

出國報告（出國類別：其它）

參加「2017 國際衛星輔助搜救組織 （Cospas-Sarsat）西北太平洋區域 （NWPDDR）會議」報告

服務機關：交通部航港局

姓名職稱：戴重仁/組長

派赴國家：韓國

出國期間：106年9月5日至106年9月8日

報告日期：106年11月14日

內容摘要

我國以國際電信開發公司（International Telecommunication Development Cooperation, ITDC）名義參與國際衛星輔助搜救組織(COSPAS-SARSAT)之運作，依該組織公佈之資料分送計畫（DATA DISTRIBUTION PLAN），我國屬於其中六個資料分送區之西北太平洋資料分送區（North West Pacific Data Distribution Region, NWPDDR），NWPDDR每2年召開會議，本次於韓國召開第7屆會議，出席國家包括韓國、日本、香港、越南、菲律賓及我國，我國由ITDC組團，成員包括國家搜救指揮中心、交通部、航港局、海巡署、漁業署、臺北任務管制中心等，會中由各成員國分就其現行衛星輔助搜救系統運作情形、中軌道衛星地面站建進度、搜索救助及無線電信標等進行交流。我國已於2017年規劃建置中軌道衛星輔助搜救系統，預計2019年底完成，符合COSPAS-SARSAT公告2020年進入完全運作能力（Full Operational Capability, FOC）之時程。

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壹、目的

我國於國際衛星輔助搜救組織(COSPAS-SARSAT)成立後，透過日本代表之推薦出席會議，為確保臺灣海峽附近海域海上之安全，期能加入該組織提供國際衛星輔助搜索救助服務，善盡國際義務，於1992年以電信總局國際電信開發公司(International Telecommunication Development Cooperation, ITDC)名義正式加入該組織，持續參與其運作至今。

本次會議全名為第7屆西北太平洋區域(The 7th North West Pacific Data Distribution Region, NWPDDR)會議，於韓國世宗市召開，隸屬國際衛星輔助搜救組織(Cospas-Sarsat)，每2年召開，用於評估各會員所轄任務管制中心(Mission Control Center, MCC)運作情形及強化MCC間聯繫。西北太平洋地區成員包含：JAMCC(日本，協調國)、HKMCC(香港)、CNMCC(大陸)、KOMCC(韓國)、TAMCC(臺灣)及VNMCC(越南)。

本次出席會議除瞭解各會員國中軌道衛星地面站建置情形及報告我國建置進度，討論後續辦理事項，同時與各會員國保持良好互動，有助我國持續參與國際衛星輔助搜救組織之運作。

貳、過程

一、行程

日期	行 程
9 月 5 日	搭機前往韓國世宗市(桃園國際機場-仁川機場-KTX 高鐵)
9 月 6-7 日	會 議
9 月 8 日	搭機返臺(世宗市-仁川機場-桃園國際機場)

二、會議地點

韓國世宗市(Sejong City)世宗會議中心(Sejong Convention Center)。

三、會議議程

本次會議討論議題如下，詳細議程詳如附錄 1：

1. 議程確認(Approval of Agenda)
2. 第 6 屆西北太平洋區域會議行動項目執行狀況(Status of 6th NWPDDR Action Items)
3. 系統運作狀況報告(System Status and Operations Reports)
4. 溝通議題(Communication Matters)
5. 中軌道衛星搜救系統(MEOSAR)
6. 示標議題(Beacon Matters)
7. 搜索救助事件報告(SAR Event)
8. 第二代無線電示標議題(Second Generation Beacon Matters)
9. 品質管理系統(Cospas-Sarsat Quality Management System, QMS)
10. 校訂本會議行動項目(Review of Action Items from this Meeting)
11. 下次會議(Next Northwest Pacific DDR Meeting)

12. 校閱會議紀錄(Review of 7th Northwest Pacific DDR Meeting Report)

四、參加會議紀要

本次會議係由日本 Mr. Naotoshi Chiyo 與南韓 Mr. Hwan-Sang Yeo 共同擔任主席，共計有 5 個會員國（南韓、日本、臺灣、香港及越南）37 位代表出席，大陸僅提供文件未出席，另有菲律賓以搜救聯絡點(SPOC)身分出席，與會人員名單如附錄 2。

各會員國就各項議題之報告摘要如下：

(一) 系統運作狀況報告(System Status and Operations Reports)

日本：於 2017 年 2 月已安裝 MEOLUT(4 頻道)於富津市，並於 5 月開始 LGM-MCC 運轉測試。

南韓：南韓海洋警察廳(Korea Coast Guard)總部已由仁川遷移至世宗市，同時 KOMCC 亦遷至世宗市。2016 年 10 月 KOMCC 已建置 MEOLUT(4 頻道)，規劃於日本通過運轉測試後接續進行運轉測試。

