ENR 3.3 区域导航航路 AREA NAVIGATION ROUTES

Coordinates in italics is WGS-84 coordinates.

区 域 导 航 航 路 Area navigation routes					
航路代号、重要点名称、坐标 Route designator Name of significant points Coordinates	航迹(磁)、距离(千米) Track(MAG) DIST(km)	最低飞行高度(米) MNM flight altitude(m)	航路宽度(千米) Lateral limits (km)	巡航高度层方向 Direction of cruising levels	备注、管制单位 Remarks, Controlling unit
1	2	3	4	5	6
L 642					Relevant rules see ENR 3.3-5/9/31
✧ EXOTO N15°21.5′ E111°03.0′					
	217° 121NM	2 100FT	See ENR3.3-5		Sanya ACC
✧ EGEMU N17°00.0′ E112°17.0′					
	218° 64NM			↑	
✧ EPKAL N17°51.5′ E112°57.3′					
L 888					Relevant rules see ENR 3.3-33
✧ BIDRU N22°43.1′ E100°57.9′					
	346° 166° 161	4 722	56	↓	Kunming ACC
✧ MAKUL N24°07.3′ E100°33.4′					
	346° 166° 106				
✧ DONEN N25°02.7′ E100°17.0′					
	346° 166° 11				
✧ UPGED N25°08.3′ E100°15.4′					
	346° 166° 99				
✧ NIVUX N26°00.0′ E100°00.0′					
	001° 181° 216	6 196			
✧ LEVBA N27°56.9′ E100°00.0′					
	001° 181° 332	6 592			Chengdu ACC
✧ PEXUN N30°55.7′ E100°00.0′					
	001° 181° 119				
✧ SANLI N32°00.0′ E100°00.0′					
	306° 126° 115				Lanzhou ACC
✧ LUVAR N32°36.1′ E099°00.0′					
	306° 126° 286	6 778			
✧ MUMAN N34°06.5′ E096°30.0′					
	306° 126° 257				
✧ TEMOL N35°27.1′ E094°12.2′					
	306° 126° 105				
✧ LEBAK N36°00.0′ E093°15.5′					
	305° 125° 336			↑	
✧ TONAX N37°45.5′ E090°11.3′					

区 域 导 航 航 路 Area navigation routes					
航路代号、重要点名称、坐标 Route designator Name of significant points Coordinates	航迹(磁)、距离(千米) Track(MAG) DIST(km)	最低飞行高度(米) MNM flight altitude(m)	航路宽度(千米) Lateral limits (km)	巡航高度层方向 Direction of cruising levels	备注、管制单位 Remarks, Controlling unit
1	2	3	4	5	6
L 888 (con't) ✧ TONAX N37°45.5′ E090°11.3′					
✧ NOLEP N38°34.5′ E088°42.5′	304° 124° 158	6 662	56	↓	Urumqi ACC
✧ SADAN N40°04.6′ E086°00.0′	304° 124° 286				
✧ Kuqa VOR (KCA) N41°42.9′ E082°59.7′	303° 123° 311			↑	
*M 503 ✧ LELIM N22°56.4′ E117°18.7′					Relevant rules see ENR 3.3-41/42
✧ LAPUG N22°59.7′ E117°22.8′	052° 232° 9	651		↓	Guangzhou ACC
✧ KAMEX N23°05.5′ E117°30.0′	052° 232° 16				
✧ APAKA N23°51.8′ E118°26.7′	052° 232° 129				Shanghai ACC
✧ OBKEL N25°00.0′ E119°53.0′	052° 232° 193	600			
✧ PONEN N25°37.5′ E120°24.0′	041° 221° 87				
✧ NUDPO N26°45.0′ E121°04.3′	032° 212° 142				
✧ BEGMO N28° 00.0′ E121° 50.0′	032° 212° 158			↑	
航线高度 8 400 米至 12 500 米。 En-route altitude 8 400m—12 500m.					

