

出國報告（出國類別：訪問）

參加世界救援組織舉辦之 2024 世界 救援挑戰賽

服務機關：內政部消防署

姓名職稱：科 長 吳俊瑩

專 員 張哲維

派赴國家：葡萄牙

出國期間：113 年 11 月 2 日至 113 年 11 月 12 日

報告日期：114 年 2 月 11 日

摘要

世界救援組織(World Rescue Organization，以下簡稱 WRO)於葡萄牙亞速群島之特賽拉島舉辦「2024 世界救援挑戰賽(2024 World Rescue Challenge)」，世界各國頂尖的救援隊伍藉由此項賽事共同交流車禍救援技巧與知識，為持續提升我國車禍救援技術並深化我國與國際救援合作夥伴彼此救災經驗交流，我國由新北市政府消防局及桃園市政府消防局參與本屆賽事，且首次派員參與實習裁判培訓，本署亦派員隨同前往觀摩，並配合賽程時間安排參訪葡萄牙當地消防機關。最終各類項目均有進入前段班排名紀錄，可見技術已有向世界頂尖隊伍競爭之實力，建議未來持續提升參賽隊伍整體穩定度，持續派員參加世界車禍救援挑戰賽實習裁判培訓以及將最新賽事情境與規則納入未來國內車禍救援賽事規劃考量，以提升我國車禍救援水平。

關鍵字：車禍救援、世界救援組織(World Rescue Organization)、世界救援挑戰賽(World Rescue Challenge)

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壹、概述

一、目的

世界救援組織(World Rescue Organization，以下簡稱 WRO)於葡萄牙亞速群島之特賽拉島舉辦「2024 世界救援挑戰賽(2024 World Rescue Challenge)」，世界各國頂尖的救援隊伍藉由此項賽事共同交流車禍救援技巧與知識，為持續提升我國車禍救援技術並深化我國與國際救援合作夥伴彼此救災經驗交流，我國由新北市政府消防局及桃園市政府消防局參與本屆賽事，本署亦派員隨同前往觀摩，並配合賽程時間安排參訪葡萄牙當地消防機關。

二、緣由

在過去 20 年，救援挑戰賽已經在 15 個國家舉行，舉辦目的在於讓世界各國道路救援人員，不論是車禍救助還是緊急醫療，可以齊聚一堂進行技術與經驗交流，111 年在我國 WRO 會員窗口-社團法人中華民國救助技術發展與諮詢協會籌備下，遴選了國內對於交通事故救援技術提升富有熱誠及技術水平之 10 名消防菁英與本署人員一同赴盧森堡參加 WRO 舉辦之「2022 世界救援挑戰賽」獲益良多。

本署參考 WRO 舉辦之世界救援挑戰賽相關賽事情境及規則，分別於 111 年及 113 年辦理全國車禍救援挑戰賽系列活動，據悉「2024 世界救援挑戰賽」情境與以往不同為刪除快速、標準及複雜情境，取而代之的是三層級系統，場景複雜性將根據傷患、車輛以及情境權重作為分級依據，為瞭解最新國際賽事規則與情境設計，本署規劃於 113 年 11 月 5 日至 9 日賽事期間派員前往觀摩，另配合賽程時間安排參訪葡萄牙當地消防機關，瞭解該國消防制度。

本次臺灣赴葡萄牙參與「2024 世界救援挑戰賽」之隊伍，同樣是透過社團法人中華民國救助技術發展與諮詢協會協助，由本署舉辦之 113 年車禍救援挑戰賽前二名隊伍，分別為桃園市政府消防局及新北市政府消防局派員前往參加，在各類單項成績部分均獲得不錯成績，可見我國消防人員之車禍救援技術已具有國際水準。

三、葡萄牙介紹

葡萄牙共和國位於歐洲之西南隅，與西班牙同屬伊比利半島國家，其東方及

北方與西班牙接壤，兩國邊界長 1,300 公里，西臨大西洋，南隔地中海與北非相望，海岸線長 830 公里。葡國領土尚包括位於大西洋中之亞速爾（Açores）及馬德拉（Madeira）兩群島，貨幣為歐元，主要語言為葡萄牙語。

葡萄牙國土面積 9 萬 2,090 平方公里，其中陸地面積 9 萬 1,470 平方公里(約國土面積 99%)，水域面積 620 平方公尺，地勢北高南低，山地、丘陵廣布，2023 年人口統計約 1,064 萬人。

四、亞速爾群島介紹

亞速爾群島是位於北大西洋中央的一個群島，葡萄牙兩個自治區之一，其行政首府為聖米格爾島上的蓬塔德爾加達，該群島由九個主要島嶼組成，包含西群島的弗洛雷斯島(Flores)、科爾武島(Corvo)、中群島的法亞爾島(Faial)、皮庫島(Pico)、聖喬治島(São Jorge)、格拉西奧薩島(Graciosa)、特塞拉島(Terceira)及東群島的聖米格爾島(São Miguel)、聖瑪麗亞島(Santa Maria)，整個群島從西北至東南方向綿延 600 多公里，該群島東距葡萄牙大陸部分約 1,360 公里。其中本屆賽事舉辦地點為中群島的特塞拉島(Terceira)。

特賽拉島為火山島，長 29 公里、寬 17.5 公里，面積 396.75 平方公里，最高點海拔高度 1,023 公尺，人口約 5 萬 5,833 人，主要經濟活動是畜牧業和奶製品生產。

貳、過程

一、行程內容

出差人員	吳俊瑩科長、張哲維專員	
出差事由	參加世界救援組織舉辦之 2024 世界救援挑戰賽	
日期	行程	備註
113/11/2 (星期六)	臺灣桃園機場出發前往杜拜國際機場轉機	航程
113/11/3 (星期日)	杜拜國際機場出發前往里斯本機場 調整日	
113/11/4 (星期一)	參訪葡萄牙消防隊(Regimento de Sapadores de Bombeiros-3a Companhia) 里斯本機場出發前往特賽拉機場	
113/11/5 (星期二)	參賽隊伍報到、檢錄、領隊會議及開幕儀式	
113/11/6 (星期三)	賽事 Day1	
113/11/7 (星期四)	賽事 Day2	
113/11/8 (星期五)	賽事 Day3	
113/11/9 (星期六)	賽事 Day4 參訪亞速爾群島民防與消防局、英雄港義消分隊 閉幕式	
113/11/10 (星期日)	特賽拉機場出發前往里斯本機場	
113/11/11 (星期一)	里斯本機場出發前往杜拜國際機場轉機	航程
113/11/12 (星期二)	杜拜國際機場出發前往臺灣桃園機場	

二、參訪行程

本次參訪行程配合賽程時間安排參訪「葡萄牙里斯本消防局第三大隊 (Regimento de Sapadores Bombeiros - 3ª Companhia)」、「亞速爾群島民防與消防局 (Proteção Civil e Bombeiros dos Açores)及「英雄港義消分隊(Bombeiros Voluntários de Angra do Heroísmo)」，說明如下：

(一)葡萄牙里斯本消防局第三大隊：

葡萄牙里斯本消防局，係屬於葡萄牙里斯本民防體制下的其中一個部門，其民防體制除消防局外，尚有保安、國均、航空與海巡、緊急醫療及森林火災消防部分，現今的葡萄牙里斯本消防局起源於 1395 年成立的消防隊，也是葡萄牙最古老的消防隊，隨著歷史更迭，1988 年葡萄牙里斯本基亞多(Chiado)區發生嚴重火災後，成立了葡萄牙里斯本消防局。

葡萄牙里斯本消防局轄下共有 4 個大隊(含 1 個特搜大隊)、1 座訓練中心及 11 個分隊(如圖 1)，2022 年火災及救援案件(如道路事故、行人事故等救援)出勤件數為 2 萬 2,045 件，從受理案件出勤至第一台救災車輛到達現場的平均時間，火災案件為 7 分鐘、其他災害為 6 分鐘；該局轄區面積為 100.05 平方公里，人口數為 54 萬 5,796 人，並有 24 個行政區；相較於臺灣，其轄區面積與新竹市相似，新竹市消防局轄下共有 2 個大隊及 10 個分隊，若以首都相比，臺北市面積為 271.7 平方公里，臺北市政府消防局轄下共有 4 個大隊、45 個分隊。

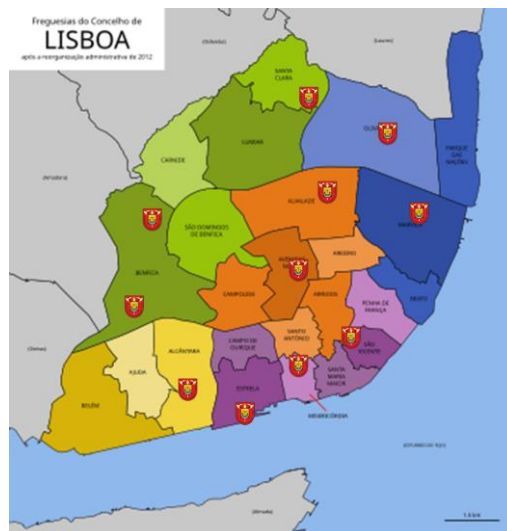


圖 1、葡萄牙里斯本消防局轄下分隊分布圖

葡萄牙里斯本消防局共有 1,041 名全職消防人員，其消防人員職等由高至低層級可分為高階隊長、一級隊長、二級隊長、高階消防員、一級消防員、二級消

防員、普通消防員等 7 個階級；經詢問得知目前葡萄牙全國消防人員約 3 萬名，其中全職消防人員約 5,000 名，義消約 2 萬 5,000 名，義消佔比約 80 至 90%，與臺灣警消、義消組成有所不同；透過警消及義消共同服勤的機制，葡萄牙里斯本消防局之服勤制度為勤 1 休 3，四班制，服勤時間為 24 小時，以本次參訪之第三大隊為例，每日上班服勤人數為 23 人至 28 人，出勤人車採以車綁人的編排模式(如圖 2)，其廳舍設施與臺灣消防廳舍無太大差異(如圖 3、圖 4 及圖 5)，但消防人員出勤時會先於備勤樓層著裝完成後，使用滑竿快速下樓(如圖 6 及圖 7)。