越南：自 2016 年 10 月起，Cospas-Sarsat 變更越南 IBRD 之登錄規則，含越南國碼之示標由越南官方統一登錄 IBRD，不再受理個人登錄申請。

香港：修復 LNC 及 HDD 故障。完成 TAMCC、CNMCC、VNMCC 備援測試。

大陸：修復 CNLUT 故障的驅動皮帶。

臺灣：臺北任務管制中心可用性(availability)為 99.9%；2 座地面站 LEOLUTs，可用性分別為 99.13%及 99.37%。2016 年接獲示標訊號 163 筆(EPIRB:135、ELT:14、PLB:14)，其中 1 筆確為遇險告警，餘 162 筆均為誤觸。至 2016 年止，臺灣擁有示標數量 EPIRB：2352，ELT：702，PLB：729。

(二) 溝通議題(Communication Matters)，主要討論人員英語訓練議題：

日本：JAMCC 精通英文的人員並不多。日本海上保安廳總部的作業中心經常需要與外籍船舶聯繫，其中 NAVTEX 系統、HF-DSC 及 MCC 均合署辦公，合作處理海上遇險事件。為加強英語溝通能力，日本使用”國際海事組織標準海事通訊語彙”(IMO Standard Marine Communication Phrases)，本書介紹海事溝通上的簡潔英語，MCC 使用書中介紹之英語表達，也建議其它 MCC 參考本書。

南韓：KOMCC 有 4 位值機員，優先安排具英語溝通能力人員擔任，目前並無英語訓練。南韓海洋警察廳僱用外語人員，包含中文、日本及俄文等外語。然而英語非南韓的母語，有必要提供值機人員英語訓練，尤其搜索救助及 MCC 間溝通等場合的英語應用。

越南：VNMCC 值機員須通過英語 3 級或等同於多益(TOEIC)分數 450 之英語程度。MCC 間溝通時值機員可書寫清晰的英文，然而 MCC 備份等重大事件需電話聯繫時卻有困難。改善方式是建立 MCC 間常用的英語例句，使用英語支援軟體及每年測試值機員的英語程度。

香港：中文及英文均為香港的官方語言，政府重要文件亦同時以中文及英文方式書寫。HKMCC 及 HKMRCC 合署辦公，由 1 位海事官員、1 位一級海事督察(Marine Inspector Grade I officer)及 1 位二級海事督察(Marine Inspector Grade II) 24 小時輪值。MRCC 所有人員均有一級船長證書(Master Mariner Class I Certificate)，負責 GMDSS 岸臺無線電人員亦擁有通用值機員證書(GMDSS General Operator Certificate)。香港特區政府以公務員易學網(Cyber Learning Centre Plus)提供線上教學資源，提升警察及公務員英文能力。

大陸：CNMCC 與 HKMCC 間使用中文溝通，MCC 值機員具基礎英文能力，然而與其它 MCC 使用英文溝通時會延遲現象。改善方式是預備 SIT 訊息的英語範例，及值機員接受每年 1 至 2 次

的英語訓練。

臺灣：英語是重要溝通語言，MCC、RCC 及海巡署相關人員均有能力以英語溝通。

(三) 中軌道衛星搜救系統(MEOSAR)

1、中軌道衛星搜救系統簡介：

JAMCC 報告由祕書處提供之簡報，包含 MEOSAR 預期效能、運作原理發展計劃及時程表。設備廠商 Honeywell 及 McMurdo 分享中軌道搜救衛星系統建置經驗及新技術。

