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海象觀測即時監測預警系統研發
Technology Development of Oceanographic observation, Real-time Monitoring and Early Warning System

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摘要

本研究以建立海象觀測及即時監測預警系統為主，與示範獎勵辦法得標開發商上緯公司共同推動風海觀測塔海象觀測技術發展及觀測站建置，並將觀測成果相關海域環境資訊建置即時監測系統提供相關資訊與本海域相關單位組織如漁會、縣政府、經濟部水利署第二河川局、示範風場工程規劃設計單位及海事工程施工單位，作為海象觀測技術發展中知識服務的示範。此外本研究更以即時監測系統為基礎，利用觀測資料分析及發展數值模式以平常與極端海象條件進行預測，將可能造成風場營運及對週遭環境的影響與衝擊指標因子予以識別並量化預警值與行動值，完成自動化的預警系統。透過本研究的資訊加值服務，期能建立完整海象即時監測與預警系統，及技術手冊與教育訓練等，再加上產業界與學術界研發合作，共同提升國內離岸風場運維能力及國內相關海象觀測產業發展等願景。

關鍵詞：離岸風力發電、風海觀測塔、海象觀測、即時監測、預警系統、超音波漂沙懸浮質濃度量測。

Abstract

This study will develop the key technology of oceanographic observation, real-time monitoring and early warning system of marine environment. This study can improve the offshore oceanographic observation and the application of monitoring and early warning system technology. It could promote the development of offshore renewable energy industry in Taiwan. This study will also assist the offshore wind farm investor to establish and to provide the requirement oceanographic observation of the offshore wind observation mast and the technology of analysis, simulation and application for monitoring data. To successfully perform the operation and maintenance of the demonstration wind farm, the real-time monitoring and early warning system must be worked before wind farm construction. Finally, the complete information system, technical documentations, operation manuals and education and training lessons will be developed. With this study, it could collaborate between university institution and industry to promote, to improve and to engage in the research and development of the planning, operation and maintenance capacity for offshore wind farm.

Keywords: Offshore wind farm, Oceanographic observation, Real-time monitoring and early warning system, Supersonic measuring instrument of suspended sediment.