



International Civil Aviation Organization

ICAO

Third Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/3)

Video Teleconference, 14 – 15 December 2021

Agenda Item 6: Any Other Business

BAY OF BENGAL FLIGHT LEVEL ALLOCATION SCHEME CHART

(Presented by the Secretariat)

SUMMARY

This paper presents the Bay of Bengal Flight Level Allocation Scheme (FLAS) Chart that was prepared based on the data submitted by BOBTFRG Administrations.

1. INTRODUCTION

1.1 In an endeavour to have a better understanding of the Air Traffic Control (ATC) separation minimums applied by BOBTFRG Administrations and also the FLAS operating within the Bay of Bengal airspace, the ICAO APAC Regional Sub-Office, through State Letter AP 058/19 (RSO) dated 16 May 2019, had requested the BOBTFRG Administrations to complete and submit the Data Related to ATS Route Form by 10 September 2019 (**Attachment A**).

1.2 Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan and Thailand submitted the Data Related to ATS Route Form to the ICAO APAC Regional Sub-Office.

2. DISCUSSION

Bay of Bengal FLAS Chart

2.1 Through data submitted by Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan and Thailand, the ICAO APAC Regional Sub-Office has been able to formulate and provide an overview of the FLAS currently operating in the Bay of Bengal airspace.

2.2 The Bay of Bengal FLAS Chart is provided in **Attachment B**. The BOBTFRG may consider using this chart when conducting the review of FLAS, to enhance the efficiency of air traffic in the Bay of Bengal airspace (BOBTFRG Terms of Reference refers).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) review and provide feedback to the Bay of Bengal FLAS Chart; and
- c) discuss any relevant matters as appropriate.

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منظمة الطيران
المدني الدولي

国际民用
航空组织

Ref.: AP 058/19 (RSO)
AP-RSO0004/19

16 May 2019

Subject: Second Meeting of the Bay of Bengal
Traffic Flow Review Group (BOBTFRG/2)
(Bangkok, Thailand, 08-10 October 2019)

Actions required:

- 1) Submit Data Related to ATS Route Form
by **10 September 2019**
- 2) Submit Registration Form and papers to the meeting
by **24 September 2019**

Sir/Madam,

I have the honor to invite your Administration to participate in the Second Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/2) which will be held at the ICAO Asia and Pacific (APAC) Regional Office, Bangkok, Thailand on 08-10 October 2019.

The BOBTFRG was established by the South Asia/Indian Ocean ATM Coordination Group (SAIOACG) to identify requirements and improvements for optimizing airspace capacity and maintaining an efficient route network across the Bay of Bengal airspace and routes leading toward Afghanistan's airspace.

Enclosed herewith are the BOBTFRG/2 Provisional Agenda (**Attachment A**), Registration Form (**Attachment B**), Meeting Bulletin (**Attachment C**), Data Related to ATS Route Form (**Attachment D**) and BOBTFRG Terms of Reference (**Attachment E**). Kindly provide the name(s) of the delegate(s) from your Administration that will be attending the meeting to the **ICAO APAC Regional Sub-Office by 24 September 2019**.

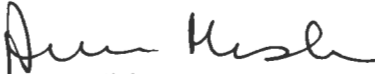
In order to make the meeting more productive and effective, it is strongly urged that States/International Organizations submit:

1. Data Related to ATS Route Form by **Tuesday, 10 September 2019**, via email to the ICAO APAC Regional Sub-Office (apac-rso@icao.int and msallehhuddin@icao.int).

...2/

2. Papers to the meeting **no later than two weeks prior to the meeting date**, via email to the ICAO APAC Regional Sub-Office (apac-rso@icao.int and msallehuddin@icao.int). In the event that papers are received after **Tuesday, 24 September 2019**, these will normally be treated as a flimsy. Participants should obtain meeting materials from <https://www.icao.int/APAC/Meetings/Pages/default.aspx> prior to the commencement of the meeting.

Accept, Sir/Madam, the assurances of my highest consideration.