2、各會員中軌道衛星搜救系統建置時程：

國際衛星輔助搜救組織發布之中軌道衛星搜救系統建置時程表(C/S R.012 附件 1)如表 1，各會員國報告其建置時程如下：

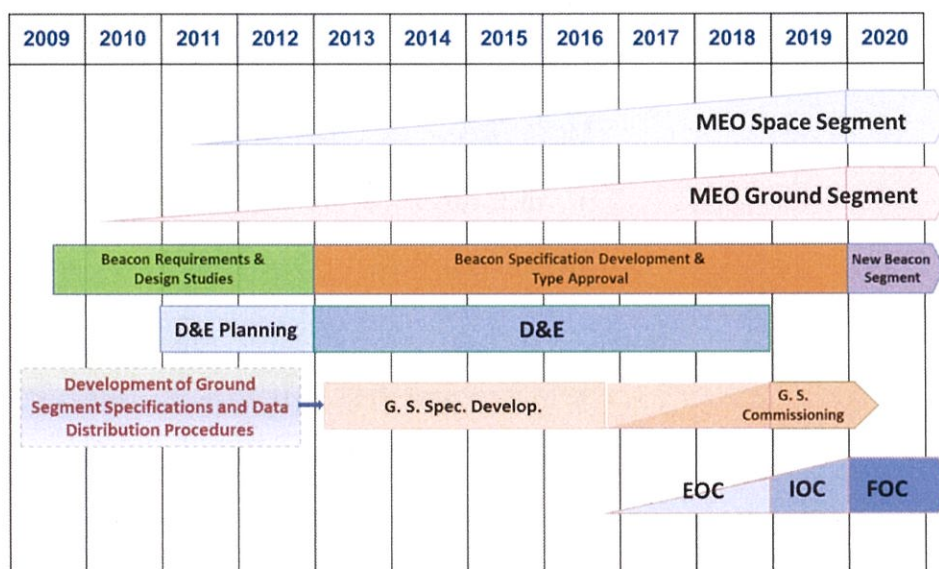


表 1 中軌道衛星搜救系統建置時程表

日本：2017 年 2 月 14 日 JAMCC 建置完成 4 具天線之 MEOLUT 及 LGM-MCC。JAMCC 進行運轉測試並預計 JC-31 會議提出報告，並規劃將來升級 MEOLUT 至 6 具天線以符合 IOC 標準。

南韓：2016 年 10 月於錦山郡(Geumsan)建置完成 4 具天線之 MEOLUT，進行運轉測試中，預計 2018 進入 EOC 階段。

越南：2012 年 12 月 VNMCC 升版以具備 LGM-MCC 能力。預計 2018 至 2020 年於海防市建置 MEOLUT，於 2020 年進入 FOC 階段。

香港：預計 2018 年第 3 季建置中軌道衛星搜救系統地面站，LGM-MCC 及 MEOLUT 分別於 2018、2019 年運轉。

大陸：MEOSAR 地面站建置正處於規劃階段，預計 2017 年底規劃完成，2018 年初招商，2018 年底前建置完成，2019 開始運轉測試。MEOLUT 含 6 具天線將建置於北京海事衛星地面站，既有 LG-MCC 將轉換成 LGM-MCC，此外大陸並不中止 LEOSAR，將持續投入資源並研究下一階段的 LEOSAR 轉變計劃(transition plan)。

臺灣：預計 2017 第 4 季開始建置，2018 進行 MCC 運轉測試，2019 為 MEOLUT 運轉測試。MEOLUT 將含 6 具天線，MCC 也規劃遷移至其它位置。

3、MEOSAR 論證及評估 (Demonstration and Evaluation, D&E) 階段：

D&E 階段包含技術及運作測試。JAMCC 執行其中有關 MEOSAR 於示標慢速移動時之表現，並於 2017 年 7 月成功完成測試。據 JAMCC 提供資料顯示，示標移動速度對 MEOSAR 以 FOA(Frequency of Arrival)定位方法造成實質且不可預測的錯誤。

4、MEOSAR 太空段(Space Segment)：

依據祕書處提供資料，JAMCC 簡報有關 MEOSAR 太空段衛星運作情形，最新資訊列於官網。

(<http://www.cospas-sarsat.int/en/system/space-segment-status-pro/current-space-segment-status-and-sar-payloads-pro>)。

5、文件增修提案(Proposal to Include to Document C/S A.002 The Data Formats Required between MEOLUT and MCC)：

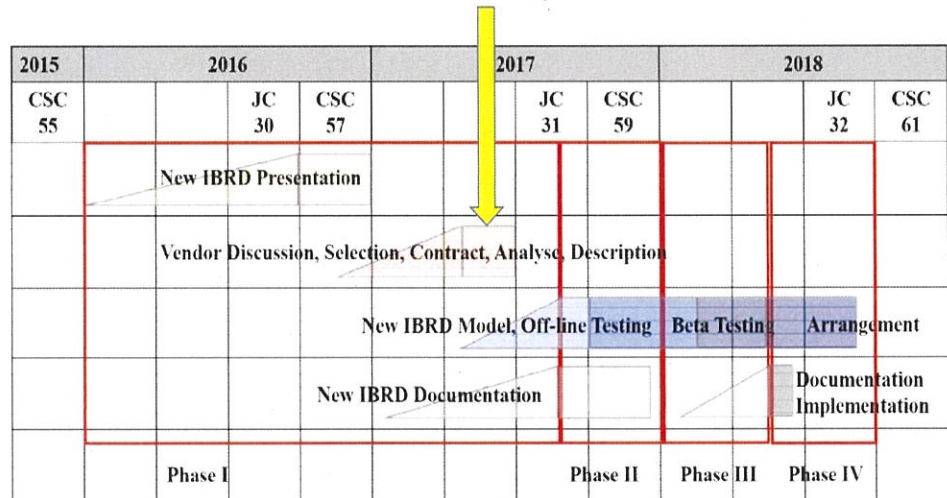
越南預計於 JC-31 提案增修 C/S A.002 (Cospas-Sarsat Mission

Control Centres Standard Interface Description (SID)) 文件內有關 MCC 與 MEOLUT 間資料傳輸格式相容性議題。

