

離岸風場運轉與維護訓練課程

Offshore Wind Operation and Maintenance Training Course

時間 (Time)：104 年 5 月 28 日至 29 日 (四&五) 09:00~16:00

地點 (Venue)：台大嚴慶齡工業研究中心 124 會議室

台北市大安區基隆路三段 130 號 (捷運公館站 2 號出口)

指導單位 (Advisor)：經濟部能源局 (BOE, MOEA)

主辦單位 (Organizer)：工業技術研究院 (ITRI)

千架海陸風力機計畫辦公室 (TWTPO)

政府已公布「千架海陸風力機」之政策目標，並成立「千架海陸風力機計畫推動辦公室」，全力推動國內風力發電之設置與發展，預計將創造出 5,000 億元之內需商機。為促進離岸風力發電產業之發展，並降低業者開發之風險。經濟部已於去 (102) 年 10 月 28 日完成風力發電離岸系統示範獎勵案之簽約儀式，正式啟動台灣離岸風力發電之實質開發。將於 2015 年完成國內首座離岸示範風場之開發，後續則透過經濟規模之區塊開發的方式，逐步達成 2030 年離岸裝置容量的目標。

為協助國內有興趣業者投入離岸風場開發，經濟部能源局透過「千架海陸風力機計畫推動辦公室」，規劃一系列相關技術訓練課程。訓練課程範圍將涵蓋以離岸風場的「時程」來思考，朝「規劃與申設」、「設計與施工」以及「運轉及維護」三個主要階段的相關工作來展開。

依規劃本次將進行 2 天之「離岸風場運轉及維護」訓練課程，第一天將針對離岸風場之運轉和維護進行介紹，並針對船隻靠近與維護策略等進行說明。第二天將介紹有關離岸風場之評估管理課程，及相關案例分析等。

DNV-GL 公司簡介：

DNV-GL 為全球最大之風能產業顧問諮詢暨認證機構，目前約有 17,000 名員工分佈在 100 個國家，其風能部門有超過 400 名專業的能源顧問。除了風能領域外，也跨逐包含太陽能、潮汐能、地熱等再生能源。DNV-GL 目前佔全球陸域與離岸風力發電 70% 以上之認證及驗證技術之業務。目前有超過 35 GW 之風力資源評估是由 DNV-GL 執行，超過 500 座測風塔之採購、安裝和營運由 DNV-GL 提供技術支援。為目前市佔率最高之風能顧問和認證公司。

講師簡介:

Mr. Robin Redfern, Offshore Operations & Maintenance Specialist

Mr. Robin Redfern has a mechanical engineering background and has been a project engineer with the offshore team at DNV GL - Energy for 6 years. He specialises in the area of offshore wind operations and maintenance (O&M), regularly analysing both technical and commercial aspects of O&M and operational expenditure for developers, manufactures, newcomers, lenders and a variety of other stakeholders. As part of this, he is in charge of use and development of DNV GL's "O2M" offshore O&M modelling tool. Mr. Robin Redfern has delivered a wide range of offshore O&M training courses in the past and is a regular offshore wind conference speaker on this specialist topic.

Robin is fully qualified for offshore work and working at heights and has been involved in a number of offshore-based roles.

Dr. Thomas Boehme , Principal Engineer

Dr. Thomas Boehme is a Chartered Engineer with PhD (in marine renewables) and MBA degrees who has worked in the wind industry for 15 years. Trained as an electrical engineer, his experience includes planning, construction and operation of wind farms across the P.R. China. Since joining DNV GL in 2006, he has been mostly involved in providing technical advice for offshore wind farms. He was project manager for / editor of offshore substation standard DNV-OS-J201 and subsea power cable guideline DNV-RP-J301. He currently reviews asset management practices in the energy sector, particularly offshore wind, to help customers align with ISO 55000.

