nicko cruises
VASCO DA GAMA

genset power with
shore power connection

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FORTE ENGINEERING

IEC 80005 compliant

Customer Background:

The Vasco Da Gama, a cruise ship operated by Mystic Ocean, is a 1993-built vessel that has undergone extensive modernization to align with current environmental and climate protection regulations. With Mystic Ocean's commitment to sustainability and the longevity of their fleet, the Vasco Da Gama has been undergoing annual retrofits to enhance energy efficiency, reduce emissions, and comply with international maritime standards. The ship serves as a symbol of the company's dedication to environmentally responsible cruising and the passenger experience.

Problem Statement:

The Cruise Liner owner aimed to reduce emissions and meet EU and IMO environmental regulations, the ability to seamlessly connect to shore power while in port was critical as per IEC 80005. Furthermore, the outdated power management system presented additional challenges in integrating the gensets with the shore power supply, jeopardizing the ship's ability to reduce fuel consumption and emissions during docking.

Solution:

To address these challenges, Forte Engineering, designed and implemented an advanced and fully compliant shore connection system as per IEC 80005-1. The solution included:

easYgen-3500XT-P2 Controllers: These advanced controllers ensured reliable paralleling of the onboard gensets with the shore power supply, enabling seamless power transfer during docking operations. The system included 2 Wärtsilä-Sulzer 12ZAV40S units, each delivering 10.3 MW, and 3 Wärtsilä-Sulzer 8ZAL4 units, each providing 6.9 MW, resulting in a total combined power output of 41.3 MW

LS-6XT-P2 and **easYview** Panel Integration: These components streamlined the synchronization and management of the ship's power systems, enabling smooth transitions between onboard and shore power.

Upgraded **HVSC Master Control Panel**: The modernized system ensured compliance with IEC 80005-1 standards, addressing protection functionalities and providing a robust operational reliability.

Customized Design by Forte Engineering: A tailored approach ensured that the solution not only met the technical specifications but also integrated seamlessly into the existing ship systems.

The new shore power connection system allows the Vasco Da Gama to operate on cleaner energy while in port, significantly reducing emissions and fuel consumption.

Powering a Clean Future

WOODWARD

Impact:

The implementation of Woodward's shore power solution delivered substantial benefits to the Vasco Da Gama:

- **Environmental Impact**: By utilizing shore power, the ship eliminated the need to run diesel generators in port, drastically reducing greenhouse gas emissions and air pollutants. This aligns with stringent EU and IMO environmental regulations.
- **Economic Benefits**: The reduction in fuel consumption while docked translates to significant cost savings. Additionally, compliance with environmental regulations avoids potential fines or operational restrictions in ports with strict emission standards.
- **Operational Reliability**: The system's robust design and compliance with IEC 80005-1 standards ensuring seamless and safe operation.
- **Future-Proofing**: The upgraded system enhances the ship's ability to adapt to evolving environmental regulations, extending its operational life and ensuring continued competitiveness in the cruise industry.

The successful modernization of the *Vasco Da Gama* highlights the transformative impact of advanced technology in tackling complex maritime challenges. Woodward's shore power solution, expertly designed by Forte Engineering, not only resolved critical operational issues but also positioned the vessel as a model for sustainable cruising. This case study emphasizes the vital role of collaboration, innovation, and regulatory compliance in shaping the future of the maritime industry.

For further information
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