(四) 示標議題(Beacon Matters)

1、新版國際示標註冊資料庫 (International Beacon Registration Database, IBRD) 時程如下圖：

Time line to be ready end of 2018



2、406MHz 無線電示標註冊管理：

日本：無線電示標由總務省管理，且法律規範使用示標須註冊，未註冊使用將受處罰，故幾乎日本所有示標均註冊，以致接到遇險訊號時可以快速聯繫持有人。

南韓：使用示標須向管理單位註冊，已建立南韓國內之示標註冊資料庫，而未向 IBRD 登錄。當接收船舶遇險示標時需快速取得船舶資訊，建議 NWPDDR 成員加速彼此船舶資料取得，將有助搜索救助任務執行。

越南：2013 年起官方要求所有示標須至 IBRD 登錄，持有人可透過網站、信件、傳真及電子郵件等方式向 VNMCC 遞交申請。2016 年起含越南國碼之示標至 IBRD 登錄改為單一窗口，取消個人登錄服務。EPIRB 及 ELT 因誤觸造成較高誤告警率，後續將加強教育訓練，強調設備維護及示標測

試時的正確方式，並制定法律處罰誤告警。每年越南與柬埔寨及寮國展開三方會議，檢視告警訊號之接收及傳遞，越南分享最新 CSC 會議消息、IBRD 註冊及降低誤告警的經驗，柬埔寨及寮國亦修改政策以降低誤告警及增加註冊率。

香港：通訊事務管理局辦公室(Office of the Communications Authority, OFCA)負責發佈船舶電臺呼號(call signs)、電臺執照(radio licences)及 MMSI，亦負責收集 EPIRB 及 PLB 註冊資料。民航處(Civil Aviation Department, CAD)則負責收集 ELT 註冊資料，再轉交 HKMCC。香港 406MHz 示標資料庫已電腦化建檔，統計至 2016 年底已有 3779 筆註冊資料。HKMCC 為 406MHz 示標資料庫的管理者。部分 EPIRB 註冊資料不含 15 HEX ID，而無法上傳至 IBRD 網站。2017 年起，HKMCC 開始聯繫船主更新註冊資料。香港法規不強制 EPIRB 註冊是造成註冊率不理想的原因，提升註冊率的方法加強與管理機關的合作。

大陸：交通運輸部無線電管理辦公室負責 EPIRB 註冊及管理，亦暫時受理 PLB 註冊，建立註冊資料庫。大陸民用航空局空之交通管理局負責 ELT 註冊及管理，亦建置資料庫。CNMCC 接獲告警訊號時以熱線查詢上述資料庫後再轉交 RCC 執行。相關部門仍在討論 PLB 的管理機構，目前對 PLB 管理尚無規劃。

臺灣：航港局負責 EPIRB 及 PLB 註冊資料登錄 IBRD。ITDC 仍負責 ELT 註冊。目前有 737 筆 ELT 及 32 筆 PLB 登錄於 IBIRD。我國管理政策是將所有示標登錄於 IBRD。EPIRB 註冊預計 11 月開始。