圖 2、車庫公佈欄勤務表



圖 3、廳舍正面



圖 4、廳舍背面



圖 5、車庫各式車輛燈示



圖 6、消防衣帽鞋櫃

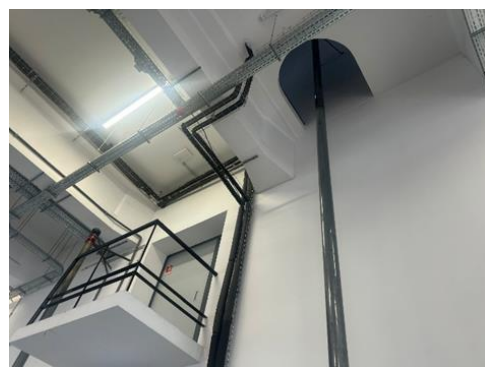


圖 7、滑梯

葡萄牙里斯本消防局除火災及救援勤務外，亦需要執行或協助其他任務說明如下：

1. 緊急救護：包含配合國家醫療急救研究所(National Institute of Medical Emergency，簡稱 INEM)出勤提供救護協助、大量傷患事故緊急救護及針對車輛救援人員提供緊急救護課程(如 CPR 與 AED 使用、基本生命徵象維持、初期主要醫療照護等)。
2. 水域救援：執行葡萄牙里斯本地區塔霍河之民眾、動物落水救援或物品打撈等任務。
3. 災害管理：成立災害管理應變隊，具備災害應變專業，執行天然災害、倒塌建築物、土石流等傷患救援。
4. 搜救犬隊：訓練搜救犬，其訓練情境包含地震、倒塌建築物等情境。
5. 消防訓練：包含職前訓練、進階訓練、專業訓練及在職訓練等，2023 年其訓練中心共計辦理超過 5,000 小時訓練，總計訓練 574 人次。
6. 化災除汙：協助處理化學、生物、放射線物質除汙作業。
7. 水源查察：確認消防栓正常運作，並定期更新消防栓相關資訊。
8. 社區照護：提供社區與行動不便人士心理關懷服務，並協助辨認居家脆弱性並記錄情況提供政府社福機構。



圖 8、社會服務關懷車



圖 9、本署致贈紀念品



圖 10、葡萄牙里斯本消防局回贈紀念品



圖 11、參訪合影

(二)亞速爾群島民防與消防局

亞速爾群島民防與消防局(如圖 12 及圖 13)隸屬於環境與氣候行動地區秘書處，負責亞速爾群島自治區範圍內與民防與消防相關活動，其主要任務說明如下：

1. 指導、協調與監督：指導、協調和監督亞速爾群島自治區範圍內與民防和消防相關的活動。
2. 保障緊急醫療運輸系統運作：通過陸路緊急醫療運輸系統，確保對事故受害者或突發疾病患者提供及時、準確的醫療救護服務。
3. 強化地區緊急應變能力：保障人民生命安全和財產保護為核心，提升應對災害及緊急情況的組織能力。
4. 發布公眾訊息：相關訊息包含：
 - (1) 天氣預警：向公眾發佈惡劣天氣預警通知，幫助居民做好防護準備(如圖 14)。
 - (2) 地震通報：提供區域內地震活動的即時公告與相關防災資訊，增強居民的防災意識(如圖 15)。
 - (3) 訊息公告：於該局官方網站發佈與民防和緊急事件相關的重要通知與說明，例如啟動緊急應變計畫、道路中斷通知、低氣壓通過之預防作為.....等。



圖 12、亞速爾群島民防與消防局前合影



圖 13、亞速爾群島民防與消防局

Aviso Meteorológico 131/2024

Na sequência do aviso 135/2024, emitido pelo Instituto Português do Mar e Atmosfera que aqui se reproduz,

Na sequência do comunicado anterior, emite-se:

Grupo Central				
Cor	Aviso	Início	Fim	Texto
Amarelo	Precipitação	2024-12-17 20:00	2024-12-18 11:00	Precipitação por vezes FORTE.
Amarelo	Vento	2024-12-17 18:19	2024-12-18 06:00	Direção de sudoeste (SW), rodando para noroeste (NW).
Amarelo	Agitação Marítima	2024-12-17 18:19	2024-12-18 05:00	Direção de sudoeste (SW), rodando para noroeste (NW).

圖 14、天氣預警訊息

Comunicado Sismológico 224/2024

Na sequência do comunicado 807/2024, emitido pelo Centro de Informação e Vigilância Sismovulcânica dos Açores que aqui se reproduz,

O Centro de Informação e Vigilância Sismovulcânica dos Açores (CIVISA) informa que às 09:45 (hora local = hora UTC-1), do dia 17 de dezembro foi registado um evento com magnitude 2.5 (Richter) e epicentro a cerca de 4 km a NE de Santa Bárbara, ilha Terceira.

De acordo com a informação disponível até ao momento o sismo foi sentido com intensidade máxima IV (Escala de Mercalli Modificada) em Santa Bárbara e Doze Ribeiras (concelho de Angra do Heroísmo). O evento foi ainda sentido com intensidade III em Biscóites (concelho de Praia da Vitória).

Este evento insere-se na crise sismovulcânica em curso na ilha Terceira desde junho de 2022.

圖 15、地震通報訊息

亞速爾群島民防與消防局根據主要任務辦理相關災害預防活動、訓練及設置指揮派遣中心，說明如下：

1. 災害預防與應變：為提升民眾災害意識及風險評估預防等知識，針對風災、火災、爆炸、地震、緊急救護等 15 類災害製作防災宣導手冊(如圖 16)，另如遇重大災害依 ICS 架構成立災害應變中心執行應變任務(如圖 17 及圖 18)。
2. 訓練課程：辦理緊急醫療、搶救及公民防護等相關課程(如圖 19)：
 - (1) 緊急醫療課程：針對到院前急救(包含創傷、基本生命徵象維持等)提供相關課程，其課程經過美國心臟協會 (American Heart Association，簡稱 AHA)及 INEM 認證。
 - (2) 搶救技術課程：提供消防基礎訓練、車禍救援及繩索救助等搶救技術課程。
 - (3) 公民防護課程：提供民眾有關民防機制及公共安全等相關課程。
3. 指揮派遣中心(如圖 20)：該指揮中心服勤制度為 3 班制，每班 6 人輪值，輪值人員包含消防人員、警察人員、護理師及醫師，每班服勤時間為 12 小時，中心電話進線後由警察人員負責接聽，並依報案內容分派消防人員或護理師接聽處理，消防人員負責火災、救援案件，護理師負責緊急醫療救護案件，較為特別的是，中心具備專用出勤車(如圖 21)，

遇危急案件(Advanced Life Support)可搭載醫師及護理師至現場實施高級救護術，另當地醫療資源較為匱乏，需跨島後送的傷患，仰賴軍方直升機進行運送。



圖 16、防災宣導手冊



圖 17、災害應變中心



圖 18、災害應變中心 ICS 運作架構



圖 19、緊急醫療、搶救及公民防護等課程教材

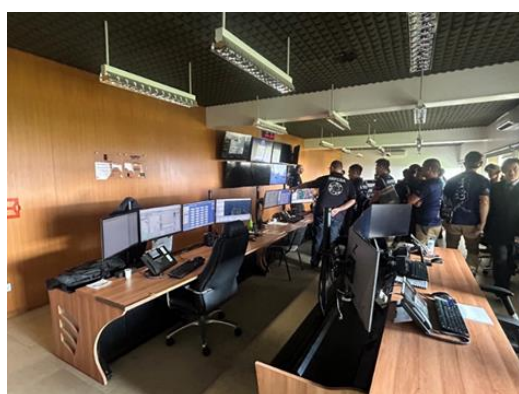


圖 20、指揮派遣中心



圖 21、醫師及護理師專用勤務車

(三)英雄港義消分隊

特賽拉島上共有 2 個消防分隊，且皆為義消分隊，本次參訪的英雄港義消防

隊為其中之一，全隊約 60 名義消人員輪值服勤，每天在隊人數約為 13 人，如接獲案件除在隊人員出動外，非在隊人員將視情況直接前往現場支援；該消防隊義消隊員在隊服勤時為有支薪職務。



圖 22、英雄港義消防隊前合影

英雄港義消分隊救災、救護車輛其相關器材，與臺灣一般分隊基本車輛及器材大同小異(如圖 23、圖 24、圖 25、圖 26 及圖 27)，較特別的是該分隊具 1 輛重型機車作為救護車輛(如圖 28)，因島上狹小道路與各類地形，重型機車相較於一般救護車較容易先遣抵達執行初期處置。



圖 23、消防水箱車



圖 24、救災器材



圖 25、消防水箱車出水口



圖 26、救護車



圖 27、救護車內裝及裝備



圖 28、救護重型機車

三、賽事交流

在過去 20 年，世界救援挑戰賽已經在 15 個國家舉行，舉辦目的在於讓世界各國道路救援人員，不論是車禍救助還是緊急醫療，可以齊聚一堂進行技術與經驗交流，2024 世界救援挑戰賽(2024 World Rescue Challenge)於葡萄牙特賽拉島舉行，本次賽事與往年相同分為「車禍脫困(Extrication)」及「醫療救護(Trauma)」兩個項目，共計 20 個國家、72 支隊伍參賽，兩個項目各為 36 支隊伍參加，比賽旨在提升各國消防、緊急救援隊伍的技術能力及團隊合作，透過比賽與各國專業人員交流，學習最新的救援技術與設備應用，進一步提升國內車禍救援的應變能力，本次臺灣赴葡萄牙參與「2024 世界救援挑戰賽」之隊伍，同樣是透過社團法人中華民國救助技術發展與諮詢協會協助，由本署舉辦之 113 年車禍救援挑戰賽前二名隊伍，分別為桃園市政府消防局及新北市政府消防局派員前往參加(如圖 29 及圖 30)。



圖 29、新北市政府消防局參賽隊伍



圖 30、桃園市政府參賽隊伍

(一) 賽事流程

2024 世界救援挑戰賽自 113 年 11 月 5 日至 113 年 11 月 9 日止，除比賽以外，賽事期間場地周邊邀集車禍救助與救護相關器材廠商設攤展示(如圖 31)，有關賽事流程簡述如下：