Arun Mishra
Regional Director

Enclosures:

- Attachment A – Provisional Agenda
- Attachment B – Registration Form
- Attachment C – Meeting Bulletin
- Attachment D – Data Related to ATS Route Form
- Attachment E – BOBTFRG Terms of Reference



ATTACHMENT A

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE (ICAO APAC)**

**SECOND MEETING OF
THE BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP
(BOBTFRG/2)**

(Bangkok, Thailand, 08 – 10 October 2019)

PROVISIONAL AGENDA

- Agenda Item 1: Election of Chairperson
Adoption of Agenda
- Agenda Item 2: Review of BOBTFRG Terms of Reference
- Agenda Item 3: Review of the Current and Planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation
- Agenda Item 4: Review of the Existing Traffic Flow Route Structures in BOB Airspace and Identifying Priorities
- Agenda Item 5: Discussion on PBN Routes Development and FLAS/FLOS Optimization
- Agenda Item 6: Review of BOBTFRG Task List
- Agenda Item 7: Decisions/Recommendations to SAIOACG
- Agenda Item 8: Any Other Business
- Agenda Item 9: Date and Venue of the Next Meeting



ATTACHMENT B

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE (ICAO APAC)**

**SECOND MEETING OF
THE BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP
(BOBTFRG/2)**

(Bangkok, Thailand, 08 – 10 October 2019)

REGISTRATION FORM

State/Organization		
Name	Title	Full Name (as should appear in the official listing and name tag)
Official Position		
Mailing Address		
Telephone Number		
Fax Number		
E-mail		
Hotel		

Note 1: Participants are expected to make their own hotel/visa/travel arrangements

**Note 2: Participants may download meeting materials from the ICAO APAC website
(<https://www.icao.int/APAC/Meetings/Pages/default.aspx>) prior to the meeting.**

Date Signature

After completing, please send to: ICAO APAC Regional Sub-Office, Beijing, China,
Fax: +86 10 64557164 or by E-mail: apac-rso@icao.int and msallehuddin@icao.int



ATTACHMENT C

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE (ICAO APAC)**

**SECOND MEETING OF
THE BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP
(BOBTFRG/2)**

(Bangkok, Thailand, 08 – 10 October 2019)

MEETING BULLETIN

1. Dates and Venue

1.1. The Second Meeting of the Bay of Bengal Traffic Flow Review Group (BOBTFRG/2) will be held at the ICAO Asia and Pacific (APAC) Regional Office, Bangkok, Thailand, from 08 – 10 October 2019. The meeting will start at 0900 hours each day. The ICAO APAC Regional Office is located at:

ICAO Building
252/1 Vibhavadi Rangsit Road
Chatuchak, Bangkok 10900
Tel: +66-2-537-8189
Fax: +66-2-537-8199
E-mail: APAC@icao.int
Website: <http://www.icao.int/APAC/Pages/default.aspx>

1.2. Participants are required to carry a valid government issued identity card or passport for verification of their identity prior to entering ICAO facilities. All participants are required to follow ICAO visitor security screening procedure and must comply with security instructions when inside the ICAO premises.

1.3. Participants are requested to register at the Registration Desk in the reception area of Kotaite Wing between 0830 and 0900 hours on the opening day of the meeting. Participants are also requested to wear the identification badge, which will be issued to them, when they are in the ICAO premise.

1.4. Additional House Keeping information is available at the ICAO APAC Office website through the link 'About APAC Region' – [ICAO APAC House Keeping Video](#)

2. Officers and Secretariat Concerned with the Meeting

2.1. Mr. Mior Adli Bin Mior Sallehuddin, Regional Officer, Air Traffic Management (AOM-ASM) and Mr. Yan Yonggang, Regional Officer, Air Traffic Management (AOM-FUA) from ICAO APAC Regional Sub-Office (RSO), Beijing, China will act as the Secretaries of the meeting.



ATTACHMENT C

3. Meetings Documents, Papers for Distribution, etc.

3.1. In order to make the meeting more productive and effective, it is strongly urged that States/International Organizations submit papers to the meeting no later than two weeks prior to the meeting date, via email to the ICAO APAC RSO (apac-rso@icao.int and msallehhuddin@icao.int).

3.2. Meeting documents will be available on the ICAO APAC Office website (<https://www.icao.int/APAC/Meetings/Pages/default.aspx>) prior to the meeting. Wi-Fi connection to the Internet is available in the premise of ICAO APAC Office to allow viewing papers online. Access information to Wi-Fi will be available at the Registration Desk.