3、PLB 狀態：

JAMCC 進行 PLB 告警簡報，KOMCC 表示南韓 PLB 僅限軍方使

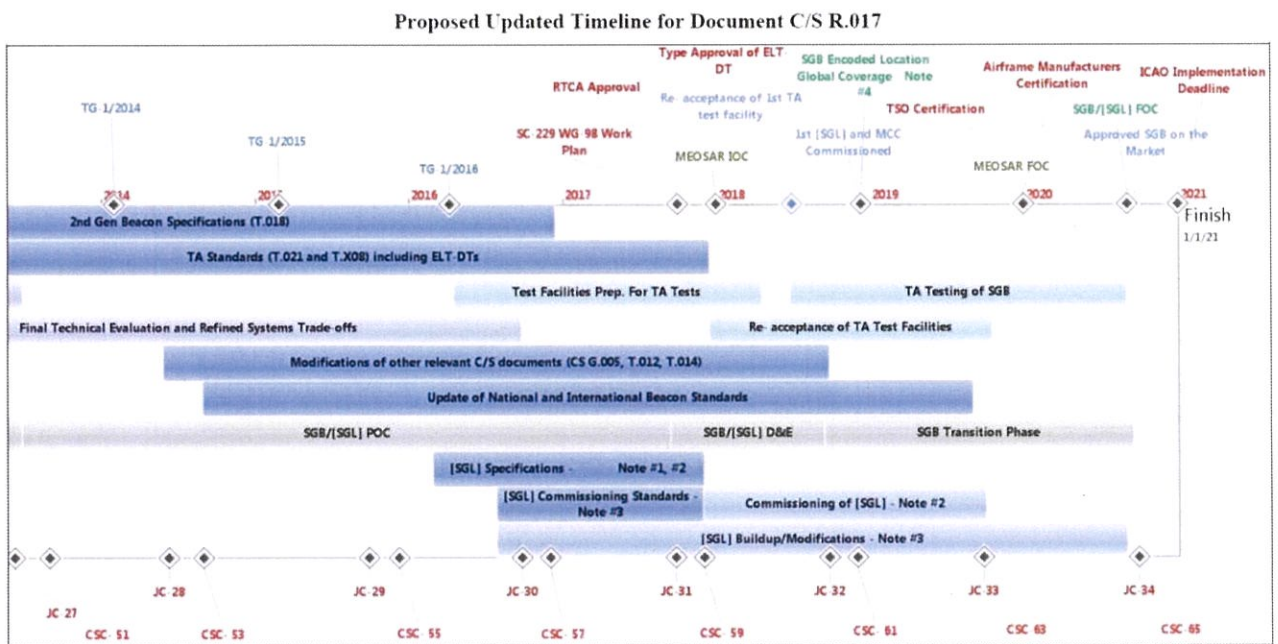
用。

(五) 搜索救助事件報告(SAR Event)

日本、臺灣、南韓、越南及菲律賓報告搜索救助事件。

(六) 第二代無線電示標(Second Generation Beacon Matters)議題

第二代示標適用於中軌道衛星系統，其使用較大頻寬以增加定位準確度。CSC-57 會議提出第二代示標時程表(下圖)，將再依 ICAO 對 ELT(DT)時程調整。



(七) 品質管理系統(Cospas-Sarsat Quality Management System, QMS)

1、現用 QMS 運作狀態(Status of Existing QMS system)

現用 NWPDDR LEOLUTs 非完全可運作狀態，JAMCC 要求 NWPDDR 成員更專注於降低 LEOLUT 的非可用度 (non-availability)。

2、中軌道衛星系統 QMS(QMS for MEOSAR System)

中軌道衛星系統 QMS 分為 2 階段，初期 QMS 用於監測 MEOLUT 可用度、定位準確度及 MCC 狀態，第 2 階段可用於校準示標、監測 MEOSAR 衛星及全球涵蓋。

(八) 校訂本會議行動項目(Review of Action Items from this Meeting)

1、行動項目 1：

NWPDDR 成員須分享彼此詳細的 MEOSAR 建設計劃。

2、行動項目 2：

邀請 NWPDDR 所轄 MCC 去促進及支持其 DDR 區域國家使用 IBRD，同時協調國 MCC 也須有採取支持行動以使 IBRD 順利使用。

3、行動項目 3：

若手冊(C/S. S.007 Handbook of Beacon Regulations)內容需校正，NWPDDR 成員所轄 MCC 值機員及管理部門須即時更正及陳報祕書處。

(九) 下次會議(Next Northwest Pacific DDR Meeting)

下次會議預計 2 年後(2019 年)舉行，主辦國為大陸或香港，因大陸未出席，經協商預計 JC-31 會議時召開小型會議以決定下次會議主辦國。

參、心得及建議

一、心得

- (一) 本次會議會場使用之會場立牌、席位標示、個人識別證等均標記我出席人員國籍為 Taiwan 並標示國旗，顯示主辦國對我方代表友善態度，同時也代表長期以來我方之專業參與，獲該組織成員高度肯定與重視，也顯示參與國際組織運作時，以具體實力與技術能力做出貢獻的重要性，而有賴培養更多人才的投入。未來應持續與西北太平洋區域之各國保持良好的互動，以維護我方權益，並確保臺北飛航情報區緊急搜救任務通報作業之遂行。
- (二) 本次會議主辦單位也安排參訪韓國 GMDSS 中心，該中心藉由任務管制中心、海岸電臺、AIS 及韓國自行研發之船舶資訊系統之整合，強化搜索救助

通訊效率，我國仍有很大進步空間。

二、建議

- (一) 為符合國際衛星輔助搜救組織有關中軌道衛星輔助搜救系統運作之時程，各國均陸續進行相關建置工作，我國已於 2017 年著手辦理規劃作業，後續建置作業應持續落實推動，以如期如質於 2019 年底前完成，以強化我國海域及航空器遇險搜救能力。
- (二) 建議持續透過參與國際衛星輔助搜救組織及相互交流任務管制中心之資訊，以獲得最新的國際衛星輔助搜救業務的訊息。
- (二) 海難搜救作業除 MCC 之運作外，尚涉及 GMDSS、AIS、LRIT、VTS 及其他相關船舶、海氣象系統，將其適度予以整合實為下一階段強化搜索救助效率之重要方向。

附錄 1 會議議程

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2. **Status of 6th Northwest Pacific DDR Meeting Action Items**
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- 5.2 MEOSAR Schedule of EOC/IOC/FOC Timelines
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- 5.3 MEOSAR Demonstration and Evaluation (D&E) Phase
 - 5.3.1 Japan
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 - 5.4.1 Japan

