International Civil Aviation Organization

Sixth Meeting of the ICAO Asia/Pacific Search and Rescue Working Group (APSAR/WG/6)

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Agenda Item 4: Asia/Pacific and inter-regional SAR planning, coordination and cooperation

STATUS UPDATE ON THE COMMISSIONING OF LEO/GEO/MEO SINGAPORE MISSION CONTROL CENTRE AND SINGAPORE MEOLUT

(Presented by Singapore)

SUMMARY

This paper presents information to update the meeting on the commissioning status of the LEO/GEO/MEO (LGM) Singapore Mission Control Centre (SIMCC) and Medium-altitude Earth Orbit Local User Terminal (MEOLUT). The recommendations for approval of the commissioning reports for the abovementioned ground segments was presented to the Cospas-Sarsat (C-S) Council Sixty Fourth Session Open Meeting held from 17 to 26 March 2021.

1. INTRODUCTION

1.1 Singapore joined the C-S Programme in 1991 and since then, Civil Aviation Authority of Singapore (CAAS) co-shared the cost of installation, operation and maintenance of the C-S ground system with Maritime and Port Authority (MPA) of Singapore. The SIMCC was co-located with the Singapore Rescue Coordination Centre (RCC) at the Singapore Air Traffic Control Centre (SATCC) in Biggin Hill Road.

1.2 In 1991, Singapore installed and operated on the Low-altitude Earth Orbit Search and Rescue (LEOSAR) ground system. Later, in 2005, Singapore did a technology refresh on the LEOSAR ground system due to the end of the economic lifespan of the original system. As C-S Programme is currently embarking on the Medium-altitude Earth Orbit Search and Rescue (MEOSAR) ground system with a newer and better technology to enhance distress tracking capabilities, Singapore had decided to install a six-antennae MEOSAR ground system, with the intention to decommission the LEOSAR ground system when C-S announces Full Operational Capability (FOC) for the MEOSAR system.

2. DISCUSSION

2.1 Singapore completed the installation of its new LGM SIMCC and a five-antennae Medium-altitude Earth Orbit Local User Terminal (MEOLUT) in June 2018. Since then, Singapore had commissioned and commenced operation with the LGM SIMCC and the five-antenna MEOLUT. When the site for the sixth antenna was ready, Singapore proceeded with the installation of the sixth antenna, completing the six-antennae MEOSAR ground system in January 2020. Extensive and rigid tests were conducted to ensure that the newly installed MEOSAR ground system was fully functional to meet its expected performance. The commissioning of the MEOSAR ground system by C-S was done in two stages, one stage was the commissioning of the LGM MCC and the other stage was the commissioning of the MEOLUT. Australia MCC (AUMCC), which is the nodal MCC for South-West Pacific Data Distribution Region (SWPDDR), supported the commissioning of the LGM SIMCC with the conduct of the commissioning tests and the preparation of the commissioning reports for submission to C-S.

LGM SIMCC

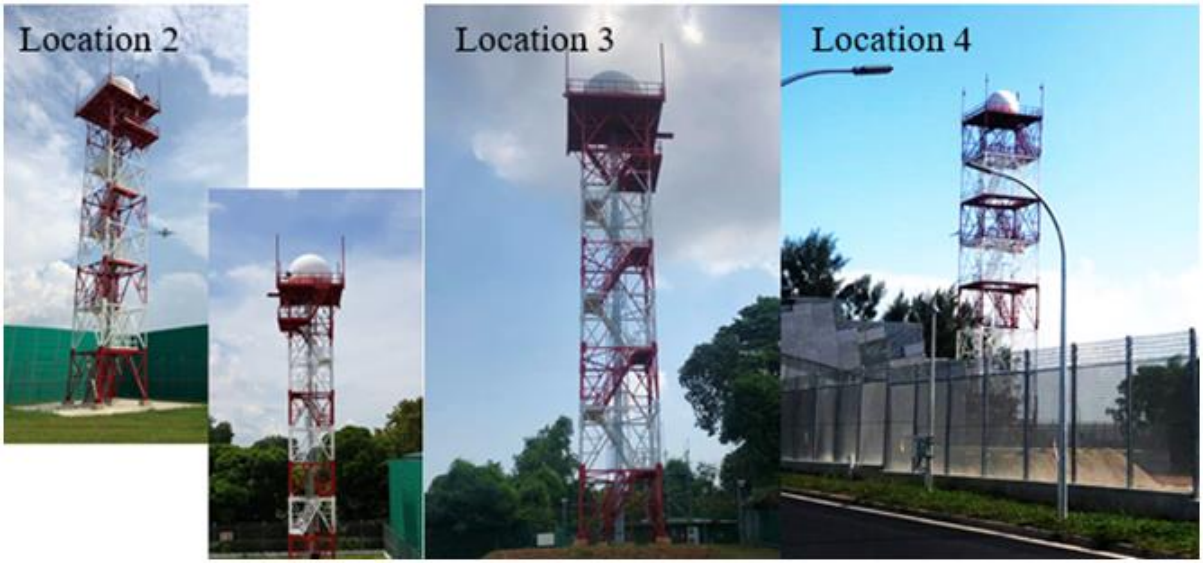
2.2 AUMCC conducted the C-S commissioning tests from September 2019 to February 2020. Upon passing the commissioning tests, AUMCC declared the Initial Operational Capability (IOC) operational status for LGM SIMCC on 20 April 2020. AUMCC made recommendation to the Expert Working Group (EWG-3C) for acceptance of the new LGM SIMCC into the C-S ground segment system by submitting an IOC commissioning report in June 2020.

2.3 Some outstanding discussions on the commissioning of the LGM SIMCC was subsequently referred to and supported by the C-S Joint Committee Thirty-Fourth Meeting (JC-34) in November 2020.

2.4 On 15 December 2020, AUMCC declared Full Operational Capability (FOC) for LGM SIMCC and arising from discussions at EWG-3C and JC-34, it was further recommended that C-S Open Council commission the LGM SIMCC into the C-S ground segment system. The C-S Open Council Meeting, which was held in March 2021, approved the commission of the LGM SIMCC into the C-S ground segment system.

MEOLUT

2.5 Singapore's five-antennae MEOLUT was commissioned under the Early Operational Capability (EOC) performance level into the C-S ground segment system at C-S Open Council Meeting in 2019. The six-antennae MEOLUT were installed in the first half of 2020. Singapore submitted the six-antennae MEOLUT commissioning report to the C-S EWG-4C Meeting for LUT commissioning held in October 2020 after extensive commissioning tests were done on the six-antennae MEOLUT. The paper requested that the EWG validate the commissioning of the Singapore's six-antennae MEOLUT at EOC performance level and recommend for approval at the C-S Open Council Meeting. Subsequently, in March 2021, the C-S Open Council Meeting approved the commission of the six-antennae MEOLUT into the C-S ground segment system.



Conclusion

2.6 Singapore would like to thank AUMCC and the participants in the EWG for the kind assistance rendered during the commissioning of SIMCC and the six-antennae MEOLUT.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

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