

December 13, 2023

**Resonac Contracts with Nippon Yusen and JERA to Make Joint Effort to
Realize Supply of Ammonia Fuel to a Tugboat**
—Aiming to Contribute to Decarbonization of Marine Transport—

On December 12, 2023, Resonac Corporation (President: Hidehito Takahashi, hereinafter “Resonac”) contracted with Nippon Yusen Kabushiki Kaisha (President and CEO: Takaya Soga, hereinafter “Nippon Yusen”) and JERA Co., Inc. (hereinafter “JERA”) to make joint effort to realize supply of ammonia fuel to a boat as the first case in the world.

With its partner companies, Nippon Yusen has been carrying out research and development of tugboats equipped with ammonia engines made in Japan (hereinafter “A-Tug”) as a part of Green Innovation Fund Projects* sponsored by New Energy and Industrial Technology Development Organization (hereinafter “NEDO”). Construction of the first A-Tug is scheduled to be completed at Yokohama Harbor in June 2024. By utilizing ammonia as fuel for boats and ships, it will become possible for boats and ships to drastically reduce greenhouse-gas (GHG) emission during their voyages. Thus, ammonia fuel is expected to contribute greatly to realization of zero-emission boats and ships in the future.

Resonac, Nippon Yusen and JERA will make joint effort to achieve the following three objectives.

- Establishment of safe operation method for fuel supply
- Establishment of systems to transport ammonia fuel to harbors and accept it at harbors
- Approach to the relevant organizations to encourage establishment of rules and regulations about supply of fuels to boats and ships

People have high hopes for ammonia as next-generation fuel because it burns without emission of CO₂. Resonac has been producing and selling ammonia since 1930's and has rich knowledge about safe handling of ammonia including transportation and supply.

Resonac will strive to realize safe and secure supply of ammonia fuel to boats and ships as the first case in the world, and contribute to realization of carbon-neutral society.



Computer graphics of A-Tug (provided by Nippon Yusen Kabushiki Kaisha)

Outline of Nippon Yusen and JERA

[Nippon Yusen Kabushiki Kaisha]

Location of the head office: Chiyoda-ku, Tokyo, Japan

Representative: Takaya Soga, President and CEO

Website: <https://www.nyk.com/english/>

[JERA Co., Ltd.]

Location of the head office: Chuo-ku, Tokyo, Japan

Representatives: Yukio Kani, Global CEO and Chair

Hisahide Okuda, President, Director, CEO and COO

Website: <https://www.jera.co.jp/en/>

*Green Innovation Fund Projects:

In October 2020, the Japanese Government declared that it aims to achieve carbon neutrality by 2050. Aiming to significantly accelerate efforts toward structural changes in the energy and industrial sectors and undertake bold investment for innovation, which are necessary for achievement of the above national target, Ministry of Energy, Trade and Industry (METI) decided in October 2020 to develop the Green Innovation Fund at the level of 2 trillion yen as part of the NEDO. The plan of Green Innovation Fund Projects, which are based on the specific goals shared by public and private sectors, is to continuously support companies and other organizations which show their commitment to challenge such ambitious goals as their business issues ranging from research and development (R&D) to demonstrations to social implementation of the outcomes. Support to each project is to be continued up to a maximum of 10 years. Support provided by Green Innovation Fund focuses on 14 important fields for which the Japanese Government has formulated action plans under the framework of its Green Growth Strategy.

For details of the NEDO's program to support development of next-generation boats and ships, please refer to the news release, [“A Green Innovation Fund Project starts development of next-generation ships.”](#) which was announced on October 26, 2021 (in the Japanese language).

[About the Resonac Group]

The Resonac Group is a group of chemical companies that produces and sells products related to semiconductor and electronic materials, mobility, innovation enabling materials, chemicals, etc. The Group has a wide variety of materials and advanced material technologies applicable to midstream to downstream of supply chains of various products. In January 2023, the Showa Denko Group and the Showa Denko Materials Group (former Hitachi Chemical Group) merged into the Resonac Group and made a start as a new corporate group. The new trade name “RESONAC” was created as a combination of two English words, namely, the word of “RESONATE” and “C” as the first letter of CHEMISTRY. As a “co-creative chemical company,” Resonac aims to continue growing and enhance its corporate value through co-creation. The Group recorded net sales of about 1,400 billion yen in 2022, and its overseas sales accounted for 56% of net sales. The Group has deployed production/sales bases in 22 countries and regions, and continues operating its business globally (as of January 2023).

For detail, please refer to our Website.

Resonac Holdings Corporation: <https://www.resonac.com/>

For further information, contact:

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Resonac Holdings Corporation