



International Civil Aviation Organization

The Sixth Meeting of the Bay of Bengal Reduced Horizontal Separation Implementation Task Force (BOB-RHS/TF/6) and the First Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/1)

Bangkok, Thailand, 19 – 23 September 2011

Agenda Item 5: Post-Implementation Management Considerations

The analysis of phase One of RHS in Indian FIRs.

(Presented by India)

SUMMARY

This paper presents a brief report on the implementation of RHS in Indian FIRs. The 50Nm longitudinal separation was implemented on two ATS routes N571 and P762. The opportunity based RHS of 50Nm has been applied fifteen times from 30th June 2011 to 20th August 2011.

1. INTRODUCTION

1.1 The Phase 1 implementation of the Reduced Horizontal Separation in the Bay of Bengal, Arabian Sea and Indian Ocean Region commenced with the introduction of 50NM RHS on two routes N571 & P762 from 30th June 2011 in Chennai & Mumbai FIRs.

1.2 Though the initial plan was to introduce the 50 NM RHS along four routes, implementation on P628 & L510 had to be postponed

2. DISCUSSION

2.1 India had completed all the pre implementation activities like training, safety assessments and publication of AIP supplement in a timely manner. Eight controllers were trained at Singapore ATC centre in April 2011. The AIP supplement 21/2011 was published on 07th April 2011, effective date 30th June 2011.

2.2 The EMA for RHS, BOBASMA was established at Chennai. The BOBASMA conducted the Airspace Analysis & Safety Assessment for Bay of Bengal Arabian Sea region. The Safety Assessment supports the continued use of 50NM RNP10 lateral separation and also the implementation of RNP10 50NM longitudinal separation on L510, N571, P628 and P762

2.3 BOBASMA started collecting data on the implementation of the RHS in the two Indian FIRs from the first day of implementation. Data on the use of 50NM distance based separation during the period 30th June to 17th August was used to conduct a preliminary analysis.

2.4 RHS was implemented on two ATS routes, N571 and P762 in Chennai FIR

		Aircraft Pair									
		Aircraft 1				Aircraft 2					
DATE	TIME	C/S	Dep	Dest	TYPE	C/S	Dep	Dest	TYPE	ROUTE	FL
01-07	03:11	JAI31	WMKK	VOMM	B738	SIA457	OMAA	WSSS	A333	N571	360/380
01-07	05:35	QTR638	OTBD	WSSS	B772	AIC343	WSSS	VABB	A319	N571	360/370
02-07-	05:40	SQC7394	WSSS	OMSJ	B744	QTR621	WMKK	OTBD	A333	N571	F360
07-07	04:00	UAE433	WSSS	OMDB	B77W	SQC7396	WSSS	OMSJ	B744	N571	F340
09-07-	05:06	AIC343	WSSS	VABB	A319	QTR624	OTBD	WMKK	A333	N571	380/370
10-07	04:10	XAX2516	WMKK	VABB	A333	IYE862	OMDB	WIII	A332	N571	390/410
11-07	07:05	TGW2633	VOMM	WSSS	A320	SIA456	WSSS	OMAA	A333	N571	360/380
28-07	20:55	UAE435	YBBN	OMDB	B77W	UAE405	WSSS	OMDB	B77W	N571	F340
07-08	09:20	SIA421	VABB	WSSS	B772	QTR640	OTBD	WMKK	A332	N571	370/410
11-08-	14:00	MAS194	WMKK	VABB	B772	ETD473	WSSS	OMAA	A332	N571	340/400
13-08	14:28	AXM247	VOMM	WMKK	A320	TGW2638	WSSS	VOMM	A320	N571	350/370

