

Shaping
the future



We help the world
flow forward

Singapore Safety@Sea Conference

All Hands on Deck for Safe Ammonia Bunkering

Glen Davenport - Vice President

Introduction of Glen and Vopak - Our Way of Safety



Glen Davenport is the Vice President of Technical and Operations, for Vopak Terminals in Singapore.

Heads the operations for Singapore across the 4 terminals – Banyan, Penjuru, Sakra and Sebarok.

Board for Banyan Caverns Storage Services

20 years' of experience from frontline to leading terminal operations internationally across Australia, Malaysia and Singapore.

Safety in operations is the core of Vopak's success matrix.

We are guided by Corporate standards, developed through the combined expertise and experience of our network of 76 terminals globally.

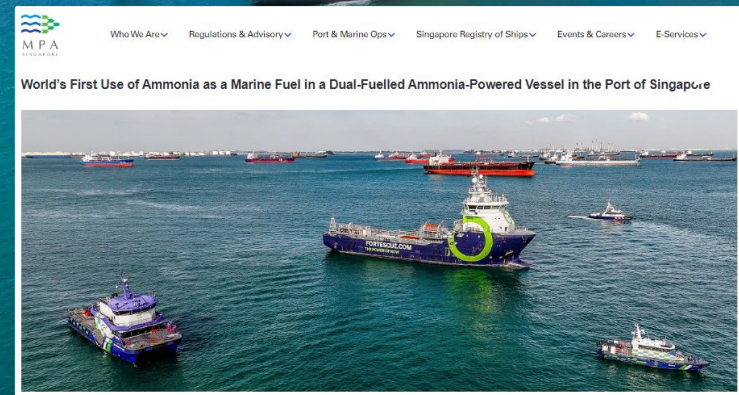
We focus on personnel and process safety.

1. VTS adheres to Vopak's safety and health management system, including workplace inspections, management system reviews and audits.
2. VTS is classified as a Major Hazard Installation and is obliged to fulfil the requirements set by the Authorities on process safety.

We research and invest heavily in the best practices, with structured operational procedures in place to securely transfer energy fuels - Ammonia, Hydrogen, Methanol, Biofuels and Oil.

Ammonia Bunkering in Singapore

Vopak's Banyan Terminal completed the world's first ammonia bunker fuel loading operation - March 24



Vopak co-chairs the revision of Ammonia Storage & Handling Standards, PGS-12, for the Netherlands

PGS: Publication Series on Hazardous Substances

About PGS12:

- **Ammonia specific** Storage and Handling Guidelines
- Developed and maintained by the **NEN institute** (Dutch Normalisation Institute)
- a **legal requirement** in the Netherlands but also being used **as reference** abroad
- Dedicated to import terminals built in **densely populated areas**; similar to Singapore's operating constraints
- Describes **Best Available Techniques** (BAT)

12

Ammoniak – Opslag en verlading

Richtlijn voor het veilig opslaan en verladen van ammoniak



WORK GROUP

Industry Representatives

Vopak
Yara
OCI Nitrogen
Proton Ventures

Authorities

DCMR (Environmental Protection Agency of Rijnmond Region)
Rijkswaterstaat (Ministry of Infrastructure and Water Management)
VRZ (Safety Region Province of Zeeland)

Emergency Respondents

Fire Department
VR-RR (Safety Region Rotterdam Rijnmond)

We help the world flow forward >

Thank you



www.vopak.com