Optimized Design of Crew Transfer Vessels for Wind Farm Operations

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As the floating offshore wind sector matures, the role of Crew Transfer Vessels (CTVs) becomes increasingly critical to ensuring safe, efficient, and cost-effective operations. Unlike fixed-bottom installations, floating wind farms introduce unique challenges—such as increased vessel motion, variable mooring systems, greater distances from shore, and more dynamic environmental conditions—all of which influence vessel design and operational planning.

This presentation explores how early-stage wind farm characteristics—including turbine layout, transit distance, port infrastructure, and personnel transfer requirements—must be integrated into CTV design to ensure optimal performance from day one. Key design elements such as hull form, propulsion systems, motion mitigation strategies, and onboard facilities directly impact crew safety, comfort, and operational efficiency.

Our company supports developers and operators through the early phases of wind farm planning by applying simulation, design reviews, and interface analysis to ensure that CTV capabilities align with the operational realities of floating offshore wind. This integrated approach enables informed decision-making around vessel selection and outfitting, while also helping to de-risk marine operations ahead of commissioning.

By incorporating wind farm-specific requirements into CTV design from the outset, operators can reduce long-term costs, improve safety outcomes, and enhance overall project sustainability. Marine access planning becomes a critical enabler—not just of logistical efficiency—but of the long-term viability of offshore wind operations. This session will share practical strategies and lessons learned from supporting clients through early-stage planning, providing a framework for ensuring marine logistics readiness in the floating wind sector.