

## Greetings from the Chair of the JSME Power Energy Systems Division



**Hitoshi Asano**

I would like to take this opportunity to say New Year's greetings to the readers, reviewers, and editors of *ASME Journal of Nuclear Engineering and Radiation Science* as a Chair of the Power and Energy Systems Division (PESD) of the Japan Society of Mechanical Engineers (JSME).

Last year was not necessarily a good year. Russian's invasion of Ukraine, which began in February 2022, threatens the world order toward peace and has led to energy insecurity, especially in Europe. The energy situation is becoming more complex. Energy prices are skyrocketing, and further energy saving is required. This situation is serious in Japan, where energy self-sufficiency is quite low, less than 10%, partly due to the weak yen. We must also move toward carbon neutrality. Japan has set a goal of reducing greenhouse gas emissions by 46% from 2013 levels by 2030 and achieving full carbon neutrality by 2050. To achieve this goal, it is planned to increase the share of nuclear power in the power source composition from 9% in 2019 to 20 to 22% in 2030. This goal is not an easy one to achieve given the public opposition to it since the Fukushima Daiichi nuclear power plant accident following the Great East Japan Earthquake, but the effective operation of nuclear power plants is essential. We should promote safety measures for nuclear power generation, train engineers, and widely send our achievements on the latest research and development. The *ASME Journal of Nuclear Engineering and Radiation Science* is a very important and powerful scientific journal to share the latest research developments in the field of nuclear engineering and radiation science. We can believe that the ASME NERS continues to contribute to the development in nuclear power engineering.

Japan is also facing the problem of a decrease in the number of engineers in power engineering, because new nuclear and thermal power plants are not being built. Teaching traditional technologies to young engineers is needed to keep and improve the level of technology for power plant construction. For the purpose, JSME publishes the eight specialized books from Elsevier as "JSME Series in Thermal and Nuclear Power Generation." The titles of these books are "Fundamentals of Thermal and Nuclear Power Generation," "Advances in Power Boilers," "Sodium-cooled Fast Reactors," "Boiling Water Reactors," "High Temperature

Gas-cooled Reactors," "Pressurized Water Reactors," "Pressurized Heavy Water Reactors, CANDU," and "Pressurized Heavy Water Reactors, Atucha II." These specialized books are expected to help young engineers acquire basic knowledge.

On the other hand, there was good news. Social conditions are getting back to normal before the coronavirus catastrophe. In Japan, the border control measures against coronavirus have been relaxed since last October. It is expected to increase opportunities for face-to-face discussion at international conferences. JSME PESD is organizing ICONE as an international conference on nuclear engineering jointly with ASME Nuclear Engineering Division and Chinese Nuclear Society, and ICOPE as an international conference on power engineering except nuclear engineering jointly with ASME Power Engineering Division and Chinese Society of Power Engineering. In May 21 to 26, 2023, ICONE and ICOPE will be concurrently held in Kyoto under the slogan "Nuclear, thermal, and renewables: United to provide carbon neutral power." The international conference will be held face-to-face. Energy issues are complex, and it is difficult to find solutions from three perspectives: energy security, economic growth, and environmental protection. Nuclear power is an important baseload electricity source without greenhouse gas emission. Thermal power is still needed as a dispatchable source of electricity to cover fluctuation of power output of natural energy, such as wind and solar. It is strongly expected that ICONE and ICOPE in Kyoto will provide a place for researchers and engineers from various energy-related fields to discuss energy issues. We hope that the collaboration on ICONE and ICOPE with ASME continues for worldwide discussion on energy issues.

Finally, we wish the *ASME Journal of Nuclear Engineering and Radiation Science* continuous contribution to further development of nuclear engineering as a top world nuclear engineering journal. In collaboration with the ASME Nuclear Engineering Division, the JSME Power and Energy System Division will continue to support the development of the fields of nuclear engineering and radiation science for a sustainable development.

May happiness and success be with you throughout the new year.

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