区 域 导 航 航 路 Area navigation routes					
航路代号、重要点名称、坐标 Route designator Name of significant points Coordinates	航迹(磁)、距离(千米) Track(MAG) DIST(km)	最低飞行高度(米) MNM flight altitude(m)	航路宽度(千米) Lateral limits (km)	巡航高度层方向 Direction of cruising levels	备注、管制单位 Remarks, Controlling unit
1	2	3	4	5	6
M 771 N14°34.0′ E111°55.5′					Relevant rules see ENR 3.3-3/5/9/31
✧ DONDA N14°42.2′ E112°01.3′					Ho Chi Minh ACC
	036° 169NM	2 100FT	See ENR3.3-5	↓	Sanya ACC
✧ DOSUT N17°02.0′ E113°40.8′					
**N 892 ✧ MONBO N14°30.0′ E113°25.7′					Relevant rules see ENR 3.3-3
	217° 57NM	2 100FT	See ENR3.3-5	↑	Sanya ACC *Ho Chi Minh ACC Manila ACC
✧ MIGUG N15°16.4′ E114°00.0′					
*三亚飞行情报区内 N892 航路上的空中交通服务委托胡志明 ACC 负责提供，该行段上的空中交通情况应通知三亚 ACC。在航空器偏离飞行计划航迹并可能侵犯三亚 ACC 管制的空域的情况下，胡志明或马尼拉 ACC，如可行，必须协调取得进入该空域的许可。如果飞行员在未获许可时要求偏离，必须采用国际民航组织附件和地区补充程序（Doc7030）里的国际民航组织空域规则。 *The responsibility of Air Traffic Services on the portion of ATS route N892 in Sanya FIR is delegated to Ho Chi Minh ACC and air traffic shall be notified to Sanya ACC. In the case of an aircraft which deviates off flight plan track and is likely to infringe the airspace under the control of Sanya ACC, Ho Chi Minh or Manila ACC, as appropriate, shall coordinate a clearance for entry into that airspace. If the pilot is required to deviate without clearance, the ICAO rules of the air provisions incorporated in the ICAO Annexes and Regional Supplementary Procedures (Doc 7030) shall apply. **在 N892 航路上飞行的所有航空器，如因天气等原因向航路北侧偏航时，需事先征得三亚 ACC 同意，并与三亚 ACC 保持无线电联系。 **All aircraft operating on route N892, in case of weather and etc., deviate to the north of this route, shall be subject to obtain prior approval of Sanya ACC and maintain communication with Sanya ACC.					
Y 1 ✧ OMBON N33°21.4′ E104°16.3′					Relevant rules see ENR 3.3-33
	298° 118° 681	5 920	56	↓	Lanzhou ACC
✧ MEPEP N36°09.1′ E097°38.0′	297° 117° 104	4 487			
✧ AKAGI N36°34.0′ E096°35.5′	297° 117° 108				
✧ LUSMA N37°00.0′ E095°30.0′	296° 116° 294	4 157			
✧ DUMIN N38°10.0′ E092°30.0′	289° 109° 167	5 390			
✧ MAGOD N38°41.0′ E090°42.1′	289° 109° 432			↑	Urumqi ACC
✧ SADAN N40°04.6′ E086°00.0′					

航路代号、重要点名称、坐标 Route designator Name of significant points Coordinates	航迹(磁)、距离(千米) Track(MAG) DIST(km)	最低飞行高度(米) MNM flight altitude(m)	航路宽度(千米) Lateral limits (km)	巡航高度层方向 Direction of cruising levels	备注、管制单位 Remarks, Controlling unit
1	2	3	4	5	6
Y 2					Relevant rules see ENR 3.3-33
✧ LUVAR N32°36.1′ E099°00.0′	343° 163° 414	6 086	56	↓ ↑	Lanzhou ACC
✧ MEPEP N36°09.1′ E097°38.0′					
Y 3					Relevant rules see ENR 3.3-33
✧ DUMIN N38°10.0′ E092°30.0′	350° 170° 103	4654	33.4	↓	Lanzhou ACC
✧ TUSLI N39°05.0′ E092°18.0′	351° 171° 75				
✧ RUSDI N39°45.1′ E092°10.8′	351° 171° 310				Urumqi ACC
✧ IPMUN N42°31.1′ E091°41.7′	299° 119° 127	6045			
✧ IBAKI N43°07.5′ E090°22.8′	299° 119° 225			↑	
✧ FUKANG VOR (FKG) N44°10.0′ E087°59.0′					

PBN is implemented on the following route, data and related rules refer ENR3.2 for detail.