1. 113 年 11 月 5 日：本日流程包含報到檢錄、領隊會議及開幕式：

(1) 09:00-16:00：報到檢錄

各參賽隊伍進行報到檢錄作業，並於檢錄時開放各隊選手整檢比賽所提供的救護及破壞器材，並由自行選擇比賽日所需要的破壞器材廠牌(如圖 32)。

(2) 16:00-18:00：領隊會議

各隊伍派員(至多 3 名)參加領隊會議，並於會中說明各項賽事規則及流程。

(3) 21:00-23:00：開幕式

開幕式於英雄港會長與辦，臺灣代表隊特別於會後致贈紀念品予 WRO 主席 Paul Schroeder 先生(如圖 33 及圖 34)。



圖 31、廠商交流合影



圖 32、選手選擇破壞器材廠牌



圖 33、致贈紀念品予 Paul Schroeder 先生



圖 34、與 Paul Schroeder 先生合影

2. 113 年 11 月 6 日：第 1 天賽事(如圖 35、圖 36)

- (1) 11:35-13:10：新北市政府消防局進行情境 2 賽程(含報到、待命、比賽、歸詢)。
- (2) 15:05-16:40：桃園市政府消防局進行情境 2 賽程(含報到、待命、比賽、歸詢)。

Scenario #	Team Code	Team Name	#M	Check-in	Medical Kit	Initiation	Start	Finish	Debrief	Debrief End	Net
1	WN02024001	Emergency Management	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
2	WN02024002	133 TCU/MS/LS	PN 2	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 2
3	WN02024003	Department	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
4	WN02024004	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
5	WN02024005	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
6	WN02024006	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
7	WN02024007	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
8	WN02024008	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
9	WN02024009	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
10	WN02024010	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
11	WN02024011	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
12	WN02024012	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
13	WN02024013	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
14	WN02024014	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
15	WN02024015	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
16	WN02024016	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
17	WN02024017	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
18	WN02024018	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
19	WN02024019	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
20	WN02024020	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
21	WN02024021	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
22	WN02024022	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
23	WN02024023	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
24	WN02024024	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
25	WN02024025	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
26	WN02024026	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
27	WN02024027	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1
28	WN02024028	MS/LS	PN 1	11:35	11:40	11:45	11:50	12:00	12:10	12:15	PN 1

圖 35、第 1 天賽事流程



圖 36、賽事場景-1

3. 113 年 11 月 7 日：第 2 天賽事(如圖 37、圖 38)及選手之夜

- (1) 14:55-16:25：新北市政府消防局進行情境 3 賽程(含報到、待命、比賽、歸詢)。
- (2) 選手之夜：大會於本日舉辦選手之夜，讓來自世界各地的隊伍相互交流認識並交換紀念品。

Scenario #	Team Code	Team Name	#M	Check-in	Medical Kit	Initiation	Start	Finish	Debrief	Debrief End	Net
29	WN02024029	133 TCU/MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
30	WN02024030	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
31	WN02024031	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
32	WN02024032	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
33	WN02024033	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
34	WN02024034	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
35	WN02024035	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
36	WN02024036	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
37	WN02024037	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
38	WN02024038	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
39	WN02024039	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
40	WN02024040	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
41	WN02024041	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
42	WN02024042	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
43	WN02024043	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
44	WN02024044	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
45	WN02024045	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
46	WN02024046	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
47	WN02024047	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
48	WN02024048	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
49	WN02024049	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
50	WN02024050	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
51	WN02024051	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
52	WN02024052	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
53	WN02024053	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
54	WN02024054	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
55	WN02024055	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
56	WN02024056	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
57	WN02024057	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
58	WN02024058	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
59	WN02024059	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1
60	WN02024060	MS/LS	PN 1	14:55	15:00	15:05	15:10	15:20	15:30	15:35	PN 1

圖 37、第 2 天賽事流程



圖 38、賽事場景-2

4. 113 年 11 月 8 日：第 3 天賽事(如圖 39、圖 40)

07:55-09:25：桃園市政府消防局進行情境 1 賽程(含報到、待命、比賽、歸詢)。

Scenario #	Team Code	Team Name	PM	Check-in	Medical Kit	Extricator	Seat	Hoist	Rescue	Debrief	Overall Time	PM
37	WRO2024F1	International Extrication Team	PA 1	07:55	08:00	08:05	08:10	08:15	08:20	08:25	08:30	PA 1
38	WRO2024F2	TWFD (Taiwan Fire Department)	PA 1	07:55	08:00	08:05	08:10	08:15	08:20	08:25	08:30	PA 1
39	WRO2024F3	ITC 1	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
40	WRO2024F4	Canadian Rescue Team	PA 1	08:40	08:45	08:50	08:55	09:00	09:05	09:10	09:15	PA 1
41	WRO2024F5	International 3rd of August Fire	PA 1	08:50	08:55	09:00	09:05	09:10	09:15	09:20	09:25	PA 1
42	WRO2024F6	FRB Rescue Team	PA 1	09:05	09:10	09:15	09:20	09:25	09:30	09:35	09:40	PA 1
43	WRO2024F7	Firenze Fire Team	PA 1	09:15	09:20	09:25	09:30	09:35	09:40	09:45	09:50	PA 1
44	WRO2024F8	LES (Lafayette St)	PA 2	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	PA 2
45	WRO2024F9	Alaska Extrication Team	PA 1	10:00	10:05	10:10	10:15	10:20	10:25	10:30	10:35	PA 1
46	WRO2024F10	ITA 1	PA 2	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50	PA 2
47	WRO2024F11	FRS 1	PA 2	10:30	10:35	10:40	10:45	10:50	10:55	11:00	11:05	PA 2
48	WRO2024F12	Rescue 1st	PA 2	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40	PA 2
49	WRO2024F13	TW Fireteam	PA 1	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:15	PA 1
50	WRO2024F14	Changchun International	PA 2	11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30	PA 2
51	WRO2024F15	Missouri Rescue Team	PA 1	12:30	12:35	12:40	12:45	12:50	12:55	13:00	13:05	PA 1
52	WRO2024F16	Rescue 1st - Vancouver	PA 1	13:30	13:35	13:40	13:45	13:50	13:55	14:00	14:05	PA 1
53	WRO2024F17	Firenze Fireteam	PA 1	14:00	14:05	14:10	14:15	14:20	14:25	14:30	14:35	PA 1
54	WRO2024F18	LES (Lafayette St)	PA 2	14:35	14:40	14:45	14:50	14:55	15:00	15:05	15:10	PA 2
55	WRO2024F19	Rescue 1st	PA 2	14:50	14:55	15:00	15:05	15:10	15:15	15:20	15:25	PA 2
56	WRO2024F20	FRS 1	PA 2	14:55	15:00	15:05	15:10	15:15	15:20	15:25	15:30	PA 2
57	WRO2024F21	FRB Rescue Team	PA 2	14:55	15:00	15:05	15:10	15:15	15:20	15:25	15:30	PA 2
58	WRO2024F22	FRS 1	PA 2	15:00	15:05	15:10	15:15	15:20	15:25	15:30	15:35	PA 2
59	WRO2024F23	Spain Fire Brigade (PBBKT)	PA 1	15:40	15:45	15:50	15:55	16:00	16:05	16:10	16:15	PA 1
60	WRO2024F24	Barbados Rescue Team	PA 2	15:55	16:00	16:05	16:10	16:15	16:20	16:25	16:30	PA 2
61	WRO2024F25	TW Fireing Rescue Member	PA 1	16:10	16:15	16:20	16:25	16:30	16:35	16:40	16:45	PA 1
62	WRO2024F26	ITF (Italy Extrication Team)	PA 1	16:00	16:05	16:10	16:15	16:20	16:25	16:30	16:35	PA 1
63	WRO2024F27	ITC 1	PA 2	16:35	16:40	16:45	16:50	16:55	17:00	17:05	17:10	PA 2
64	WRO2024F28	Barbados (St. John's) Canada	PA 1	17:10	17:15	17:20	17:25	17:30	17:35	17:40	17:45	PA 1



圖 39、第 3 天賽事流程

圖 40、賽事場景-3

5. 113 年 11 月 9 日：第 4 天賽事(如圖 41、圖 42、圖 43 及圖 44)及閉幕式

- (1) 07:35-09:10：新北市政府消防局進行情境 1 賽程(含報到、待命、比賽、歸詢)。
- (2) 10:10-11:40：桃園市政府消防局進行情境 3 賽程(含報到、待命、比賽、歸詢)。
- (3) 20:00-00:00：閉幕式前 WRO 主席 Paul Schroeder 先生特別頒發感謝狀，感謝臺灣隊伍飛行橫跨 1 萬 2,207 公里前來參賽交流，同時於 WRO 臉書粉絲專頁發文，另本次賽事主辦單位葡萄牙全國救援與脫困協會(ANSD)主席特別於閉幕典禮致詞感謝臺灣參加賽事並頒發臂章，讓世界看見臺灣對於車禍救援交流的重視。(如圖 45、圖 46 及圖 47)

Scenario #	Team Code	Team Name	PM	Check-in	Medical Kit	Extricator	Seat	Hoist	Rescue	Debrief	Overall Time	PM
65	WRO2024F29	217th Air Wing (Emergency Services)	PA 1	07:35	07:40	07:45	07:50	07:55	08:00	08:05	08:10	PA 1
66	WRO2024F30	Rescue 1st - Vancouver & Vancouver Fire & Rescue Services (VFRS)	PA 1	07:35	07:40	07:45	07:50	07:55	08:00	08:05	08:10	PA 1
67	WRO2024F31	Rescue 1st - Vancouver & Vancouver Fire & Rescue Services (VFRS)	PA 1	07:35	07:40	07:45	07:50	07:55	08:00	08:05	08:10	PA 1
68	WRO2024F32	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
69	WRO2024F33	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
70	WRO2024F34	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
71	WRO2024F35	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
72	WRO2024F36	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
73	WRO2024F37	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
74	WRO2024F38	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
75	WRO2024F39	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
76	WRO2024F40	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
77	WRO2024F41	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
78	WRO2024F42	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
79	WRO2024F43	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
80	WRO2024F44	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
81	WRO2024F45	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
82	WRO2024F46	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
83	WRO2024F47	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
84	WRO2024F48	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
85	WRO2024F49	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
86	WRO2024F50	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
87	WRO2024F51	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
88	WRO2024F52	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
89	WRO2024F53	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
90	WRO2024F54	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
91	WRO2024F55	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
92	WRO2024F56	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
93	WRO2024F57	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
94	WRO2024F58	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
95	WRO2024F59	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
96	WRO2024F60	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
97	WRO2024F61	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
98	WRO2024F62	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
99	WRO2024F63	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1
100	WRO2024F64	ITF (Italy Extrication Team)	PA 1	08:00	08:05	08:10	08:15	08:20	08:25	08:30	08:35	PA 1



