

JAEA R&D Review 2022-23

URL: <https://rdreview.jaea.go.jp/>

Published by

Japan Atomic Energy Agency in January 2023

Editorial Board

Chief editor: Michio Yoshizawa

Editors: Yosuke Iyatomi, Yoshio Suzuki, Mitsuo Koizumi, Tadahiro Washiya, Kazuki Iijima,
Yasuhiro Chimi, Katsuhisa Nishio, Hideo Harada, Yasuji Morita, Yasuo Nishihata,
Kenji Sakai, Seiji Kitamura, Hiroaki Takegami, Makoto Terauchi, Takashi Mizuno,
Kazuhiko Sato

This publication is issued by Japan Atomic Energy Agency (JAEA) on a yearly basis.
Inquiries about availability and/or copyright of the contents in this publication should be addressed
to Institutional Repository and Utilization Section, JAEA Innovation Hub, JAEA.

Address: 2-4 Shirakata, Tokai-mura, Naka-gun, Ibaraki-ken 319-1195, Japan

Phone: +81-29-282-6387, **Facsimile:** +81-29-282-5920, **e-mail:** ird-seika_shi@jaea.go.jp

All Rights Reserved by JAEA ©2023

About the Cover Design

The cover design depicts white hexagons that are similar to a tortoise-shell pattern. This represents the ancient Japanese symbol of the desire for long life. Coincidentally, this is also the shape of the core fuel assemblies in the high-temperature engineering test reactor, “HTTR”.

The top left figure shows a three-dimensional (3D) map visualizing the air dose rate and highly contaminated region near Unit 1/2 exhaust stack at TEPCO’s Fukushima Daiichi NPS (1F). The bottom right figure shows HTTR-Hydrogen Production Test Facility.

The 3D map visualizes the radioactive contamination situation within the 1F site and is realized by the integrated Radiation Imaging System (iRIS), which comprises a combination of technologies from different fields, including radiation measurement. This system contributes to the reduction of radiation exposure of workers and work planning. Further details can be found on page 23 in Chapter 1, Topic 1-10.

The hydrogen production project utilizing HTTR heat was launched in FY2022 to establish the technology connecting a reactor with a hydrogen production facility. Further details can be found on page 62 in Chapter 6, Highlight.



Other Publications

Industrially applicable patented technology and know-how within the intellectual property owned by JAEA can be found on “JAEA Technology Seeds”.

The activity status of the whole agency, including CSR, can be found in the annual report, “Japan Atomic Energy Agency 2022 (Business Report FY2021)”.