运行规范 PBN spec	航路航线（航段） Routes and segments
RNAV2	A461, A593, B215(Urumqi VOR‘URC’-NUKTI), G470(Qitai VOR‘QTV’-BIKNO), R343(Nanxiang NDB‘PK’- Tianhe VOR‘WHA’), V11, W99, W161
RNAV5	A326(Dawangzhuang‘VYK’-DONVO）, B213(Tianhe VOR‘WHA’- Chongzhou VOR‘CZH’, G212, G597
RNP4	A343, A364, A368, A460, A468, B206, B213(Chongzhou VOR‘CZH’- Lhasa VOR‘LXA’), B215(PURPA- Urumqi VOR‘URC’), G588, W112(PURPA-ADMUX)

南中国海地区实施修改的 ATS 航路结构及 RNP10 运行
Implementation of a revised ATS route structure and RNP 10 operations in the South China Sea area

1. RNP10 导航要求

1.1 在三亚飞行情报区的以下航段上，实施修改的 RNP10 运行。其它航路不需要采用 RNP10。

L642：EPKAL 至 EXOTO

M771：N14°34.0′ E111°55.5′至DONDA 至 DOSUT

N892：MIGUG 至 MONBO（60 海里侧向间隔标准）

1.2 飞行员必须将低于 RNP10 导航要求的导航设备性能的降低或故障情况通报 ATC 部门。ATC 部门随后应提供备用间隔及/或备份航路。

1.3 符合 RNP10 要求航空器的飞行员必须在 ICAO 飞行计划第 10 项注明/R。

2. 不符合 RNP10 要求的航空器的飞行规定

2.1 不能满足第 1.1 款最低导航要求的航空器必须提交飞行计划，在 FL280 或以下飞行。根据第 2.3 款规定，此类航空器在 FL280 以上的飞行需事先经 ATC 部门许可。

2.2 希望沿第 1.1 款规定的 ATS 航路，在 FL290 或以上飞行的航空器的飞行员必须在 ICAO 飞行计划第 18 项“RMK/REQ FL/要求的高度（插入高度）”注明高度要求。在优先选择的高度上飞行需经 ATC 协调和许可。未被批准沿上述高度飞行的航空器，需在 FL280 或以下飞行或沿备份航路飞行。

2.3 收到非 RNP10 航空器申请沿第 1.1 款规定的 ATS 航路，在 FL290 或以上飞行的

1. RNP 10 navigation requirements

1.1 RNP 10 operations will be implemented on those segments of the following routes, which fall within the Sanya FIR. For other routes RNP10 approval is not required.

L642: EPKAL to EXOTO

M771: N14°34.0′ E111°55.5′ to DONDA to DOSUT

N892: MIGUG to MONBO (60NM lateral separation minima)

1.2 Pilots must advise ATC of any deterioration or failure of the navigation systems below the navigation requirements for RNP 10. ATC shall then provide alternative separation and/or alternative routing.

1.3 Pilots of aircraft meeting RNP 10 requirements must indicate/R at Item 10 of the ICAO Flight Plan.

2. Operations by aircraft not meeting RNP 10 requirements

2.1 An aircraft that is unable to meet the minimum navigation requirements described in section 1.1 above must file flight plan at FL280 or below. Operations above FL280 for these aircraft will be subject to ATC approval, in accordance with the provisions of section 2.3.

2.2 Pilots of such aircraft wishing to operate on ATS routes specified in paragraph 1.1, at or above FL290, must indicate their level requirements at Item 18 of the ICAO Flight plan as RMK/REQ FL(insert level). Approval to operate at the preferred level will be subject to ATC co-ordination and clearance. Flights that are not approved will be required to operate at FL280 or below or via alternative routes.