圖 41、第 2 天賽事流程

圖 42、賽事場景-4



圖 43、賽事場景-5



圖 44、選手比賽後討論規詢



圖 45、WRO 主席頒發感謝狀-1



圖 46、WRO 主席頒發感謝狀-2



圖 47、主辦單位 ANSD 主席頒發臂章

(二) 賽事情境與規則分析

為持續強化消防人員車禍救援技術水平，並增進各級消防機關情誼交流，延續 111 年車禍救援挑戰賽，本署於今年繼續規劃辦理「113 年車禍救援挑戰賽」活動，本次挑戰賽於 113 年 8 月 29 日至 30 日，於本署訓練中心舉行，比賽期間同時邀集車禍救助與救護相關器材廠商設攤展示，併同辦理「車禍救援與救護相關器材展示」，促進救災人員與設備廠商間的經驗分享。

賽事邀請各級消防機關消防人員及國外救援單位或團體派員組隊參賽，共有 11 個縣市消防機關組隊報名參賽，另日本也匯集當地各消防機關好手組隊前來

參賽交流，共計 12 支隊伍同場較勁，；此外，賽事情境參考 WRO 舉辦 2023 世界救援挑戰賽評分指南及情境規劃「標準脫困」及「複雜脫困」2 個情境，「標準脫困」情境，必須於 20 分鐘救出 1 名傷者；「複雜脫困」情境，必須於 30 分鐘救出 2 名傷者，每個參賽隊伍均需參加兩個情境，我國 113 年車禍救援挑戰賽與 2024 世界救援挑戰賽之比較分析如下：

1. 相同之處：因 113 年車禍救援挑戰賽之規劃，參考 2023 世界救援挑戰賽之規則，爰大部分之規定與 2024 世界救援挑戰賽相同，包含：
 - (1) 團隊成員：每隊 6 名比賽成員，必須指定指揮官、救助手及救護手，2024 世界救援挑戰賽允許隊伍指派 3 名翻譯人員，本署出訪人員張哲維專員受桃園市政府消防局邀請擔任指揮官之翻譯。
 - (2) 評分項目：賽事評分項目分為三大項，包含指揮、救助及救護等，此部分國內外賽事均相同。
 - (3) 報到、待命、規詢機制：113 年車禍救援挑戰賽之規劃除參考 2023 世界救援挑戰賽評分指南及情境外，亦參考其賽事辦理之流程及賽務規劃經驗，納入報到、待命及規詢機制：
 - i. 報到：賽前 40 分鐘開始報到。
 - ii. 檢錄後待命：賽前 30 分鐘待命。
 - iii. 歸詢：賽後 20 分鐘歸詢。
2. 相異之處：2024 世界救援挑戰賽與 113 年車禍救援挑戰賽主要不同之處在於項目評分級距、賽事情境與時間：
 - (1) 項目評分級距：113 年車禍救援挑戰賽「指揮」及「救助」2 個項目評分級距為 3 等級距，「救護」項目為 4 等級距，2024 世界救援挑戰賽「指揮」及「救助」2 個項目評分級距為 5 等級距，「救護」項目為 4 等級距(如圖 48、圖 49、圖 50、圖 51、圖 52 及圖 53)，提供裁判更加細緻的評分內容。

COMMAND	Very Basic	Basic	Efficient	Very Efficient	Thorough	Score	
1. Initial Team Approach							
1.1	Outer Survey	Partial 360° assessment completed, initial risk assessment completed. Minimal additional controls introduced. Team NOT briefed of risks.	Partial 360° assessment completed, initial risk assessment completed. Some safe systems of work introduced. Team briefed but failed to acknowledge the risks.	Comprehensive 360° assessment completed, most risk critical information gathered. Appropriate safe systems of work introduced. Team briefed and acknowledge the risks but failed to implement controls.	360° assessment done, most risks identified, safe work systems were introduced. Team briefed and acknowledged the risks and controls.	Team briefed and acknowledged the risks and controls. Initial risk assessment completed, appropriate safe systems of work introduced following a comprehensive 360° assessment.	15
1.2	Inner Survey	Limited inner assessment completed, most critical vehicle system and structure information overlooked. Minimal additional controls implemented.	Partial inner assessment completed, some critical vehicle system and structure information gathered. Minimal additional controls implemented.	A partial inner assessment completed, most critical vehicle system and structure information gathered. Appropriate additional controls implemented.	Comprehensive inner assessment completed, all critical vehicle system and structure information gathered. Additional controls implemented.	Vehicles subject to a complete survey. Vehicle data sheets used if accessible. All hazards identified, and risks removed, isolated or mitigated.	15
1.3	Priorities given	The IC does not ensure contact is made with all casualties. The level of response and entrapment not established. Essential information not communicated with others.	The IC ensured contact was made with all casualties with some minor delays. The level of response or entrapment partially established. Essential information not communicated with others.	The IC ensured contact was made with all casualties with some minor delays. The level of response or entrapment established without unnecessary delays. Essential information was communicated with others.	The IC ensured contact was made with all casualties in appropriate time frame. The level of response and entrapment established without unnecessary delays. Most essential information was communicated with others.	The IC ensured contact was made with all casualties in appropriate time frame. The level of response and entrapment was established without delays. Essential information fully communicated.	15
1.4	Type of Casualty Entrapment	The IC deploys personnel and resources in a manner leading some delays or overlooked minor risks or failed to triage or respond to casualties' immediate needs, or establish tactical priorities.	The IC deploys personnel and resources in a manner leading to some delays, overlooks minor risks to the working environment, fails to triage or respond to casualties' immediate needs correctly, and establish tactical priorities.	The IC deployed personnel and resources in a manner that leading to delays overlooks minor risks to the working environment, triaged responding to casualties' immediate needs, establishing tactical priorities.	The IC deployed personnel and resources in logical effective manner. Creates a safe working environment, triaged responding to casualties' immediate needs, establishing tactical priorities.	The IC effectively allocated personnel and resources creating secure work environment. Casualties prioritised responding to their immediate needs.	15
2. Planning							
2.1	Plans - Objectives and Priorities	IC has gathered little information overlooked crucial information during planning. Team briefing limited or unclear.	IC obtained minimal information when planning. Team members briefed but not consulted.	IC only obtained partial information missed some factor that have bearing on planning. Team members were briefed but not consulted.	IC obtained accurate information considered most of the known factors when planning. Team members given the opportunity to influence plans.	IC obtained accurate situational awareness considered all known factors in planning. Team members were consulted and influenced plans.	15
2.2	Identification of Extrication Protocols	IC does not apply Extrication protocols and failing to form plan for Casualty assisted self extrication.	IC is unsure of the Extrication protocols and fails to form plan for Casualty assisted self extrication.	IC considers the Extrication protocols and formulates plan for Casualties assisted self extrication.	IC has an understanding of the Extrication protocols formulates plan for Casualties assisted self extrication.	IC clearly understands Extrication protocols and formulates plan for Casualties assisted self extrication based on a full injury assessment.	10
2.3	Planning	Planning did not reflect triage of Casualties; objectives were not clear or appropriate, or actions out of sequence. Team members self deployed or ignored the IC.	Planning partially reflected triage. Objectives identified, but not fully appropriate, and/or actions not completed in logical order. Team members acted independently leading to delays or impacts on Casualties outcomes.	Planning partially reflected triage. Objectives that anticipated. Limited Simultaneous activity. The IC provides some motivation to team which impacts slightly out of sequence. Clear brief provided but team deviated without consultation.	Planning mainly reflected Casualties triage. Clear objectives identified, leading to positive outcomes. Problems addressed with some delays. Clear brief provided and followed.	Planning reflected Casualties triage. Clear objectives identified that led to positive outcomes completed in a logical sequence. Clear brief was followed and implemented.	15
2.4	Plan Progression	Problems not anticipated/communicated, complemented by minimal actions to manage any consequences. Simultaneous activity not utilised, Progression stagnated. IC failed to motivate team. Casualty was not extricated.	Plans not reviewed. Problems not anticipated/communicated. Simultaneous activity is limited, slow progression and/or the IC failed to motivate the team.	Plans occasionally reviewed. Some problems anticipated. Limited Simultaneous activity. The IC provides some motivation to team which impacts the pace of rescue operations.	Plans regularly reviewed. All problems anticipated and communicated. Small inefficiencies in simultaneous activity impacted progression. IC motivates team to maintain a pace.	Plans were reviewed and updated. All problems anticipated and communicated. Simultaneous activity maximised progression IC motivate responders to maintain a pace that reflects the casualty needs.	15
3. Command and Control							
3.1	Positioning	The IC was not identifiable or failed to adopt a position from which they could see all risk critical activities as they are undertaken. The IC did not maintain situational awareness or effective communication.	The IC was identifiable and on occasion adopted a position from which they could see some risk critical activities as they are undertaken. The IC on occasion relocated at a safe time to maintain some situational awareness and effective communication.	The IC was identifiable, and predominantly adopted a position from which they could see most risk critical activities as they are undertaken. The IC on occasion relocated at a safe, logical time to maintain situational awareness and effective communication.	The IC was identifiable, and predominantly adopted a position from which they could see most risk critical activities as they are undertaken. The IC relocated at safe, logical times to maintain situational awareness and effective communication.	The IC was identifiable and consistently adopted a position from which they could see all risk critical activities. The IC relocated at safe, logical times to maintain situational awareness and effective communication.	15
3.2	Team Leadership	IC was flustered and loses control, their communication often ineffective. Judgement impaired affecting most decision making leading to critical safety infringements.	IC occasionally flustered and loses control, communication was occasionally ineffective. Judgement impaired affecting some decision making leading to some safety infringements.	IC predominantly remained calm and in control, communicated effectively and assertively. Sound judgement mainly applied decision making led a mostly safe effective extrication.	IC predominantly remained calm and in control, communicated effectively and assertively. Sound judgement mainly applied with effective decision making that led to a safe effective Casualty extrication.	IC remained calm, and in control throughout, communicated effectively and assertively. Sound judgement applied, effective decision making led to a safe effective Casualties extrication.	15
3.3	Communication Throughout	Channels of communication are intermittent/briefs are provided but not understood. Warnings not provided.	Channels of communication were intermittent/briefs are provided but only partially understood. Warnings were limited, ignored or not understood.	Channels of communication mostly remain active. Briefs are provided but only partially understood or implemented. Warnings mostly provided, received and understood.	Channels of communication mostly remain active. Briefs are timely, clear, concise and understood. Warnings mostly provided, received and understood.	IC maintains channels of communication. Briefs were timely, clear, concise and understood. Warnings were provided, received and understood consistently.	15
3.4	Team Management maintained	IC displayed limited leadership skills. Activities were unclear, ineffective use of resources led to delays and poor teamwork.	IC displayed basic leadership skills. Activities were many safe, limited effective use of resources and indications of teamwork.	IC displayed foundation leadership skills by coordinating activities, ensuring safe extrication plans, and making good use of resources and teamwork.	IC displayed effective leadership coordinating activities and team rotations, ensuring safe extrication plans, fostering good use of resources and team collaboration.	IC demonstrated effective leadership by coordinating activities and team rotations, ensuring safe extrication plans a strong trust in team members, optimising resource use and fostering team collaboration.	15