4. Visa, Insurance and Customs

4.1. Participants must possess the documentation required to enter and stay in Thailand. Participants may wish to obtain information on Thailand entry requirements by accessing the Ministry of Foreign Affairs, Thailand website (<http://www.mfa.go.th/main/en/services/>).

4.2. Application for visa is the responsibility of the State or delegate concerned, and should be requested well in advance as for certain countries visa processing may require additional security screening time. In case if a visa support letter is required, the appropriate authority, administration or State in question should send a request, on official letterhead, to the ICAO APAC Office, at least 6 weeks before the start of the meeting. No personal invitations can be issued by ICAO.

4.3. Participants must be medically fit and in possession of insurance coverage to meet expenses for any unexpected event, including illness or medical emergency during the meeting. ICAO will not take responsibility for any expenses incurred concerning participation to its meetings/events. Information for vaccination shall be obtained from local Thailand embassy or Thailand immigration website.

4.4. Currently, there is no restrictions on import of foreign currency. However, if the amount exceeds US\$20,000 it must be declared on entry. Foreign currencies may be taken out of the country up to the amount imported and declared. Up to date information is available at the Thailand Customs website (<http://th.customs.go.th/index.php?lang=en&view=normal>).

5. Hotel Reservations, Transportation and Parking

5.1. Participants are required to make their own accommodation arrangement. A list of hotels in vicinity of ICAO APAC Office and hotels in the city, with UN special rates is available in ICAO APAC Office website [[Hotels List](#)] Participants should contact the hotel directly for a reservation. The hotels list is provided for convenience of the participants only. ICAO does not take responsibility for any incident arising from stay of the participant in any of the listed hotels. Most hotels add a 10% service charge to the room rate in addition to the government tax of 7%. Baggage boys at hotel expect at least THB 20.00. At restaurants, a tip of about 10% is expected unless a service charge has been added to the bill.



ATTACHMENT C

5.2. Participants are required to make their own transportation arrangement from the airport to the city. When departing, the hotel can arrange for transportation to the airport. Taxis, which are less expensive than hotel taxis, are also available. Most taxis have a fare meter. Grab is an App used for taxi services in Bangkok.

5.3. Participants are required to make their own transportation arrangements from their place of residence to ICAO APAC Office for attending the meetings.

5.4. The nearest BTS (Skytrain) station to the ICAO APAC Office is *Mo Chit*. From *Mo Chit* Station, a taxi to the ICAO APAC Office will cost approximately THB 45.00. An instruction to be given to the taxi driver in Thai language is provided on the ICAO APAC website.

5.5. The nearest MRT sub-way station to ICAO APAC Office is *Phahon Yothin*. At the station, take Exit No. 3 and walk over the Vibhavadi Rangsit Road through the pedestrian overpass.

5.6. Limited parking space is available for Diplomatic, United Nations and Government vehicles with official registration only. Vehicle information must be sent to ICAO APAC Office 72 hours prior to access. Parking at the ICAO facility is at the drivers' own risk. ICAO will not be responsible for any incident concerning parking of vehicle in ICAO facilities.

5.7. Parking of private vehicle or taxi is not permitted inside the ICAO facilities. Paid parking is available at the Central Plaza Ladprao Shopping Mall across the Vibhavadi Rangsit Road. Limited street public parking is available near ICAO APAC Office.

6. **Catering Arrangements**

6.1. Tea, coffee and lunch will be provided for participants. Participants should note that the meeting Order of Business would resume promptly at the programmed time following lunch break (normally 1 hour).

7. **Further Information**

7.1. Smoking is prohibited in ICAO APAC building. Participants wishing to smoke are invited to use the designated smoking areas.

7.2. Information about weather condition may be found on the website of Thai Meteorological Department at <http://www.tmd.go.th>. Tropical or light weight and washable cottons will suffice and woollens are not necessary.

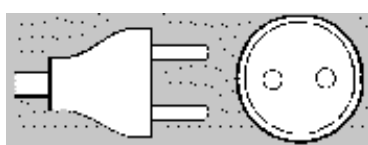
7.3. Dress code for the meeting is formal. Casual clothing is not suitable for the meeting.