2.3 ATC units receiving a request for a non-RNP 10 approved aircraft to operate on ATS routes specified in paragraph

ATC 部门应与受此飞行影响的相邻 ATC 部门进行协调。在决定是否批准该飞行时，各 ATC 部门应对以下因素进行考虑:

a. 交通密度;
b. 通信，包括正常情况下通信设备的不可用性;
c. 航路天气情况; 及
d. 当时的其它有关因素。

1.1, at or above FL290, will co-ordinate with adjacent ATC units affected by the flight. In deciding whether or not to approve the flight, each ATC unit will take into consideration:

a. Traffic density;
b. Communications, including the non-availability of normal communications facilities;
c. Weather conditions en-route; and
d. Any other factors pertinent at the time.

3. 安全评估标准

3.1 根据 RNP10 导航性能要求确定，航空器导航性能要求的侧向偏航标准应小于 8.7 公里(4.7 海里)。

3. Safety assessment criteria

3.1 The safety criteria in accordance with the requirements for RNP 10 navigation performance, aircraft navigation performance shall be such that the standard deviation of lateral track errors shall be less than 8.7km(4.7NM).

4. 航空器导航性能监测

4.1 航空器导航性能监测是营运人、注册国或营运人所在国（如可能）、制定规章机构及 ATS 提供者的共同责任。对不符合以下导航要求参数的检测和报告将主要依靠 ATC 部门的雷达监控获得:

侧向偏离:根据雷达监控偏离航迹中心线 15 海里或更远;

纵向偏离:

a. 在 ATC 部门采用时间间隔的情况下，当 ATC 部门证实飞行员预计的报告时间间隔与在报告点预测的时间间隔相差 3 分钟或更长时，即产生纵向偏离;
b. 在 ATC 部门采用距离间隔标准的情况下，当 ADS、或雷达监控或 RNAV 距离报告测得的距离与预测距离相差 10 海里或以上时，即产生纵向偏离。

4.2 当 ATC 部门监控到偏航时，应通报机长并采用要求的检查程序。

4. Monitoring of aircraft navigation performance

4.1 Monitoring of aircraft navigation performance is a joint responsibility among operators, States of Registry or States of Operators (as applicable), regulatory authorities and the ATS providers. The detection and reporting of non-conformance with the navigation requirements against the following parameters will rely primarily on radar monitoring by ATC units:

Lateral deviations: a deviation of 15NM or more from track centerline based on radar observations;

Longitudinal deviations:

a. where time separation is being applied by ATC-when the reported separation based on ATC verified pilot estimates varies by 3 minutes or more from the expected separation at the reporting point; or
b. Where a distance based standard is being applied by ATC based on either ADS, radar observation of RNAV distance reports-when the distance varies by 10NM or more from the expected distance.

4.2 ATC will advise the pilot in command when such deviations are observed and implement the required investigation procedures.

4.3 ATC 当局应与航空器营运人、注册国或营运人所在国（如可能）一起对偏航原因进行调查。

4.3 The ATC authority will investigate the causes of such deviations in conjunction with the aircraft operator and the State of Registry, or the State of the Operator, as applicable.

5. 间隔标准

5. Separation minima

5.1 侧向间隔标准

5.1 Lateral Separation Minima

5.1.1 当按照第 1.1 款规定配备机载设备的航空器在 FL290 或以上飞行时，沿 L642、M771 飞行的航空器之间可采用 50 海里侧向间隔标准，沿 N892 飞行的航空器之间只可采用 60 海里侧向间隔标准

5.1.1 When operating at FL290 or above, between aircrafts equipped in accordance with the provisions of paragraph 1.1, a lateral separation minima of 50NM may be applied on L642, M771, a lateral separation minima of 60NM may only be applied on N892.

5.1.2 当不符合第 1.1 款要求的航空器被允许沿第 1.1 款所示航路在 FL290 或以上飞行时，应与在相邻航线上飞行的航空器之间采用垂直间隔。

5.1.2 When an aircraft not meeting the requirements of paragraph 1.1 is approved to operate at or above FL290, on the routes shown in paragraph1.1, vertical separation shall be applied with aircraft operating on adjacent routes.