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圖 48、指揮項目評分指引

COMMAND ASSESSMENT		Location	Assessor	Date	Time	Team	
1. Initial Team Approach							
1.1	Outer Survey	VB	B	E	VE	T	
1.2	Inner Survey	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
1.3	Priorities given	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
1.4	Type of Casualty Entrapment	Score Matrix	1	2.3	4.5	5.7	8.9.10
2. Planning							
2.1	Plans - Objectives and Priorities	VB	B	E	VE	T	
2.2	Identification of Extrication Protocols	Score Matrix	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15
2.3	Planning	Score Matrix	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15
2.4	Plan Progression	Score Matrix	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15
3. Command and Control							
3.1	Positioning	VB	B	E	VE	T	
3.2	Team Leadership	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
3.3	Communication Throughout	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
3.4	Team Management maintained	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
4. PPE							
4.1	PPE Use and Control	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
4.2	Tool Control Monitored	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
4.3	Scenario Organisation	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
4.4	Control Measures Applied	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15	
4.5	Casualty Awareness maintained	Score Matrix	1.2.3	4.5.6	7.8.9	10.11.12	13.14.15
5. Self-Extrication							
5.1	Assisted self-extrication	ID	PLD	EX	TIME	COMMENTS	
5.2	Confirm understanding and signal	Identified	Planned	Executed			
5.3	Clear plan and access						
6. Summary							
All Fit and Well?		Any injuries to report?		Water for rehydration?		Assessing team introductions.	
POSITIVE POINTS			LEARNING POINTS				
Command Summary		Technical Summary		Medical Summary			
Scenario Analysis - Closing							
Summary reflects scenario?							
Assessor signature		Technical signature		Medical signature			
Score checkers signature				Total Score: _____			

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圖 49、指揮項目評分表

TECHNICAL	Very Basic	Basic	Efficient	Very Efficient	Thorough	Score	
1. Initial Team Approach and Team Action.							
1.1	Hazard Identification & Risk Control	•There was very little safety warnings. •Very little control or management of risks.	•Limited safety warnings. •Insufficient control and management of risks.	•Sufficient/adequate safety warnings. •Risks are controlled and neutralised with reasonable timeframes.	•Efficient risk identification. •Good risk control and neutralisation in expected timeframe.	•Complete risk identification. •Full & correct risk control and neutralisation quickly.	10
1.2	Safety and Scene Assessment	•Poor risk Assessment or reporting given for physical, vehicle, dynamic and casualty hazards on Scene.	•Limited risk assessment and reporting given for physical, vehicle, dynamic and casualty hazards on Scene.	•Adequate risk assessment and reporting given for physical, vehicle, dynamic and casualty hazards on Scene.	•Good and constant assessing of risks and reporting given for physical, vehicle, dynamic and casualty hazards on Scene.	•Constant assessment and dealt with hazards to ensure a safe operating environment.	10
1.3	Initial Medical Access	•Technical personnel provide no initial access to casualties for medic. •Little or no protection for medic and casualties.	•Technical personnel provide basic initial access to casualties for medic. •Basic protection for medic and casualties.	•Technical personnel provide safe initial access to casualties for medic, but delays. •Efficient protection for medic and casualties.	•Technical personnel provide prompt initial access to casualties for medic safety. •Very efficient protection for medic and casualties.	•Technical personnel provide rapid initial access to casualties for medic safety. •With great protection for medic and casualties.	10
2. Stabilisation.							
2.1	Initial Stabilisation	•Very little stabilisation (either in early access or primary).	•Insufficient or inappropriate stabilisation.	•Minimal stabilisation but adequate or with delay.	•Minimal stabilisation complete and adequate to provide medical access.	•Stabilisation complete and adequate, prioritizing casualty vehicle to provide medical access.	10
2.2	Final Stabilisation	•Stabilisation is not effective and allows for vehicle movement and no solid working platform and causes a deformation of the vehicle.	•Stabilisation is not suitable for the scenario and allows for some movement. •Basic working platform.	•Some stabilisation points are adequate but vehicle still moves constantly and efficient working platform.	•Adequate stabilisation points. •Minor vehicle movements occur, secondary stabilisation not considered and very efficient working platform.	•Complete stabilisation without vehicle movements, secondary stabilisation where necessary, solid platform to work on and no deformation of the vehicle.	10
2.3	Lifting & Re-Assessment	•Very little stabilisation with no re-assessment. •Uncontrolled lift without using safety call – (Passenger Safety Structure). Control lifting without backup systems	•Basic stabilisation, little reassessment and faults corrected. •Minimal lift controls with basic use of safety cell – (Passenger Safety Structure). Control lifting with minor backup system and with falls	•Efficient stabilisation, Effective re-assessment is performed. •Lift is controlled with good use of the safety cell – (Passenger Safety Structure). Control lifting with backup system applied but some falls	•Very efficient stabilisation and reassessment. •Lifting is controlled with a very good use of the safety cell – (Passenger Safety Structure). Control lifting with some backup system applied without falls	•All techniques performed lead to thorough stabilisation and re-assessment at the right time. •Lifting is controlled with full use of the safety cell – (Passenger Safety Structure). Control lifting with a perfect backup system	10
3. Vehicle Preparation.							
3.1	Vehicle Safety and Hazards	•Poorly visible effort to prepare the vehicle or identify risk critical issues.	•Some effort to prepare the vehicle but risk to casualties & rescuer personnel.	•Sufficient effort to prepare the vehicle but with some risk to casualty & rescuer and delays to the operations as risks revisited.	•Sufficient effort to prepare the vehicle but with occasional delays to operations as risks revisited.	•Crews identify and manage risk in a logical manner with no risk to casualties or rescuer.	10
3.2	Assessed Regularly	•Poorly rechecking at relevant stages to the rescue process and no minimization of risks to both rescuers and Casualties, in any stages of operations.	•Basic rechecking at relevant stages to the rescue process and is aware of the risks to both rescuers and Casualties, in any stages of operations.	•Efficient rechecking at relevant stages to the rescue process and controlling some of the risks to both rescuers and Casualties in all stages of operations.	•Very efficient rechecking at relevant stages to the rescue process and good control over the risks to both rescuers and Casualties in all stages of operations.	•Thorough rechecking at relevant stages to the rescue process and total control of the risks to both rescuers and Casualties in all stages of operations.	10
3.3	Full Protection Given	•Poor glass management; no regard given to safety, no basic Casualties protection demonstrated.	•Basic glass managed; little regard given to safety. Basic Casualties protection demonstrated.	•Glass correctly managed with some regard given to safety. Efficient Casualties protection demonstrated.	•Glass correctly managed with more regard given to safety. Efficient Casualties protection demonstrated.	•Glass thoroughly managed with full regard given to safety. Thorough Casualties protection demonstrated.	10
4. Tool Management.							
4.1	Rescue Tools handling & Techniques & Workspace managed correctly	•Incorrect use of equipment demonstrated. Poor techniques or vehicle knowledge. No workspace management carried out. Constant inappropriate and unsafe tool handling.	•Basic use of equipment demonstrated. Basic techniques or vehicle knowledge. Basic workspace management carried out.	•Sufficient use of equipment knowledge demonstrated, techniques or vehicle knowledge. Efficient workspace management carried out. Tool handling on occasion inappropriate and with risk.	•Correct use of equipment demonstrated, techniques or vehicle knowledge. Efficient workspace management carried out. Adequate tool handling with minor risks.	•Thorough use of equipment demonstrated, techniques or vehicle knowledge. Thorough workspace management carried out. Safe and excellent tool handling at all time.	15
4.2	Warnings given and acknowledged	•Little to none warnings given throughout the scenario and little effort to communicate with the medic.	•Few warnings given and acknowledgement received throughout the scenario, with some effort to communicate with the medic.	•Team gives warnings for more actions and hazards respectfully considered, but some delays.	•Major warnings were given and acknowledged throughout the scenario and waited for feedback at all times. •Very efficient communication with medic with minor delays.	•All times warnings were given and acknowledged throughout the scenario. •Valued for feedback at all times with thorough communication with medic.	10
4.3	Hazards considered, revealed, identified or acted upon	•Tools used in unsafe manner. Hazards not considered, revealed, identified or acted upon during scenario i.e. SRG/struts etc.	•Tools used in basic manner. Hazards considered, revealed, identified or acted upon during scenario i.e. SRG/struts etc.	•Efficient tools used in a consistently safe manner. Hazards respectfully considered, revealed, identified or acted upon during scenario i.e. SRG/struts etc.	•Tools used in a demonstrably safe manner. Hazards considered, revealed, identified or acted upon during scenario i.e. SRG/struts etc.	•Tools used in a demonstrably safe manner. All hazards considered, revealed, identified, or acted upon during the scenario. i.e. SRG/struts, etc.	10

