

Formula 1

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Formula 2

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Formula 3

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Detailed Explanation

Annex D of IEC 62600-3:2022 is a prescriptive yet adaptable verification framework embedded within the broader international standard for marine energy device design and operation. It explicitly supports Clause 8 (Mooring and Foundations) by translating high-level design requirements into actionable verification items grouped into thematic categories—including environmental loading assumptions, structural integrity assessment, material selection, corrosion protection, installation methodology, and long-term monitoring provisions. Each checklist item mandates evidence-based justification—such as calculation reports, test results, or third-party certifications—and requires traceability to specific clauses of IEC 62600-3 or referenced standards (e.g., ISO 19901-6, DNV-RP-F205). The annex emphasizes risk-informed verification: higher-consequence failure modes (e.g., anchor pullout in extreme storms or chain fatigue under cyclic loading) demand more rigorous validation, including dynamic simulation, prototype testing, or site-specific metocean data calibration. Furthermore, it promotes lifecycle thinking by requiring verification not only of initial design but also of inspection/maintenance plans, degradation allowances, and decommissioning considerations—ensuring robustness across the full service life of the MRE system.

Key Components

#	Component
1	Environmental Load Assessment Verification
2	Mooring Line & Anchor System Integrity Checks
3	Installation and Commissioning Documentation Validation

Applications

#	Application
1	Third-party certification of wave energy converter mooring systems
2	Regulatory compliance review for offshore MRE project permitting
3	Design audit and gap analysis during pre-FEED or FEED engineering phases

Related Concepts

#	Concept
1	Risk-Based Inspection (RBI)
2	Metocean Design Conditions
3	ISO/IEC 17065 Conformity Assessment

Tags

mooring_verification, marine_renewables, IEC_standard