERR was July 2024. KAERI applied for the ICERR re-designation to the IAEA in October 2013 [1]. After a review from IAEA's ICERR selection committee, KAERI was re-designated as an IAEA ICERR in 2024. The designated areas are hands-on training, and joint R&D projects. The facilities designated for the ICERR include the HANARO research reactor and its ancillary facilities such as Radioisotope Production Facility (RIPF), neutron beam facility, neutron irradiation facility, Irradiated Materials Examination Facility (IMEF), Nuclear Training and education Center (NTC).

2. Application and Assessment

Since the validity of ICERR designated in 2019 expires in July 2024, KAERI applied the re-designation in October 2023 based on the ICERR Term of Reference for IAEA ICERR [2].

2.1 Activities and achievements as an ICERR

KAERI has been carrying out various international cooperation activities since being designated as an ICERR in 2019. ICERR cooperation has encountered numerous challenges since the onset of 2020 due to the impact of COVID-19 pandemic. Despite the COVID-19 pandemic, KAERI-ICERR has produced the following significant achievements in the areas of hands-on training and joint R&D projects while carrying out activities under the ICERR scheme [3]:

- Supporting affiliates;
- Joint R&D cooperation with international users;
- Hosting international/regional conferences workshops, and meetings;

- Conducting international/regional trainings;
- Accepting international/regional scientific visits;
- Maintaining international partnership agreements.

KAERI NTC conducted the online training courses during the COVID-19 pandemic period. These KAERI's efforts have greatly helped IAEA Member States with trainings and R&Ds in the field of research reactors.

2.2 Self-assessment

Based on the ICERR Term of Reference for IAEA ICERR, a self-assessment was conducted on the logistic indicators, technical indicators, sustainable indicators, and indicators for re-designation during the previous ICERR designation period.

KAERI provides logistical supports including visas, free commuter buses, and accommodation for all visitors. KAERI helps KAERI visitors to live without any inconvenience.

KAERI has extensive technical experience and expertise in the fields of facility operations, trainings, joint R&Ds using HANARO research reactor and its ancillary facilities including RIPF, neutron beam facility, neutron irradiation facility, IMEF, and NTC. NTC is an integrated training center in KAERI that offers a diverse range of training programs for both domestic and international nuclear personnel in partnership with various international organizations. NTC provides a variety of training programs for personnel from various sectors, including utilities, regulatory bodies, industries, universities, and R&D institutes, with courses covering a wide range of fields such as the utilization of radioisotopes, nuclear power applications, nuclear fuel technology, research reactor experiments, and non-destructive testing.

KAERI has executed nuclear R&D projects in alignment with national nuclear policies. As a result, the Korean government and KAERI maintain a close cooperative relationship in establishing national nuclear policies or determining details and scope of R&D projects. The Strategic Plan (SP) for the sustainability of HANARO has been established in accordance with the IAEA guideline. Moreover, it is being revised regularly. This SP contains the area focused on plans for

5 to 10 years, as related to human resources, budget, utilization, operation and maintenance, spent fuel storage, ageing management, waste management, etc. There is no expiration date on the formal operating license of HANARO. The first Periodic Safety Review (PSR) of HANARO began in 2015. The PSR is performed every 10 years.

Since being designated as an ICERR in 2019, KAERI has achieved many achievements through activities such as supporting affiliates, joint R&D cooperation with international users, hosting conferences/workshops/meetings, conducting training programs, accepting scientific visits, maintaining international partnership agreements, etc. KAERI has produced the significant achievements in the areas of hands-on training and joint R&D projects while carrying out activities under the ICERR scheme.

KAERI meets all the indicators regarding logistic, technical, sustainable, and re-designation required by the ICERR Term of Reference for IAEA ICERR in the assessment for ICERR re-designation.

3. Re-designation of ICERR

Based on rich experience and high expertise in the areas of research reactor and ancillary facilities as well as previous operational experience and achievements of ICERR, KAERI applied for the ICERR re-designation to the IAEA in October 2023. Just like previous application, application areas are hands-on training and joint R&D projects. In addition, application facilities are HANARO research reactor, RIPP, neutron beam facility, neutron irradiation facility, IMEF, and NTC.

The IAEA's ICERR selection committee reviewed KAERI's application for ICERR re-designation and conducted an audit in March 2024. After this review, KAERI was finally re-designated as an IAEA ICERR in 2024. A side-event for the 10th anniversary of the IAEA initiative on ICERR and re-designation of KAERI as an ICERR was held at the IAEA headquarter during 68th IAEA general conference in September 2024.

4. Conclusions

KAERI has produced significant achievements in the areas of hands-on training and joint R&D projects while carrying out activities under the ICERR scheme since being designated as an ICERR in 2019. KAERI applied the re-designation based on the ICERR Term of Reference for IAEA ICERR. KAERI was re-designated as an IAEA ICERR in 2024 after assessment from IAEA's ICERR selection committee.

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