5.2 纵向间隔

5.2 Longitudinal Separation

5.2.1 沿 L642、M771 飞行的航空器之间可采用 50 海里间隔标准，沿 N892 飞行的航空器之间可采用 80 海里 RNAV 或 10 分钟（或更小）马赫数技术（MNT）间隔标准。

5.2.1 50NM separation minima may be applied between aircrafts on L642, M771, 80NM RNAV or 10 minutes (or less) Mach number technique (MNT) separation minima may be applied between aircrafts on N892.

5.3 垂直间隔

5.3 Vertical Separation

5.3.1 沿第 1.1 款所示 ATS 航路在 FL290 或以上飞行的航空器之间应采用 2 000 英尺的垂直间隔标准。

5.3.1 A vertical separation minima of 2 000FT will be applied between aircraft operating at FL290 or above, on the ATS routes shown in paragraph 1.1.

6. 营运人规定

6. Operators procedures

6.1 根据 RNP10 要求,营运人应保证提供空中运行程序、机组手册和培训计划。

6.1 The operator shall ensure in-flight procedures, crew manuals and training programmers are established in accordance with RNP 10 requirements.

7. 应急程序（包括危险天气避让）

7. Contingency procedures (including weather deviation)

7.1 应急程序，包括危险天气避让应按照以下具体规定执行。

7.1 Contingency procedures, including weather deviation, shall be in accordance with the provisions detailed below.

7.2 当航空器在三亚飞行情报区岛内管制空域飞行时，飞行员在采取任何偏航行动前必须获得 ATC 许可。

7.2 When an aircraft is flying in island controlled airspace in the Sanya FIR, the pilot shall obtain the ATC clearance before initiating any deviation action.

7.3 如果航空器不能按照 ATC 许可继续飞行时，如可能，飞行员应在采取行动前用适当的 R/T 频率上发送紧急遇险信号，重新获得新的许可。

7.3 If an aircraft is unable to continue flight in accordance with its ATC clearance, the pilot shall, whenever possible, obtain a revised clearance prior to initiating any action by making a distress of urgency transmission on the appropriate R/T frequency.

7.4 当航空器在三亚飞行情报区洋区管制空域飞行且不能继续沿 ATC 指令飞行时，但能建立管制员-飞行员通信，管制员应:

a. 如可能，建立标准的间隔;
b. 如不可能，向所有有关航空器提供必要的交通信息，且可为解决此问题提供咨询信息，包括采用缩小的垂直间隔。

7.4 When an aircraft is flying in oceanic controlled airspace in the Sanya FIR, and unable to continue flight in accordance with its ATC clearance and controller-pilot communications are established, the controller shall:

a. if possible, establish standard separation;
b. If this is not possible, provide essential traffic information to all aircraft affected and may provide advice to resolve the situation, including the use of reduced vertical separation.

7.5 当航空器在三亚飞行情报区洋区管制空域飞行，不能继续沿 ATC 指令飞行，且无法建立管制员—飞行员通信时，飞行员应按照 ICAO 地区补充程序（7030）MID/Asia/RAC-4, 第 2.2.4 段中的规定执行。

7.5 If in the event that a pilot is flying in oceanic controlled airspace in the Sanya FIR, and unable to continue flight in accordance with its ATC clearance and pilot-controller communications are not established, the pilot shall comply with the ICAO Regional Supplementary Procedures (7030) MID/Asia/RAC-4, PARA 2.2.4.

