

9/14~9/18 高壓電訓練課程表(操作級三天與管理級五天)

日期			9/14	9/15	9/16	9/17	9/18
星期			一	二	三	四	五
8:10 至 9:00	1	科目	Module 1-1	Module 2-6	Module 4-13	Module 5-21	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
9:10 至 10:00	2	科目	Module 1-2	Module 2-7	Module 4-14	Module 5-21	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
10:10 至 11:00	3	科目	Module 1-3	Module 2-8	Module 4-15	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
11:10 至 12:00	4	科目	Module 1-3	Module 2-8	Module 4-16	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
13:15 至 14:05	5	科目	Module 1-4	Module 2-9	Module 4-17	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
14:15 至 15:05	6	科目	Module 1-4	Module 2-10	Module 4-18	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
15:15 至 16:05	7	科目	Module 1-5	Module 2-11	Module 4-19	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文
16:10 至 17:00	8	科目	Module 1-5	Module 2-11	Module 4-19	Module 3-12	Module 5-20
		教師	待聘	待聘	待聘	涂文福	吳俊文

編號 No.	課程內容 Course Outline	時數
Module 1	管理高壓電操作：學習如何管理船舶高壓電操作 Marine high voltage operations: the learner can manage high voltage operations on board a ship	
1	說明及解釋高壓電安全法規及程序 State, and explain the need for high voltage safety rules and procedures	1
2	船舶高壓電法規及應用，如國際健康及安全法規、國內(船旗國)健康及安全法規、英國海事法定電氣及安全管理制、英國安全作業操作規章、英國健康和執行局 Identify the legislation and guidance pertaining to marine high voltage systems and how to apply it, e.g. International health and safety legislation, Domestic (Flag State) health and safety legislation, UK Marine statutory electrical and safety regulations, Code of Safe Working Practices (CSWP), Health and Safety Executive (HSE)	1
3	高壓電系統電氣危險源，如觸電、電弧、及爆炸 Explain the electrical hazards associated with high voltage systems e.g. electrical shock, arc and blast	2
4	完成紀錄及安全文件，如工作許可及測試批准的相關例子 Complete relevant examples of records and safety documentation including 'Permits to Work' and 'Sanction to Test'	2

5	指派合格人員進行維護和管理 Determine the assignment of suitably qualified personnel to carry out maintenance and repair	2
Module 2	海事高壓配電系統：瞭解高壓配電系統及維持配電供電能力的重要性 Marine high voltage distribution system: the learner understands the high voltage distribution system and the importance of maintaining distribution capability	
6	高壓電氣危險關聯運作和安全功能 Explain the operational and safety features associated with high voltage electrical hazard	1
7	保護裝置功能及其操作程序 Explain the function of the protection devices and their sequence of operation	1
8	高壓開關室，包括開關室設備、配電盤、變壓器、保護繼電器、跳脫和輔助用品，接地之配置 Describe the arrangement of high voltage switch rooms with reference to Switch room equipment, Switchboards, Transformers, Protection Relays, Tripping and auxiliary supplies, Earthing	2
9	高壓互鎖系統，如保險箱鑰匙和 Isolok 系統 Operate high voltage interlock systems e.g. key safes and Isolok systems	1
10	高壓設備隔離及接地程序 Perform correct isolation and earthing procedures of high voltage equipment	1
11	海事高壓設備實際維護，包括斷路器檢查，斷路器的壓力測試，高壓變壓器極化指數測試、高壓絕緣電阻趨勢測試，局部熱點的熱檢驗 Undertake practical maintenance on marine high voltage equipment, including Checking circuit breakers for correct operation, Pressure testing of circuit breakers, Polarization index test of high voltage transformers, Trending HV IR tests, Thermal inspection for localized hot spots	2
Module 3	實作 Practical work	
12	實作 Practical work	6
Module 4	電力保護與復電：瞭解電力保護系統、高壓電系統故障確認、系統轉供復電 Power protection and restoration: the learner can understand the power protection systems, identify faults within a high voltage system and reconfigure the system to maintain supply.	
13	高壓配電保護系統功能與識別、保護裝置、發電機保護、饋線保護、變壓器保護、馬達保護、緊急發電機保護 Analyze the protection of a high voltage marine distribution system with reference to the role and purpose of protective systems, discrimination, protective devices, generator protection, feeder protection, transformer protection, motor protection, emergency generator.	1
14	電力管理系統於發電機同步及控制 Describe power management systems for the synchronization and control of generators	1
15	電力系統計畫性與非計畫性故障狀況之運轉，包括電力推進馬達緊急停俾、高電壓控制設備失效期間採取措施 Describe the operation of power systems during planned and fault situations including crash stop of electric propulsion motors and the action to be taken during the loss of high voltage control facilities	1
16	故障等級確認 Identify fault levels.	1
17	至少三種不同高電壓故障狀況下之故障確認 Identify faults under practical conditions, a minimum of three different high voltage fault conditions.	1
18	研擬復電計畫以隔離高電壓配電故障並進行系統復電轉供 Compile a switching plan to isolate a high voltage distribution fault and reconfigure the system to maintain supply.	1

19	復電計畫實際應用 Apply switching plan to a practical system and implement.	2
Module 5	實作與評量 Practical work	
20	實作 Practical work	8
21	評量與討論 Assessment and discussion	2