議程 / Agenda

日期: 5 月 28 日 (四) / May 28 (Thursday) 09:00~16:00

主題: Introduction to Operation and Maintenance and Asset Management

時間	活動內容 / Content	演講人 / Speakers
08:30~09:00	報到 / Registration	
09:00~09:05	貴賓致詞 Opening Remarks	經濟部能源局 BOE / MOEA
上午 09:05~12:00	<p>INTRODUCTION</p> <p>ASPECTS OF OPERATION AND MAINTENANCE (O&M):</p> <ul style="list-style-type: none"> ● Reliability and availability ● Wind turbines and balance of plant ● Preventive maintenance ● Corrective maintenance ● Offshore operational risks ● Contribution to cost of energy <p>ACCESS AND LOGISTICS:</p> <ul style="list-style-type: none"> ● Vessel to platform access ● Work boat access ● Advances in vessel access ● Large vessel access ● Helicopters ● Offshore O&M bases ● Major component change-outs <p>CONTRACTUAL ASPECTS OF O&M:</p> <ul style="list-style-type: none"> ● Scope of Services ● Service and Availability Agreements ● Defects Warranties <p>DISCUSSION and QUESTIONS</p>	Robin Redfern
12:00~13:00	午餐 / Lunch	
下午 13:00~16:00	<p>ASSET MANAGEMENT (AM) OVERVIEW:</p> <ul style="list-style-type: none"> ● Organisational context and leadership ● Concepts and principles: Assets, AM system and AM ● ISO 55000 series of AM standards ● Benefits of AM ● Scope of an AM system ● AM policy, strategy, objectives, plans and review cycles <p>DISCUSSION and QUESTIONS</p>	Thomas Boehme

※主辦單位保留調整議程內容之權力

議程 / Agenda

日期: 5 月 29 日 (五) / May 29 (Friday) 09:00~16:00

主題: O&M Strategies and Assessment Management Application

時間	活動內容 / Content	演講人 / Speakers
08:30~09:00	報到 / Registration	
上午 09:00~12:00	<p>OPTIMUM STRATEGIES:</p> <ul style="list-style-type: none"> ● What is an Optimum Strategy? ● Offshore O&M modelling ● Offshore O&M options analysis ● Effect of distance on strategy ● Indicative cost breakdown <p>FUTURE TRENDS:</p> <ul style="list-style-type: none"> ● Reliability ● Access and logistics ● O&M contractual structure <p>CASE STUDY DISCUSSION and QUESTIONS</p>	Robin Redfern
12:00~13:00	午餐 / Lunch	
下午 13:00~16:00	<p>ASSET MANAGEMENT (AM) APPLICATION:</p> <ul style="list-style-type: none"> ● AM lifecycle activities ● Asset data, information and knowledge, IT solutions ● Resources, organisation and people ● Risk management ● Performance evaluation, decision making and improvement <p>CASE STUDY DISCUSSION and QUESTIONS</p> <p>INTERACTIVE O&M EXERCISE (Quiz)</p>	Thomas Boehme

※主辦單位保留調整議程內容之權力

※報名資訊:

1.報名方式：請於 104 年 5 月 24 日前，完成線上報名

2.活動諮詢專線：02-8772-3415 #161 溫郁佳 小姐

3.報名費用:免費

4.名額:限額 70 名，額滿為止（因現場位置有限，各單位參與人數限 5 人）

5.講義:現場僅提供共計 70 份課程講義，恕不提供電子檔。

參考路線圖



- 1.公車路線：可搭乘公車1、207、275、275(副)、650、672、673、905、905(副)、906、907、909、南港軟體園區通勤專車(雙和線)、敦化幹線、棕12至台大公館醫院站下車
- 2.從台北火車站：
 - (1)可搭乘252公車至捷運公館站下車，再從公館搭乘650、1、673、907、棕12至台大公館醫院站下車。
 - (2)可搭乘捷運新店線至公館站下車，再從公館搭乘650、1、673、907、棕12至台大公館醫院站下車。
- 3.自行開車路線：
 - (1)國道一號接建國北路快速道路由辛亥路出口下，直行辛亥路右轉基隆路，過長興街後，直行約50公尺。
 - (2)國道三號木柵交流道往台北方向由辛亥路出口下，直行辛亥路左轉基隆路，過長興街後，直行約50公尺。