6. Beacon Matters

- 6.1 International Beacon Registration Database (IBRD)
 - 6.1.1 Japan
- 6.2 Status of National 406 MHz Beacon ID Registers Management
 - 6.2.1 Hong Kong
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 - 6.2.4 Korea (Rep. of)
 - 6.2.5 Viet Nam
- 6.3 PLB Status (Regulations – C/S S.007 and Statistics – C/S R.007)
 - 6.3.1 Japan

7. SAR Events

- 7.1 Examples of SAR Events in 2016 related to MEOSAR
 - 7.1.1 Hong Kong
 - 7.1.2 ITDC
 - 7.1.3 Japan
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8. Second Generation Beacon Matters

- 8.1 Japan (Association of Radio Industries and Businesses)

9. **Cospas-Sarsat Quality Management System (QMS)**
 - 9.1 Status of Existing QMS Systems
 - 9.1.1 Japan
 - 9.2 QMS for MEOSAR System
 - 9.2.1 Japan

10. **Review of Action Items from this Northwest Pacific DDR Meeting**

11. **Next Northwest Pacific DDR Meeting**

12. **Review of 7th Northwest Pacific DDR Meeting Report**

附錄 2：與會人員名單

Hong Kong, China *HKMCC*

Mr. Wong Chan-kwong	Marine Department
Mr. Yuen Wai-yip, Lobee	Marine Department
Mr. Lu Jian-jian	Marine Department
Mr. Renato Tiu	Civil Aviation Authority of the Philippines
Ms. Maria Jazel Collada	Civil Aviation Authority of the Philippines
Ms. Maria Cecilia Avengoza	Civil Aviation Authority of the Philippines

ITDC *TAMCC*

Mr. Chung Jen Tai	Maritime Safety Division
Dr. Shwujing Chang	National Taiwan Ocean University
Mr. Yung-Chieh Shen	International Telecommunication Development Co. (ITDC)
Mr. Hai-Long Pan	International Telecommunication Development Co. (ITDC)
Mr. Kuo-Ping Hsieh	International Telecommunication Development Co. (ITDC)
Mr. Ming-Ching Kao	International Telecommunication Development Co. (ITDC)
Ms. Yu-Wen Huang	UNIXAN International Technology Co., LTD
Mr. Yihsien Chiu	Fishery Agency
Mr. Tunglin Kuo	Fishery Agency
Ms. Wan-Ling Chang	R.O.C. Coast Guard
Mr. Ching-Jui Chen	Ministry of Transportation and Communications (MOTC)
Mr. Shih-Yuan Chen	RCC
Mr. Chin-Tu Chi	TAMCC

Japan *JAMCC*

Mr. Kenji Nakanishi	Japan Coast Guard
Mr. Naotoshi Chiyo	Japan Coast Guard – <i>Co-Chairman</i> -
Mr. Yuji Emoto	Japan Coast Guard
Mr. Masahiro Chiba	JAMCC – Japan Coast Guard
Mr. Kensaku Ota	JAMCC – Japan Coast Guard
Mr. Nobuo Aritake	Association of Radio Industries and Businesses
Mr. Masahiro Kurohara	The Japan Association of Marine Safety
Mr. Anthony Daniel	Honeywell
Mr. Richard Renner	Honeywell
Mr. Henry Li	McMurdo

Korea (Rep. of)**KOMCC**

Mr. Younghun Goo

Korea Coast Guard

Mr. Myungyong Oh

Korea Coast Guard

Mr. Hwan-Sang Yeo

Korea Coast Guard – *Co-Chairman* –

Mr. Hyungun Kim

Korea Coast Guard

Mr. Junho Lee

Korea Coast Guard

Viet Nam**VNMCC**

Mr. Quang Phan Ngoc

Vietnam Maritime Communication and Electronics LLC
(VISHIPEL)

Ms. Huyen Nguyen Thi Thanh

Vietnam Maritime Communication and Electronics LLC
(VISHIPEL)

Ms. Lien Ngo Thi

Vietnam Maritime Communication and Electronics LLC
(VISHIPEL)

附錄 3 與會照片







附錄 4 英文會議紀錄

Cospas-Sarsat Joint Committee
Thirty-first meeting
6 – 7 October 2017

JC-31/Inf.X
Origin: Japan
Date: 7 September 2017

7th NORTHWEST PACIFIC DDR MEETING

1. EXECUTIVE SUMMARY

Purpose The Joint committee is invited to note the minutes of Cospas-Sarsat 7th Northwest Pacific DDR

Description if topic This paper provides the minutes and attachments of the NWPDDR Meeting, which was hosted from 6 to 7 September 2017 by the Republic of Korea in Sejong at the Sejong Convention Center. Mr. Naotoshi Chiyo, JAMCC and Mr. Hwan-Sang Yeo, KOMCC, co-chaired the meeting.

