



International Civil Aviation Organization

**Twenty Seventh Meeting of the Communications/  
Navigation and Surveillance Sub-group (CNS SG/27)  
of APANPIRG**

Bangkok, Thailand, 28 August – 01 September 2023

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**Agenda Item 11:** Capacity Building, including Human Factors and Air Traffic Safety Electronics Personnel (ATSEPs) related training

**TECHNICAL ASSISTANCE PROJECT ATM INFRASTRUCTURE OPERATIONS  
CAPABILITY BUILDING**

(Presented by Lao PDR)

**SUMMARY**

In Brief expression to “The Implementation Support Project in Lao People’s Democratic Republic (Lao PDR)” provided by the ICAO which was managed and implemented by the ICAO APAC RO from December 2022 to March 2023

**1. INTRODUCTION**

1.1 The No Country Left Behind (NCLB) initiative highlights ICAO’s efforts to assist States in implementing ICAO Standards and Recommended Practices (SARPs). The main goal of this work is to help ensure that SARP implementation is better harmonized globally so that all States have access to the significant socioeconomic benefits of safe and reliable air transport.

1.2 Due to the outsource maintenance service provider was sudden terminated in early 2022 and caused impact to the maintenance issued of some CNS system (Communications, Navigation, Surveillance, ATM automation, AIS-AIM, simulator, etc.)

1.3 In March 2022, consulted and contacted via e-mail with CNS Officer of ICAO APAC for stating and asking the assistance (Challenging situation of Lao ANSP).

**2. DISCUSSION**

Explain in the attached file.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate.

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Electronics Personnel (ATSEPs) related training

**TECHNICAL ASSISTANCE PROJECT ATM  
INFRASTRUCTURE OPERATIONS  
CAPABILITY BUILDING**

Presented by: Lao PDR

# I. Background

- The No Country Left Behind (NCLB) initiative highlights ICAO's efforts to assist States in implementing ICAO Standards and Recommended Practices (SARPs). The main goal of this work is to help ensure that SARP implementation is better harmonized globally so that all States have access to the significant socioeconomic benefits of safe and reliable air transport.
- Due to the outsource maintenance service provider was sudden terminated in early 2022 and caused the impact to maintenance issued of some CNS system (Communications, Navigation, Surveillance, ATM automation, AIS-AIM, simulator, etc.)
- In March 2022, consulted and contacted with ICAO APAC CNS Officer via E-mail stating and asking for the assistance (Challenging situation of Lao ANSP)

## II. Project Start up

- Discussion had been continued via e-mail until CNS Officer of ICAO APAC proposed 3 solutions and the best solution was selected “seek support of neighboring ANSP to establish spare parts sharing and technician training mechanism with appropriate funding source” (Thanks to member’ state support “ATMB”)
- 4 prominent subjects: RADAR/ADS-B, VCCS, AMHS/IT network and ATM AS were identified
- High level of ICAO APAC office and DCA Lao/LANS met virtually in July for further possibility
- Since then there were 7 online meetings between ICAO APAC officers, CAAC/ATMB (coordinators and SME) and DCAL/LANS (Coordinators and Technicians)

## Project Concept

- One proposal addressed the sustainable operation of the CNS/ATM infrastructure in Lao PDR, through collaboration with capable neighboring ANSP in terms of spare parts sharing and personnel training, as part of ATM capability building.
- Specific training support for Radar/ADS-B, Automation system (Topsky), AMHS/Network Switch, SCHMID VCCS ICS200/60 for 26 technicians in 4 classes
- Evaluation on maintenance, integration and planning capability for future.

# Project Startup Planner

[illegible]

**ICAO APAC State letter Ref.: T 8/12.13: AP-CNS0073/22 18 October, 2022**  
Approval of funding for an “Implementation Support Project in Lao People’s Democratic Republic (Lao PDR)”

## **Project Objectives**

• **The project is meant to achieve the following :**

- 1) Improved maintenance capability of Lao ANSP.
- 2) Produce an evaluation report to identify the current gap and proposals for future actions.
- 3) Improved engagement of ICAO APAC RO and Lao ANSP in CNS/ATM infrastructure area.
- 4) Improved engagement of ICAO APAC RO and member’s state (China ATMB) in supporting regional initiative in terms of expertise and other resources.