7.4. Bangkok time is 7 hours ahead of Co-ordinated Universal Time (UTC+7).

7.5. International credit cards such as American Express, Diners Club, Visa, Master Card, etc. are normally accepted at major hotels and department stores.

7.6. All commercial banks exchange major foreign currencies and are open from 0830 to 1530 hours from Monday through Friday and some keep the foreign exchange counter open until 2000 hours during weekdays. Foreign exchange counters operated by various commercial banks are located at several places in the city and are also open during Saturdays and Sundays and on public holidays from 1000 to 2000 hours. To change travellers' cheques, you are required to show your passport.

7.7. The type of electrical plug and socket typically used in Thailand is two parallel prongs:

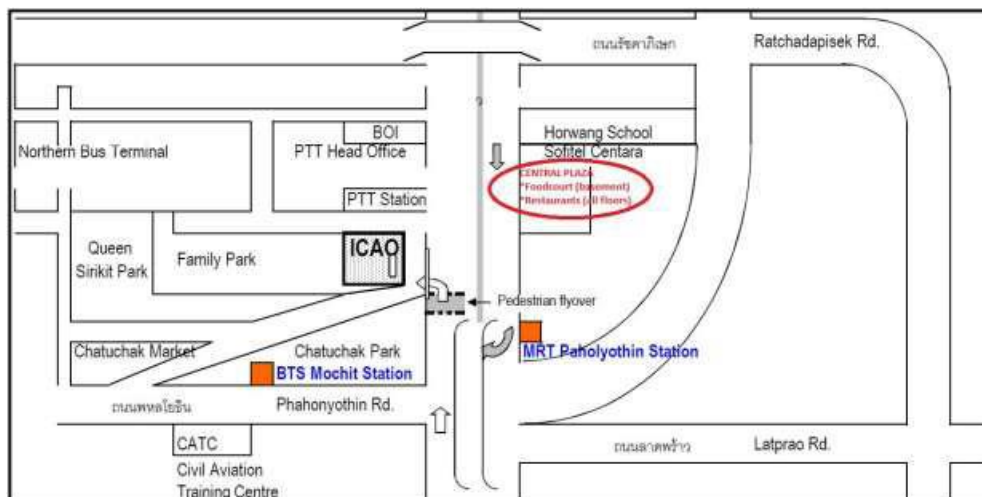


Plug Type C



7.8. For further information, please contact Mr. Mior Adli Bin Mior Sallehuddin, Regional Officer, Air Traffic Management (AOM-ASM) of the ICAO APAC RSO at:

Tel: +86-10-64557 167
Fax: +86-10-64557 164
E-mail: msallehuddin@icao.int or apac-rso@icao.int



**DATA RELATED TO ATS ROUTES WITHIN THE BAY OF BENGAL AIRSPACE
AND ROUTES LEADING TOWARDS AFGHANISTAN'S AIRSPACE**

State Name:

NO.	ATS Route ¹	Airspace CAT ² (R or S)	Separation Minimum for En-route			Separations for Transfer of Control (TOC)					
			FLs Allocation	Horizontal Separation	Reason(s) for FLAS ³ and/or Not Applying Optimal Separation ³	TOC Point: XXXXX		TOC Point: XXXXX		TOC Point: XXXXX	
						FLs Allocation	Horizontal Separation	FLs Allocation	Horizontal Separation	FLs Allocation	Horizontal Separation
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