One of the aims of this meeting was to allow both a greater involvement of all NWPDDR participants in the conduct of the Cospas-Sarsat Program and to build on the strength of the NWPDDR meeting in order to carry on common issues.

2. BACKGROUND

The NWPDDR Meeting was hosted from 6 to 7 September 2017 by the Republic of Korea in Sejong at the Sejong Convention Center, Mr. Naotoshi Chiyo from the Japan Coast Guard at JAMCC and Mr. Hwan-Sang Yeo from the Korea Coast Guard, KOMCC, co-chaired the meeting.

37 people from five Cospas-Sarsat MCCs and one Cospas-Sarsat SPOCs took part in this meeting (for a list of participants, see Attachment 1 to this document).

The 7th NWPDDR Meeting participants considered 43 documents (for a list of documents, see Attachment 2 to this document).

The agenda of the meeting is presented in Attachment 3 to this document.

Future activities addressed to NWPDDR participants are reflected in 3 action items arising from the 7th NWPDDR Meeting and provided in Attachment 4 to this document.

The initial goal of the NWPDDR Meeting was to assess the proper functioning of MCC's in the Northwest Pacific Data Distribution Region and maintain a strong relationship all MCCs in order to solve quickly any problem that could occur.

3. 7th NORTHWEST PACIFIC DDR MEETING MINUTES

3.1 Agenda item 1 – Approval of Agenda

A draft agenda (1/1) was presented. The agenda was approved by all participants. The Approved Agenda is provided at Attachment 3 to this document.

3.2 Agenda item 2 – Status of 6th NORTHWEST PACIFIC DDR Action Items

There is no action items for the previous 6th Northwest Pacific DDR Meeting. The new list of actions provided in Attachment 4 to this document.

3.3 Agenda item 3 - System status and Operational Matters

System Status and Operational Reports

It was noted that Northwest Pacific Data Distribution Meeting Participants were invited comment on System Status and Operations.

Reports on System Status and Operations were provided by HKMCC (3/1), TAMCC(3/2/1 and 3/2/2), JAMCC (3/3), KOMCC(3/4) and VNMCC(3/5).

3.4 Agenda item 4 - Communication Matters

Status of Communication Interfaces between MCCs and SPOCs

It was noted that Northwest Pacific Data Distribution Meeting Participants were invited

comment on the status of communication interfaces between MCCs and SPOCs.

The JAMCC, as the nodal MCC, commented the status of existing communication means between nodal MCCs, as well as status of communication interfaces between all MCCs in the NWPDDR.

English Language Training of Personnel

Reports on English Language Training of Personnel were provided by HKMCC (4/2/1), Japan(4/2/2), Korea(4/2/3) and VNMCC (4/2/4).

All participants recognized that improvement of English conversation will contribute to share the Cospas-Sarsat information in Northwest Pacific data distribution region.

3.5 Agenda item 5 – MEOSAR

MEOSAR Overview

On behalf of the Secretariat, JAMCC presented the information on the MEOSAR System using the materials which was provided by the Secretariat.

Various aspects concerning with the MEOSAR were treated in the presentation.

- MEOSAR Expected Performance
- MEOSAR Principles of Operation
- MEOSAR Development
- MEOSAR Development Timeline

Honeywell and McMurdo presented their market share and their new technology of MEOSAR system.

MEOSAR Schedule EOC/IOC/FOC Timelines

EOC = Early Operational Capability

IOC = Initial Operational Capability

FOC = Full Operational Capability

The meeting noted that HKMCC, JAMCC, KOMCC, TAMCC and VNMCC have tentative plans to implement MEOSAR as shown below;

HKMCC Installment	the third quarter of 2018
Commissioning (MCC)	2018
Commissioning (MEOLUT)	2019
JAMCC Installment	2016
Operation	2017
Commissioning (MCC)	2017(IOC)
Commissioning (MEOLUT)	2017(EOC)
KOMCC Installment (MCC)	2015
Installment (MEOLUT)	2016
Commissioning	2017~2018
EOC	2018
TAMCC Installment	the fourth quarter of 2017
Commissioning (MCC)	2018
Commissioning (MEOLUT)	2019
VNMCC Installment	Planned (2018-2020)

MEOSAR Demonstration and Evaluation (D&E) Phase

The D&E phases are composed of technical and operational tests (T- and O-tests, Phase I, II, and III).

JAMCC conducted the MEOSAR D&E test T-5 to consider the impact of slow-moving (flee-floating) beacon upon MEOSAR performance.

The meeting noted that the JAMCC's D&E test T-5 has successfully finished in July 2017 and noted that information provided by JAMCC that the velocity of a beacon translates into substantial and unpredictable errors when beacon is being localized by the MEOLUT location processor that uses FOA measurements.