Table 1. Data on use of RHS in Chennai FIR

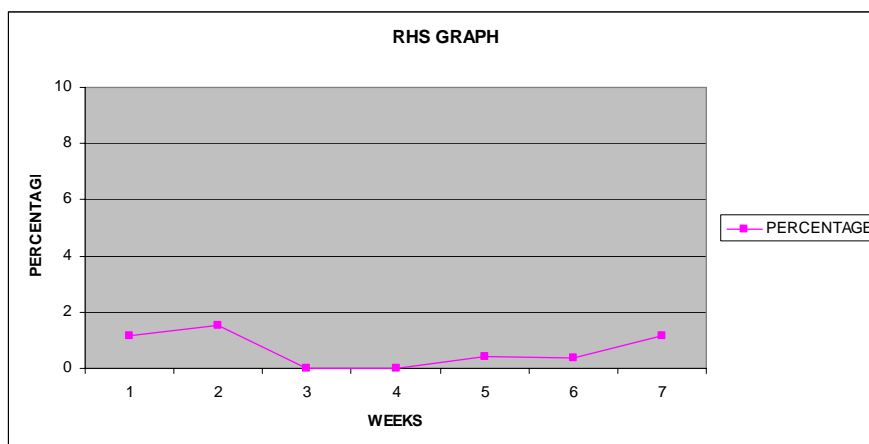


Figure 1: Percentage of aircraft operations using 50NM RHS in Chennai FIR

2.5 Out of the eleven instance of use of RHS during this period data link communication had been used only twice and the rest nine occurrences had taken place under VHF coverage area. This mainly because of the availability of RCAG VHF at Portblair (Andaman islands) which provides VHF coverage over a large part of the Bay Of Bengal. Also the use of RHS had been resorted to for both same direction cruising and for climb/descend almost equally.

2.6 It was found that only aircraft flying on N571 had benefited from the use of RHS, and in case of same direction it was mostly for westbound flights and not east bound flights. This is due to the fact that on N571 use of RHS for eastbound flights is restricted to only up to IDASO. The other route P762 transits from Male to Bangkok and is a low density traffic route.

2.7 In Mumbai FIR, RHS of 50Nm was implemented on ATS route N571. Data link had been used for applying RHS in all the cases as there is no RCAG VHF covering this part of the Mumbai FIR over the Arabian Sea.

SN	DATE	TIME	Aircraft Pair										FL
			Aircraft1			Dep	Dest	Aircraft 2				ROUTE	
			C/S	TYPE	C/S			Dep	Dest	TYPE			
1	05-07	01:15	QTR638	B77W	OTBD	WSSS	SVA842	OERK	WMKK	B744	N571	F330	
2	06-07	07:39	UAE334	B77W	OMDB	WMKK	QTR622	OTBD	WMKK	A333	N571	F350	
3	15-07	01:30	QTR638	B77W	WSSS	LSZH	UAE356	WSSS	LIRF	B77W	N571	F360	
4	05-08	22:08	SIA346	A388	OTBD	WSSS	SIA366	OMDB	WIII	B772	N571	F360	

Table 3. Data on use of RHS in Mumbai FIR

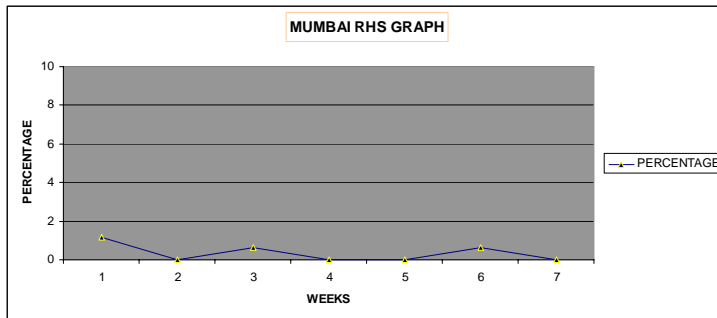


Figure 2: Percentage of aircraft operations using 50NM RHS in Mumbai FIR

2.8 BOBASMA has presented a detailed analysis of phase one implementation of RHS in WP-08 to RASMAG 15. The study has revealed that the opportunity for employing RHS of 50 Nm was available for 37 aircraft pairs but could be employed in 15 cases only. The primary limitation factor was non participation of neighbouring FIRs. A rough estimate indicates that if all 37 opportunities could have been utilized it would have resulted in fuel savings for 820000 litres and 2 million Kg of CO2 emissions. The use of RHS for 15 aircraft pairs only has restricted fuel savings to 330000 litres and 0.8 million Kg CO2 emissions.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note that India has successfully implemented phase one of RHS in Indians FIRs, though some of the neighbouring FIRs could not participate.
- b) the potential benefits to be derived from implementation of 50 Nm RHS all uniformly across the region.

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