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圖 50、救助項目評分指引

TECHNICAL ASSESSMENT	Location Assessor	Date					Team	
		Time	Score	VE	T	Score		
1. Initial Team Approach and Team Action.								
1.1	Hazard Identification & Risk Control	VB	B	E	VE	T	Score	COMMENTS
1.2	Safety and Scene Assessment	VB	B	E	VE	T	Score	COMMENTS
1.3	Initial Medical Access	VB	B	E	VE	T	Score	COMMENTS
2. Stabilisation.								
2.1	Initial Stabilisation	VB	B	E	VE	T	Score	COMMENTS
2.2	Final Stabilisation	VB	B	E	VE	T	Score	COMMENTS
2.3	Lifting & Re-Assessment	VB	B	E	VE	T	Score	COMMENTS
3. Vehicle Preparation.								
3.1	Vehicle Safety and Hazards	VB	B	E	VE	T	Score	COMMENTS
3.2	Assessed Regularly	VB	B	E	VE	T	Score	COMMENTS
3.3	Full Protection Given	VB	B	E	VE	T	Score	COMMENTS
4. Tool Management.								
4.1	Rescue Tool handling, Techniques & Workspace managed correctly	VB	B	E	VE	T	Score	COMMENTS
4.2	Warnings given and acknowledged	VB	B	E	VE	T	Score	COMMENTS
4.3	Hazards considered, revealed, identified or acted upon	VB	B	E	VE	T	Score	COMMENTS
5. Operations.								
5.1	Organised Work Area	VB	B	E	VE	T	Score	COMMENTS
5.2	Technical Performance & Knowledge	VB	B	E	VE	T	Score	COMMENTS
5.3	Effective Extrication Techniques & Progression.	VB	B	E	VE	T	Score	COMMENTS
5.4	Team Work and Communication	VB	B	E	VE	T	Score	COMMENTS
5.5	Personal Protective Equipment	VB	B	E	VE	T	Score	COMMENTS
5.6	Protection of Worked Areas	VB	B	E	VE	T	Score	COMMENTS
5.7	Space Creation & Extrication	VB	B	E	VE	T	Score	COMMENTS
5.8	Effective Internal Space	VB	B	E	VE	T	Score	COMMENTS
5.9	Final Extrication Space	VB	B	E	VE	T	Score	COMMENTS
5.10	Time Management	VB	B	E	VE	T	Score	COMMENTS
6. Casualty Handling & Pathway.								
6.1	Casualty Handling	VB	B	E	VE	T	Score	COMMENTS
6.2	Protection During Operations	VB	B	E	VE	T	Score	COMMENTS
6.3	Final Extrication path and egress	VB	B	E	VE	T	Score	COMMENTS
7. Assisted Self-Extrication.								
7.1	Confirm understanding and signal	ID	PLD	EX	TIME			COMMENTS
7.2	Assist exit and safety	Identified	Planned	Executed				
7.3	Clear plan and access							
8. Extrication Plans.								
8.1	Immediate plan(s) (IP)	01						
8.2	Emergency plan(s) (EP)	01						
8.3	Full plan (s) (FP)	01						
9. Time.								
9.1	Stabilization	Primary			Secondary			
9.2	Casualty access	01			02			
9.3	Operations							
9.4	Casualty extrication	01			02			
10. POSITIVE POINTS								
11. LEARNING POINTS								
Assessor signature								
Score (checklist signature)								
Total Score:								

圖 51、救助項目評分表

EXTIRPATION CHALLENGE - MEDICAL ASSESSMENT CHALLENGES					
1 Initial Survey & Patient ID	1.1 ID & Communicate the Initial LOC	Identifies and communicates the initial level of consciousness after 2 minutes	Identifies and communicates the initial level of consciousness after 1 minute	Identifies and communicates the initial level of consciousness after 1 minute	Identifies and communicates the initial level of consciousness after 1 minute
	1.2 Inspects for Catastrophic Haemorrhage	Inspects for catastrophic haemorrhage after 2 minutes. See Haemorrhage Management under 'Circulation' for scoring of any management required	Inspects for catastrophic haemorrhage after 1 minute. See Haemorrhage Management under 'Circulation' for scoring of any management required	Inspects for catastrophic haemorrhage after 1 minute. See Haemorrhage Management under 'Circulation' for scoring of any management required	Inspects for catastrophic haemorrhage in less than 1 minute. See Haemorrhage Management under 'Circulation' for scoring of any management required
	1.3 Reports Casualty(ies) Condition to IC	Reports the casualty condition to the IC after 5 minutes	Reports the casualty condition to the IC after 3 minutes	Reports the casualty condition to the IC after 3 minutes	Reports the casualty condition to the IC in less than 2 minutes
2 Airway	2.1 Airway Manoeuvre	Identifies the need for an airway manoeuvre but performance is late and/or without sufficient care and/or competency	Identifies the need for an airway manoeuvre and performance is within a reasonable time and with sufficient care and/or competency	Identifies the need for an airway manoeuvre and performance is within a reasonable time and with sufficient care and/or competency	Identifies the need for an airway manoeuvre and performance is within an appropriate time and with excellent care and/or competency
	2.2 Inspection of Airway	Does not inspect the airway	Inspects the casualty airway poorly, but does not check for patency, contamination or foreign objects	Inspects the casualty airway well. Does check for patency, contamination or foreign objects but maybe delayed	Inspects the casualty airway thoroughly, does check for patency, contamination or foreign objects thoroughly and in an timely manner
	2.3 Management of Patency	Does not manage the patency of the airway	Manages the patency poorly, does not consider an adjunct and/or auscultating	Manages the patency well, considers and/or places an adjunct and/or auscultating	Correct management of airway patency, considers and/or correctly uses and places any adjunct and/or auscultating
3 Breathing	3.1 Present	Does not check if breathing is present	Identifies breathing is present or not after 7-2 minutes	Identifies breathing is present or not within 1-2 minutes	Identifies breathing is present or not in <1 minute
	3.2 Respiration Rate/Depth/Effort	Does not check the breathing rate and/or depth and/or effort but not in an efficient manner	Checks for breathing rate and/or depth and/or effort but not in an efficient manner	Checks for breathing rate and/or depth and/or effort well	Checks for breathing rate and depth and effort thoroughly
	3.3 Chest Inspection & Assessment	Does not inspect or assess the chest	Inspects and/or assesses the chest, but not anterior, lateral and posterior, no auscultation and/or equal bilateral movement	Inspects and/or assesses the chest, appropriate checking of anterior, lateral and posterior, auscultation and/or equal bilateral movement	Inspects and assesses the chest, anterior, lateral and posterior, auscultation and equal bilateral movement
4 Circulation	4.1 Interventions, SpO2 & O2	Does not make any interventions, takes SpO2 or considers application of O2	Makes basic interventions based on chest inspection and assessment, applies SpO2 but does not follow readings to make a decision to report and/or flow	Makes interventions based on chest inspection and assessment, applies SpO2 and does follow readings to make a decision to apply and/or flow	Makes interventions based on chest inspection and assessment, applies SpO2 and does follow readings to make a decision to apply and/or flow. Applies SpO2 and/or flow at the correct time and using the correct device and flow
	4.2 Haemorrhage Management	Does not manage any further haemorrhage found	Manages haemorrhage found in an inefficient manner	Manages haemorrhage found in a good manner	Manages haemorrhage found in an excellent manner, with full technique
	4.3 Assess for Circulation	Does not assess for circulation	Assesses for circulation in an inefficient manner	Assesses for circulation in a good manner	Assesses for circulation in a manner that demonstrates an understanding and relevance to the casualty
	4.4 Peripheral and/or Central Pulses	Does not check for pulses	Checks pulse and/or quality and/or rhythm, may not get site and/or quality and/or rhythm	Checks pulse and/or quality and/or rhythm, gets site and/or quality and/or rhythm or check symmetry. Central pulse may not be required if peripheral pulse is present	Checks pulse and/or quality and/or rhythm, gets site and/or quality and/or rhythm and check symmetry. Central pulse may not be required if peripheral pulse is present
	4.5 Cap Refill & Skin	Does not manage poor circulation	Manages poor circulation in an inefficient manner	Manages poor circulation in a good manner	Manages poor circulation in an excellent manner that demonstrates an understanding and relevance to the casualty
5 Disability	5.1 Consciousness Level	Does not check if conscious level or respond to change of status	Check conscious level but does not apply criteria for AVPU decision needs to change of status late	Check conscious level, time apply criteria for AVPU decision and needs to change of status but may not apply criteria for AVPU appropriate	Check conscious level, time apply criteria for AVPU decision fully and needs to change of status immediately and register criteria for AVPU
	5.2 Pupil Assessment	Does not assess pupils	Assesses pupils, but does not check all of PERRLA	Assesses pupils, does check PERRLA	Assesses pupils, does check PERRLA and assesses as necessary
	5.3 CSM Assessment	Does not check Circulation Sensation Motion-COPE	Assesses CSM but not in all activities and not at correct time for interventions	Assesses CSM in all activities but may not at correct time for interventions	Assesses CSM in all activities and at correct time for interventions
	5.4 Ongoing Assessment	Does not check ongoing assessment regarding stability or needs to a change of status	Rechecks some of AVPU, PRRS and COPE but not in good time and does not need to change in status	Rechecks AVPU, PRRS and COPE at good time and needs to status change but may not in appropriate time	Rechecks AVPU, PRRS and COPE in appropriate time and needs to status change immediately
6 Secondary Survey	6.1 Full Casualty Assessment	Does not do a full casualty assessment to identify injuries & abnormalities	Performs an inefficient casualty assessment to identify injuries & abnormalities	Performs a good casualty assessment to identify the majority of injuries & abnormalities	Performs an excellent full casualty assessment to identify all injuries & abnormalities
	6.2 Secondary Issues Identified	Does not identify any secondary issues	Identifies some secondary issues but not sufficiently and/or comprehensively	Identifies the majority of secondary issues and well but not all and/or comprehensively	Identifies all of the secondary issues established in the primary survey
	6.3 Full History	Does not receive or obtain a history or AMPLE	Receives the AMPLE information obtained in the primary survey	Receives the full AMPLE information but may not need with appropriate interventions or change of care plan	Receives the complete AMPLE information and needs with appropriate interventions or change of care plan
	6.4 Reassessment & Vitals	Does not reassess and/or obtain full set of vitals	Reassess and/or obtains some vitals but not in time	Reassess and/or obtains all vitals but they not need to any changes	Reassess and obtains all vitals and needs to any changes
	6.5 Neurovascular Status	Does not assess or reassess	Reassesses COB but not in all activities and not at correct time for interventions	Reassesses COB in all activities but may not at correct time for interventions	Reassesses COB in all activities and at correct time for interventions