MEOSAR Space Segment

On behalf of the Secretariat, JAMCC presented the status of the MEOSAR space segment as at June 2017 which is provided from the Secretariat in the last TG-2 meeting.

It was noted, during the JAMCC presentation, that;

- 14 operational, 2-under-test and 2 only-RLS-capable L-band Galileo satellites,
- 2 L-band SAR/Glonass satellites available for ground segment testing,
- 20 GPS II satellites carrying DASS repeaters with a download link,
- Ten more SAR/Galileo satellites (GSAT-0215 to GSAT-0224) are planned to launch with the objective of having the full Galileo constellation available at the end of 2019,
- By 2020 more operational SAR/Glonass satellites will be available,
- The first L-band GPS satellite is expected in 2023,
- New webpage – the Status of Cospas-Sarsat MEOSAR Payload Instruments is at <https://www.cospas-sarsat.int/en/system/meosar-system-status/status-of-cospas-sarsat-meosar-payload-instruments>.

Proposal to Include to Document C/S A.002
The Data Formats Required between MEOLUT and MCC

Reports on proposal to include to document C/S A.002 the data formats required between MEOLUT and MCC was provided by VNMCC (5/5).

3.6 Agenda item 6 – Beacon Matters

International Beacon Registration Database (IBRD)

On behalf of the Secretariat, JAMCC presented the information of the New International Beacon Registration Database (IBRD) Interface using the materials which was provided from the Secretariat.

It was noted, during the JAMCC presentation, that

- Project Objectives of the new IBRD,
- The information possessed by the new IBRD,
- Time line of the new IBRD to be ready end of 2018.

National 406MHz Beacon ID Registers Management

Reports and presentation on National 406MHz beacon ID Registers Management were provided by HKMCC (6/2/1), TAMCC(6/2/2), JAMCC (6/2/3), KOMCC(6/2/4), VNMCC(6/2/5) and Philippines.

Each participant reported that the number of registered beacons, the administrative agency and how to share the information of registered beacons.

PLB Status

JAMCC provided the information on operational information of PLB alerts.

It was noted, during the JAMCC presentation, that;

- The status of the PLB implementation,
- The status of the PLB management,
- The case study of the alert detection of PLB which was brought abroad.

KOMCC commented that the PLB is not permitted in Korea except of military using.

3.7 Agenda item 7 – SAR Events

Reports and presentation on the examples of SAR events related to MEOSAR were provided by HKMCC(7/1), TAMCC(7/2), JAMCC (7/3), VietNam(7/4) and the Philippines.

KOMCC also commented on the examples of SAR events.

TAMCC, KOMCC and the Philippines provided the information related to an aviation incidents in recent years.

3.8 Agenda item 8 – Second Generation Beacon Matters

Japan (Association of Radio Industries and Businesses) provided information on second generation beacon matters.

It was noted, during the Japan (Association of Radio Industries and Businesses) presentation, that;

- Second Generation Beacon (SGB) (SGB Overview, Timeline, Pro and Con of SGB and Comparison of FGB vs SGB signals)
- ELT(DT) (ELT(DT) overview, FGB ELT(DT) vs ELT(AF), ELT(DT) Timeline and Issues to be resolved)
- Next Generation EPIRB (Next Generation EPIRB Overview, Timeline and Issues to be resolved)
- Return Link Service (RLS) (RLS Overview, Timeline and Issues to be resolved)

3.9 Agenda item 9 – Cospas-Sarsat Quality Management System (QMS)

Status of Existing QMS System

It was noted that the JAMCC, as the nodal MCC, was invited comment on the status of existing QMS system.

It was noted, during this comment, also that NWPDDR LEOLUTs are not always possible to operate. The JAMCC requested NWPDDR participants to focus further attention on their LEOLUT in order to minimize their non-availability.

QMS for MEOSAR System

JAMCC provided the information on QMS for MEOSAR System which was reported the last TG-2 meeting.

It was noted, during the JAMCC presentation, that MEOSAR QMS be addressed in two phases as follows:

- an initial phase1 (to be provided in document C/S A.003 prior to MEOSAR IOC) to provide confidence in the MEOSAR system, which would include monitoring of:
 - the MEOLUT availability with respect to detection, location probability and location accuracy,
 - the MCC status.
- a phase2 (to be provided in document C/S A.003 prior to MEOSAR FOC) that would include monitoring of
 - reference and calibration beacons,
 - MEOLUT DCA (Declared Coverage Area),
 - MEOSAR space segment,
 - MEOSAR global coverage.

3.10 Agenda item 10 – Review of Action Items from this Northwest Pacific DDR meeting

3 action items were raised from the 7th NWPDDR meeting (action items are listed attachment4.)

3.11 Agenda item 11 – Next NWPDDR Meeting

All NWPDDR participants were invited to note that the NWPDDR meeting would be take place two years later. However, the venue and the date for the next NWPDDR meeting were not defined yet.