# Before the Project started up



Lao Air Navigation Services' technicians have been maintaining the system diligently, even though there are some limited knowledge, skills and spare parts that cause the challenging in the event of unexpected failures especially the ATM Automation system, MSSR, VCCS, AMHS and IT Backbone



# Improved maintenance capability of Lao Technicians in some certain level and to achieve by:

## By How?

Onsite support to provide: On-site training, maintenance Assessment, build procedures, management,...

## By Who?

Subject Matter Experts (SME) from ICAO APAC member state (ATMB/CAAC)

## To who?

Lao Technicians from DCAL and LANS

## To what?

The Systems: **VCCS, AMHS, Networks; Surveillance system: RADAR /ADS-B and ATM AS**

## For what?

**For improvement, support the sustainable of-inhouse maintenance technicians to ensure smooth and maintaining the safety of flight under Vientiane FIR**

# On site support were enhanced:

ICAO HQ /APAC  
main Contribution



CAAC/ATMB' SMEs  
On site Support

DCAL/LANS as Recipients

Knowledge Transferring



Experts

Technicians

LANS Technicians have gained better  
knowledge, skills and confidence as  
expected

The supporting from  
SMEs

Ensuring smooth operation for  
flight safety



# Training Session:

## ➤ **First SME from 12 December 2022 to 6 January 2023**

- Radar (Theory: 13 trainees; OJT: 30 trainees from LANS and 2 from DCAL)
- ADS-B Theory: 9 trainees from LANS and 2 from DCAL)
- VCCS: 9 trainees from LANS

## ➤ **Second SME from 5 February 2023 to 3 March 2023**

- AMHS/IT Network (14 Trainees: 13 from LANS and 1 from DCAL)
- ATM AS “TOPSKY” (11 Trainees: 10 from LANS and 1 from DCAL)

# After the Project and Moving Forwards



## *Input/Support*

### Outstanding points from SME

- Excellence Knowledge and professional expertise
- Very well Prepare of training Material (Team support, training material platform “virtual practical software, manuals”)
- Truly effort during the training
- Very hard working and friendly

## **Output/Outcome**

- **Enhance Knowledge and skills of Maintenance technicians with standards**
- **Built confidents to technicians**
- **Identified the problem and provide the solutions**
- **Tighten cooperation for further assisting between technicians and Experts**

## *Barrier*

- Difference basic knowledge level of Technicians
- English skills level inequality

## *Report*

- SMEs had gather current information from System configurations back to their office and analyzed with the result of the risks have been classified with suggestions (16 High Risks, 11 Medium Risks and 4 Low Risks)

# Summary:

## *Process:*

- **Kick off meeting and first SME on Radar and VCCS started from 12 December 2022 to 6 January 2023 in Vientiane, Lao PDR**
- **Second SME on ATM AS and AMHS/IT Network started from 5 February to 3 March 2023**
- **Project Wrap-Up Meeting on 3 March 2023**
- **Final Report completed in July 2023**



## *Key points:*

- DCA Lao is doing their obligation to oversight for ensuring the ANSP comply with standards by the way conveying the support from ICAO to enhance ANSP's (LANS) maintenance capability with suitable level to ensure the safety of Air Traffic Services
- LANS Technicians knowledge and skills have been improved in certain level and will keep on developing and encourage to achieve at higher level.
- LANS's critical systems were evaluated the need to be upgraded and risks were identified that need to be solved timely
- Tighten the cooperation between ICAO APAC RO and member's state.



### **III. Action by the meeting**

**The meeting is invited to:**

- a)Noted this information contained in this paper, and**
- b)Discuss any relevant matter as appropriate,**

**Thank You**

***“No Country Left Behind”***

**The ICAO’s initiative**