圖 52、救護項目評分指引

MEDICAL ASSESSMENT	Location	Date	TEAM				
	Assessor	Time					
Not Done	0	Insufficient	2	Good	4	Excellent	6
1 Initial Survey & Patient ID	SCORE	7 Scene Management	SCORE				
1.1 ID & Communicate the Initial LOC*		7.1 Communications with Casualty(ies)					
1.2 Inspects for Catastrophic Haemorrhage		7.2 Communication with IC & Team					
1.3 Reports Casualty(ies) Condition to IC		7.3 Triage					
1.0: Level of consciousness	Total	7.4 Situational Awareness / Internal Space					
2 Airway	SCORE	7.5 Management of Resources / Equipment					
2.1 Airway Manoeuvre		7.6 Planning & Progression					
2.2 Inspection of Airway		Total					
2.3 Management of Patency		8 Casualty Centred	SCORE				
Total		8.1 Treatment & Planning					
3 Breathing	SCORE	8.2 Pain and Oxygen Management					
3.1 Present		8.3 Handling, Movement / Packaging					
3.2 Respiration Rate/Depth/Effort		8.4 Spinal - Decision & Management					
3.3 Chest Inspection & Assessment		Total					
3.4 Interventions, SpO2 & O2		9 Extrication	SCORE				
Total		9.1 Planning, Supervision & Leadership					
4 Circulation	SCORE	9.2 Casualty, Injury & Interventions Management					
4.1 Haemorrhage Management		9.3 Casualty Packaging, Movement & Handling					
4.2 Assess for Circulation		9.4 Reassessed Post Extrication					
4.3 Peripheral and/or Central Pulses		Total					
4.5 Cap Refill & Skin		10 Safety	SCORE				
Total		10.1 Safe 360 Approach & Access					
5 Disability	SCORE	10.2 Hazard Identification & Mitigation					
5.1 Consciousness Level		10.3 Wear & Maintain Correct PPE					
5.2 Pupils Assessment		10.4 Casualty Safety & Protection Throughout					
5.3 CSM** Examination		Total					
5.4 Ongoing Assessment		11 Handover	SCORE				
Total		Intro	Allergies				
6 Secondary Survey	SCORE	Mol	Medications				
6.1 Full Casualty Assessment		Injuries	Background				
6.2 Secondary Issues Identified		Signs & Symptoms	Other				
6.3 Full History		Treatment & Trends	Total				
6.4 Reassessment & Vitals							
6.5 Neurovascular status							
Total							
Positive Points		Learning Points					
Assessors signature		Total Score:					
Score checkers signature							

圖 53、救護項目評分表

(2) 賽事情境與時間：2024 世界救援挑戰賽情境分為「危急情境(Critical Condition)」、「檢傷情境(Triage)」及「夾困情境(Physical entrapment)」，每個情境比賽時間均為 25 分鐘，主要差別於傷者數量及傷者之傷情程度，說明如下：

i. 危急情境：可分為「快速脫困場景」及「標準拯救情景」(如圖 54 及圖 55)：

- 快速脫困場景：傷患 1 名，傷情危急，情境設定較簡單，預期傷患救出時間為 10 至 12 分鐘，主要測試團隊快速決策並有效使用救援工具以盡快穩定和移送傷患。
- 標準拯救情景：傷患 1 名，傷情穩定，情境設定較複雜，預期傷患救出時間為 15 至 20 分鐘，測試團隊謹慎操作，以確保在不加重傷者病情的前提下完成急救。



圖 54、危急情境場景

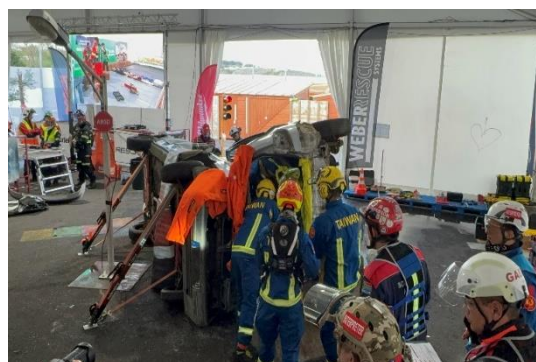


圖 55、新北市政府消防局進行危急情境賽事

ii. 檢傷情境：可分為 3 種場景(如圖 56 及圖 57)：

- 場景 1：傷患 2 名，傷情皆穩定，測試團隊在時間限制下確定任務優先順序並有效管理多個傷患的能力。
- 場景 2：傷患 2 名，傷情皆危急，預期傷患救出時間為 16 至 18 分鐘，測驗團隊必須採用進階的技術和協調加快救援並提供立即的醫療護理。
- 場景 3：傷患 2 名，傷情 1 名穩定、1 名危急，測驗團隊需要平衡對危急傷患的快速反應，同時照顧狀況穩定的傷患。



圖 56、檢傷情境場景



圖 57、桃園市政府消防局進行檢傷情境賽事

iii. 夾困情境：可分為 3 種場景(如圖 58 及圖 59)：

- 場景 1：傷患 2 名，1 名傷者受困車內、1 名可自行脫困，預期傷患救出時間為 20 分鐘，測驗團隊協助被困受傷者，同時評估並處置可自救傷者的需求。
- 場景 2：傷患 2 名，1 名傷者受困車內且傷情危急、1 名傷者受困車外，預期傷患救出時間為 15 分鐘，測驗團隊對危急傷患進行快速介入，同時為穩定患者管理外部障礙物。
- 場景 3：傷患 2 名，1 名傷者受困車內且傷情危急、1 名傷者受困車外，預期傷患救出時間為 22 分鐘，測驗團隊有效管理空間和傷患狀況的應處能力。



圖 58、夾困情境場景



圖 59、新北市政府消防局進行夾困情境賽事

(三)實習裁判(Shadow Assessors)：

本署辦理「113 年車禍救援挑戰賽」前，為求賽事裁判標準之一致性，於 113 年 7 月 28 日辦理裁判講習活動，特別邀請 WRO 專家學者來臺擔任教官，與本次賽事裁判人員一同針對車禍救援挑戰賽各項情境之評分方式、標準內容制定及評分技巧進行研討，使我國車禍救援賽事能與國際接軌；當時桃園市政府消防局隊員高福均受有幸受邀參與 2024 世界救援挑戰賽的實習裁判(亦稱影子裁判)之培訓，所謂實習裁判係指於比賽期間跟隨於所屬正式裁判，從旁學習評分邏輯、

判斷依據、賽後的歸詢討論以及任何問題之應變，更重要的是如何確保所有的比賽隊伍於賽程期間的時間管理，使比賽順暢無逾，這也是首次臺灣能夠派員參與實習裁判培訓，隊員高福均本次賽事負責指揮組，另外有 2 位來自西班牙及盧森堡的實習裁判負責醫療組(如圖 60 及圖 61)。

2024 世界救援挑戰賽賽事工作人員介紹如下：

1. 裁判長：由 WRO 所屬裁判長以及主辦國推任一名擔任，其工作內容在於掌控賽事順利進行，隊伍如有遇到問題需要仲裁則由裁判長做最終決定。
2. 裁判：本次共分為 3 個比賽場地，每一個場地由同一組裁判負責評分；裁判依照評分項目區分為：指揮裁判、技術組裁判、醫療組裁判，車輛救援比賽一場由上述 3 位裁判；創傷比賽則是每場比賽會有 2 名醫療裁判。
3. 場地組：每一比賽場地各有一場地組，場地組主要工作內容為比賽場地的情境擺設，以及比賽隊伍所選擇之比賽用器材擺放定位及確認功能正常。
4. 後勤組：負責參賽隊伍報到、賽程進度掌控、統計成績、參賽隊伍各種狀況應變。
5. 實習裁判：所屬組別裁判之分身，並於比賽期間每天更換一位正式裁判進行從旁協助，除了分數不列入統計外，需全力協助比賽的進行，並於每天賽程結束後由所屬正式裁判填寫評估報告表，回報 WRO 該名影子裁判是否具備裁判的能力以及特質。



圖 60、裁判合影(紅色背心為指揮官裁判、藍色背心為技術組裁判、綠色背心為醫療組裁判、黑色背心為實習裁判)



圖 61、裁判與工作人員合影

本次實習裁判從賽前到比賽期間需隨的大會規劃參加多項活動，包含賽前線

上會議、工作坊、場刊動線、領隊會議，以前賽事期間之賽事評分、賽後完成評分表及賽後規詢，分別介紹如下：

1. 賽前線上會議：

- (1) 第一階段：在正式比賽前，因為裁判來自不同國家，大會規劃先用網路視訊會議的方式進行諸多討論，第一個階段討論的內容是在今年的「挑戰賽指南 GuidelInes」(如圖 62)，挑戰賽指南內容包含了所有的資訊，從協會介紹、以及今年變更、調整的內容以及賽隊伍所需要的所有資訊，裁判以及協會各幹部需逐條進行討論(如圖 63)。
- (2) 第二階段：同樣以線上會議的方式進行；WRO 代表會在每一階段進行階段性進度的回報，到此階段開始進行比賽的流程討論，從場地介紹、隊伍動線(從檢錄、報到、選手隔離、進場、比賽、歸詢結束)、工作人員區域、各項會議地點、開幕式、閉幕式流程全部都進行細部討論…等從這兩階段共計約 6 小時的會議掌握活動細節的掌控。
- (3) 第三階段：第三階段為整合，將前面兩階段討論的內容整理出來，再重新經過所有人審視一遍，並提供每個工作人員的資料。