- Note¹ : State to list all ATS routes within the Bay of Bengal airspace and routes leading towards Afghanistan's airspace under its area of responsibility.
- Note² : *Asia/Pacific Seamless ATM Plan* categorises airspace by reference to its CNS (Communications, Navigation and Surveillance) capability as:
- a) Category R: remote en-route airspace with Air Traffic Services (ATS) HF or CPDLC communications and outside the coverage of ground-based surveillance coverage; or
 - b) Category S: serviced (or potentially serviced) en-route airspace – by direct (not dependent on a Communication Service Provider (CSP) ATS communications and surveillance; or
 - c) Category T: terminal operations serviced by direct ATS communications and surveillance.
- Note³ : Priority for FLAS level allocations should be given to higher density ATS routes over lower density ATS routes. FLAS should comply with Annex 2, Appendix 3a unless part of an Organized Tracks System (OTS). FLAS other than OTS should only be utilized for safety and efficiency reasons within:
- a) Category R airspace with the agreement of all ANSPs that provide services:
 - within the airspace concerned; and
 - within adjacent airspace which is affected by the FLAS; or
 - b) Category S airspace with the agreement of all ANSPs that provide services:
 - where crossing track conflicts occur within 50NM of the FIRB; and
 - ATS surveillance coverage does not overlap the FIRB concerned, or ATS surveillance data is not exchanged between the ATC units concerned.
- Note⁴ : The delivery of CNS/ATM services should be based primarily on the CNS/ATM capability. All ATC units should authorize the use of the horizontal separation minima stated in ICAO Doc 4444 (PANS ATM), or as close to the separation minima as practicable, taking into account such factors as:
- a) the automation of the ATM system;
 - b) the capability of the ATC communications system;
 - c) the performance of the ATS surveillance system, including data-sharing or overlapping coverage at TOC points; and
 - d) ensuring the competency of air traffic controllers to apply the full tactical capability of ATS surveillance systems.
- Note⁵ : Note³ and Note⁴ excerpts from the *Asia/Pacific Seamless ATM Plan*.



TERMS OF REFERENCE BAY OF BENGAL TRAFFIC FLOW REVIEW GROUP (~~BOB~~ ~~TFRG~~BOBTFRG)

1. ~~1.1~~ Objective

1.1. The objectives of the ~~BOB TFRG~~BOBTFRG are to:

~~a) to analyze the traffic flows in the Bay of Bengal airspace, air routes and to consider the safety issues, and to optimize airspace capacity in the long term; and identify requirements and improvements for optimising airspace capacity and maintaining an efficient route network across the Bay of Bengal airspace and areas routes leading towards Afghanistan's airspace;~~

~~a) monitor the status of implementation of the agreed ATS routes and airspace improvement projects; and~~

~~b)~~

~~b)c) b) to report outcomes of the review and recommendations to SAIOACG.~~

2. ~~1.2~~ Tasks

~~1.2.1.~~ To meet this objectives ~~the BOBTFRG~~, with reference to the *Asia/Pacific Region Seamless ATM Plan* and expected traffic growth, the BOBTFRG shall:

a) ~~a) Review the existing route structures and ATM procedures~~airspace improvement projects in the ~~BOB Airspace concerned~~concerned airspaces (Bangkok, Chennai, Colombo, Dhaka, Jakarta, Kabul, Karachi, Kuala Lumpur, Kolkata, Lahore and Yangon Flight Information Regions ~~(FIRs)~~);

b) ~~b) Identify current and planned CNS/ATM capabilities and determine the CNS/ATM requirements implementation timelines of States concerned which would be needed in order to optimise the airspace and to support the implementation of more efficient route network that accommodated enroute traffic (and also departures from India and Pakistan that would join this traffic flow);~~

c) ~~c) Identify the most efficient horizontal separations to be utilised, based on the current and planned CNS/ATM capabilities, taking into account aircraft approval status of the traffic operating on the relevant routes as well as the new CNS capabilities available;~~

d) ~~d) Review the existing Flight Level Allocation Scheme (FLAS) operating within the BOB-Bay of Bengal airspace with a view to enhancing efficiencies;~~

- e) ~~e)~~ Establish appropriate timelines/milestones/dependencies for activities planned under this Review Group; ~~and~~
- f) ~~f)~~ Make recommendations to SAIOACG on implementation plans for route structures, airspace, FLAS and separation solutions to meet the expectations of the *Asia/Pacific Seamless ATM Plan*; ~~and~~.
- ~~g)~~ Make recommendations to SAIOACG on the future status of the Bay of Bengal Cooperative ATFM System (BOBCAT) tool.

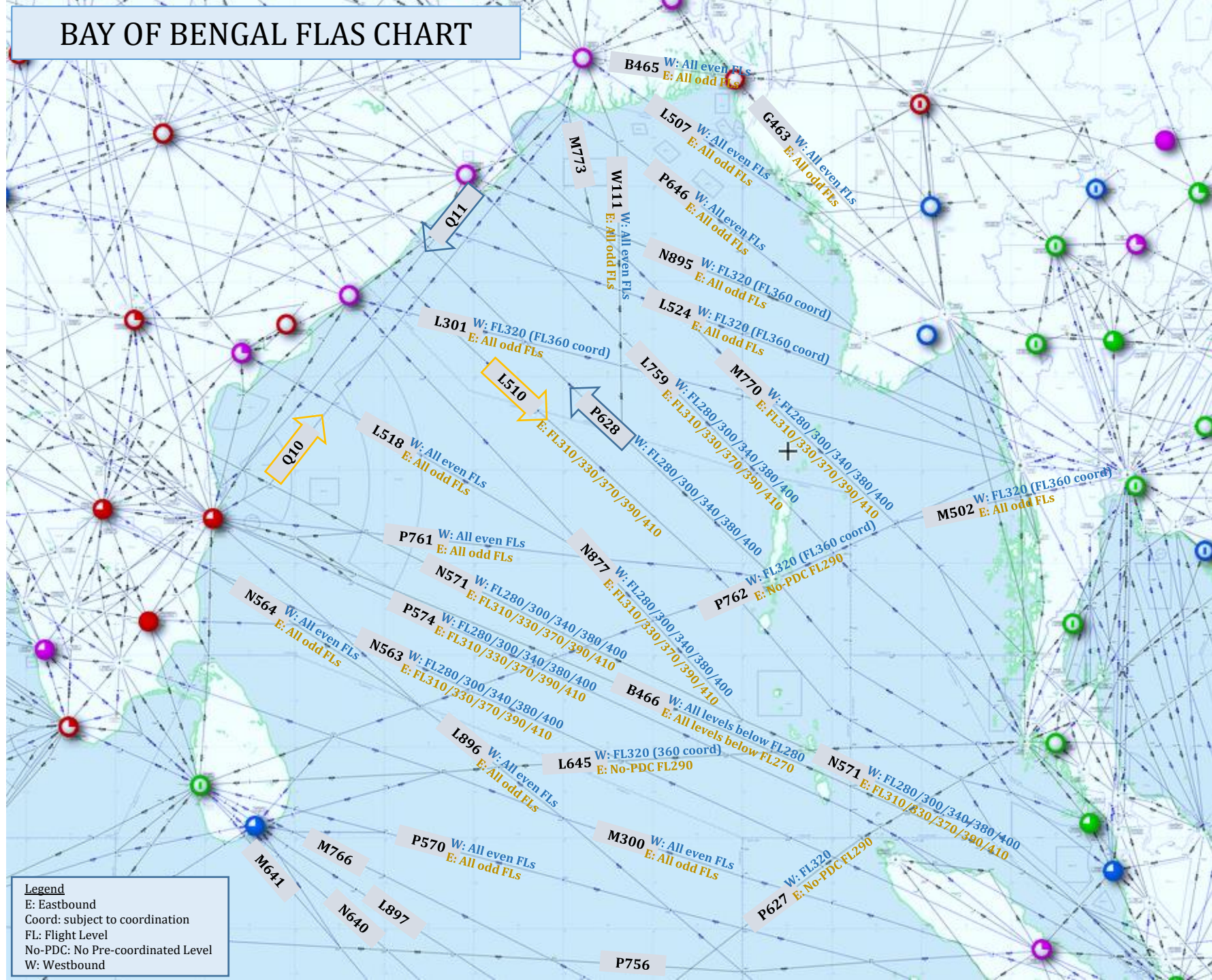
3. ~~1.2~~ Participation

~~1.3.3.1.~~ Participation of the ~~BOB TFRG~~BOBTFRG includes Afghanistan, Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan, Singapore, Sri Lanka, Thailand and IATA, and any other body that the ~~BOB TFRG~~BOBTFRG deems appropriate.

~~Approved by SAIOACG/7, 03 March 2017~~

Approved by SAIOACG/9, 29 March 2019

BAY OF BENGAL FLAS CHART



Legend
E: Eastbound
Coord: subject to coordination
FL: Flight Level
No-PDC: No Pre-coordinated Level
W: Westbound