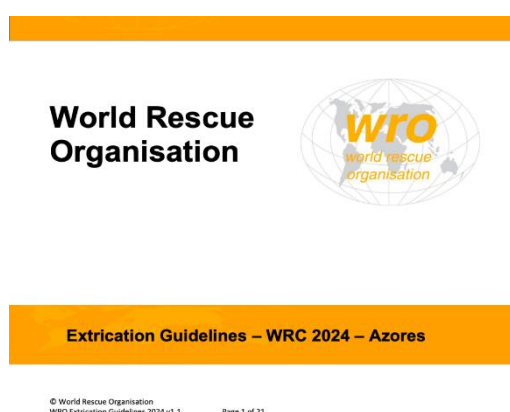


圖 62、挑戰賽指南

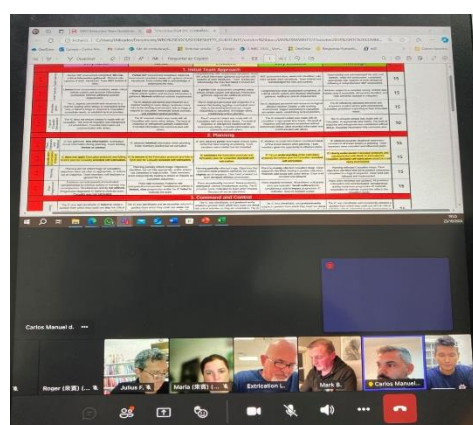


圖 63、線上會議

2. 裁判工作坊：

大會於 114 年 11 月 4 日在 2024 世界救援挑戰賽舉辦地點特賽拉島舉辦裁判工作坊，首先針對所有與會工作人員與裁判進行簡單介紹，再來區分為兩大組：車禍救援以及創傷挑戰賽，各利用獨立的空間進行討論，車禍救援部分則再依評分角色進行分組。

隊員高福均這次被賦予的工作內容是比賽現場的指揮組影子裁判，在工作坊期間跟隨著另位三位指揮組裁判進行討論並取得共識，小組討論從指揮組的評分表開始，從各個項目討論、確認所有人都有共識後才

進行下一項。

討論完評分表後接著討論比賽現場可能會面對到的問題，先進行溝通並取得共識，從隊伍準備進入比賽現場指揮裁判會先向前歡迎隊伍並依序握手擊拳，這樣做的用意是讓隊伍在進入比賽場地前先有一簡短的緩衝時間，裁判可以迎接他們並簡短問候，握手擊拳的過程中可以順便檢查每一位比賽選手的個人防護裝備是否著裝完成，如果有任何的缺少便可以立即阻止讓參賽隊伍進行修正，同時間該場地的所有裁判及工作人員會快速的做最後確認(如圖 64)。

討論最久的是比賽現場的車輛斷電要如何呈現，以往面對油車選手會打開引擎蓋進行檢查與移除電瓶電源，但這次的比賽為了更貼合實際現場救災，現場有準備了油電車供場景使用；伴隨著油電車指揮裁判手上會有 Rescue Sheet 供參賽隊伍使用，該資料可以提供現場參賽隊伍的指揮官進行風險評估、危害辨識，並可以明確的指示操作人員該從哪邊斷電(如圖 65)。

最後一項重點在於停止操作的時間點，在挑戰賽指南「Guidelines」有記載裁判有權暫停或終止參賽隊伍的操作，當然有任何立即性的安全問題喊暫停是無庸置疑的，但每一位裁判可以接受的尺度都有些許的不同，所以找到共識並要求每一位裁判嚴格執行就是一項考驗。

在經過一整天討論過後，所有裁判會同醫療組裁判移動到比賽會場，場景組工作人員分享場景需要注意的細節，障礙物的狀況：可移動、規定區域可破壞、不可移動……等，以及參賽隊伍所使用的裝備器材如何去調配；再來全員將參賽隊伍動線模擬一次，同時間思考過程可能遇到的任何問題(如圖 66)。

最後的環節是全部裁判坐下來，一同進行最後的共識統整，指揮及技術裁判分享剛剛討論完的重點並取得所有人的認可，因為醫療組同時要負責兩場賽事（車禍救援以及創傷挑戰賽）所以在這個時間點也提出醫療組針對車輛救援的觀點，同樣的，取得現場所有裁判的認可以及同意，工作坊就算告一段落(如圖 67)。



圖 64、裁判工作坊討論情形-1



圖 65、裁判工作坊討論情形-2



圖 66、模擬參賽隊伍動線



圖 67、工作坊最終討論

3. 領隊會議：

大會於 114 年 11 月 5 日辦理領隊會議，領隊會議的內容主要是在將所有裁判整理出來的重點以及注意事項在公開的場合讓所有參賽隊伍了解，同時間在所有隊伍都在的情況下有問題的一併提出，並給予解答，領隊會議由各組裁判長主持，所有裁判於台下列席，隨時可以進行各種問題的回覆。

4. 賽事評分：

雖然實習裁判的評分表不會被列入正式計分，但依然要完成評分表，目的在於可以跟所屬的指揮裁判進行分數比對，發現不同之處來進行深度的討論，是實習裁判的最重要的任務之一。(如圖 68)

5. 賽後規詢：

歸詢的過程中，裁判要給予參賽隊伍正面評價(Positive Point)以及可以改進的地方(Learning Point)並在簡短的 5 分鐘內完成歸納以及總結。(如圖 69)



圖 68、裁判團間進行討論，並完成評分表



圖 69、裁判團賽後規詢

參、心得感想

本次賽事感謝社團法人中華民國救助技術發展與諮詢協會協助報名，2024 世界救援挑戰賽堪稱目前車禍國際賽事的最高殿堂，集結各國各路好手，許多國家隊伍亦是每年賽事常見的隊伍，臺灣所派出的 2 支隊伍也在夾困情境的各單項獲得不錯的成績，在 36 支隊伍中，新北市政府消防局於夾困情境救護項目成績排名第 2 名、救助項目成績排名第 7 名；桃園市政府消防局於夾困情境指揮項目成績排名第 12 名、救護項目成績排名第 12 名，各類項目均有進入前段班排名紀錄，可見技術已有向世界頂尖隊伍競爭之實力，惟其他項目仍有可學習之處無法榮獲整體成績前三名，針對本次賽事提出心得感想如下：

一、提高參與國際賽事頻率

面對世界頂級車禍救援賽事，各隊均力求完美，故需降低緊張或怯場而影響比賽之因素，提升各項情境之穩定度，經詢問本屆總冠軍隊伍，其表示過去已經連續參加過多屆賽事，雖在過去未能獲取名次，但仍獲取相當多的經驗，並能在本屆賽事發揮嶄露頭角。

二、提升英文口說能力

本次參次雖能指派三名翻譯隨同賽事協助指揮官、就助手及救護手進行翻譯，惟翻譯時間仍有時間落差，如能由參賽者直接以英文與裁判或傷患溝通，可增加效率。

三、實習裁判心得

(一)觀察

1. 裁判必須以不干擾比賽進行的前提下，仔細觀察及傾聽參賽隊伍的操作及溝通。
2. 保持敏銳度，注意隊伍操作觀察到、聽到了什麼內容，並考慮該行動的後果。
3. 同時留意賽場內所有細節，包含了溝通不良導致的錯誤操作或是未被辨識出來的風險。

(二)紀錄

1. 做紀錄，評分表的設計有格式供書寫且紀錄會被用來作有爭議時的證明和歸詢的合理性。
2. 紀錄參賽隊伍階段性完成工作之時間點。
3. 不要依賴腦袋的記憶，永遠將看到的重點用工具記錄下來。

(三)分類

根據隊伍的操作，評分表有分成五個級距：非常基礎、基礎、傑出、非常傑出、完美，裁判要依照隊伍的救援時間、救援戰術合理度、技術展現…等等來給予各評分項目分類。

(四)回饋

1. 給予參賽隊伍歸詢是一件榮耀的事情，所以裁判更必須謹慎的紀錄並回饋給隊伍。
2. 避免個人意見，你是 WRO 的裁判，所以應該以 WRO 的觀點進行回饋。
3. 利用評分表的 Guid Line 作為評分標準，並根據給予的分數進行講評。
4. 避免冗長的討論。

肆、建議事項

一、提升比賽整體穩定度

本次各單項成績已證明我國車禍救援技術水準已達國際水準，惟面臨比賽仍會有緊張或怯場的情形，多少影響賽事成績，建議未來提高參與國際賽事頻率，且持續參與 WRO 舉辦之世界救援挑戰賽，使隊伍能習慣比賽氛圍，另針對欲參加國際賽事隊伍，於賽前練習，針對指揮、救助及救護等項目，增加車禍救援所需英文對話訓練。

二、持續參與世界救援挑戰賽實習裁判培訓

臺灣首次派員參加世界救援挑戰賽實習裁判培訓，經詢問本次擔任實習裁判之隊員高福均表示，透過裁判視角去瞭解賽事、評分及規詢，相較於擔任出

賽人員，有一樣的體驗及收穫，且對於我國車禍救援教育訓練之推動有所幫助，建議未來世界救援挑戰賽之賽事，可透過臺灣 WRO 窗口協調派員參與實習裁判培訓。

三、國內車禍救援賽事納入世界救援挑戰賽最新規則與情境

2024 世界救援挑戰賽車禍救援情境與往年相比有所調整以更貼近實務情形，建議未來國內車禍救援賽事，可納入本屆世界救援挑戰賽最新情境及規則，以接軌國際。