三亚飞行情报区海洋空域缩小垂直间隔标准的政策和程序
RVSM Policy and Procedures in the Oceanic Airspace of Sanya FIR

1. RVSM 空域

1.1 三亚飞行情报区海洋空域内实施 RVSM 的航路包括 A1、L642、M771 和 N892。其中 L642，M771，N892 航路的 RVSM 高度层为：FL310、FL320、FL350、FL360、FL390 和 FL400。A1 航路的 RVSM 高度层为：向东飞行—FL290，FL330，FL370，FL390 和 FL410；向西飞行—FL280，FL300，FL340，FL380 和 FL400。

RVSM 空域水平范围与海洋飞行区域一致。

1. Identification of RVSM Airspace

1.1 The RVSM routes in the Oceanic airspace of Sanya FIR include: A1, L642, M771 and N892. The RVSM levels for L642, M771, N892 would be FL310, FL320, FL350, FL360, FL390 and FL400. The RVSM levels for A1 would be FL290, FL330, FL370, FL390 and FL410 for eastbound traffic or FL280, FL300, FL340, FL380 and FL400 for westbound traffic.

The boundary of the RVSM airspace is the same with the Oceanic airspace of Sanya FIR.

2. 航空器适航和运行审批和监督

2.1 批准手续

运营人必须取得适当的注册国或运营人所属国的适航和运行批准，方可实施 RVSM 运行。有关要求参见中国民用航空局相关的 RVSM 适航和飞标政策。

2. Airworthiness and Operational Approval and Monitoring

2.1 Approval process

Operators must obtain airworthiness and operational approval from the State of Registry or State of the Operator, as appropriate, to conduct RVSM operations. Relevant requirements will be contained in CAAC RVSM airworthiness and flight standards policies.

2.2 航空器的监督

要求运营人应当参加 RVSM 航空器监控项目。这是 RVSM 实施计划的一个重要组成部分，因为它可以确认航空器是否符合高度保持性能标准。亚太地区审批注册和监控组织（APARMO）将处理监控的结果。有关 RVSM 监控的进一步信息，可登陆 APARMO 网站:

(a) 进入 FAA RVSM 网站的“RVSM Documentation”部分并点击 APARMO 网站的链接，或

(b) 使用网址:

http://www.tc.faa.gov/niaab/act500/rvsm/aparmo_intro.html

2.2 Aircraft monitoring

Operators are required to participate in the RVSM aircraft monitoring program. This is an essential element of the RVSM implementation program in that it confirms that the aircraft altitude-keeping performance standard is being met. The Asia Pacific Approvals Registry and Monitoring Organization (APARMO) will process the results of monitoring. For further information on RVSM monitoring, the APARMO web site can be accessed by:

(a) Accessing the “RVSM Documentation” section of the FAA RVSM website and clicking on the link to the APARMO website or…

(b) Using this Internet address:

http://www.tc.faa.gov/niaab/act500/rvsm/aparmo_intro.html

2.2.1 其它地区的监控结果可用来满足亚太地区的监控要求。APARMO 将与其它监控机构协调以获取该信息。运营人可按下面的地址与 APARMO 监控承包人联系，询问亚太地区的监控服务:

电话: +1 202 863 2175
传真: +1 202 862 2398
电子邮件: monitor@cssiinc.com

2.2.1 Monitoring accomplished for other regions can be used to fulfill the monitoring requirements for the Asia/Pacific region. The APARMO will coordinate with other monitoring agencies to access this information. For monitoring services in the Asia/Pacific region, operators should contact the APARMO monitoring contractor as follows:

Phone: +1 202 863 2175
Fax: +1 202 862 2398
Email: monitor@cssiinc.com

3. ACAS II 与应答机的装备

3.1 ICAO 亚太地区 RVSM 实施工作组建议装备有 ACAS 并在 RVSM 空域飞行的航空器装备 ACAS II（具有 7.0 版本的 TCAS 系统符合 ICAO ACAS II 标准）。

3.1.1 营运人应当按照中国 AIP 中的有关要求，安装符合要求的 ACAS II。

3. ACAS II and Transponder Equipage

3.1 The ICAO Asia/Pacific RVSM Implementation Task Force recommends that those aircraft equipped with ACAS and operated in RVSM airspace be equipped with ACAS II. (TCAS II systems with Version 7.0 incorporated meet ICAO ACAS II standards).

3.1.1 Operators shall equip their aircraft with ACAS II as required by AIP China.

3.2 国际通用航空（IGA）应答机装备

ICAO 附件六第二部分阐明: 自 2000 年 1 月 1 日起，IGA 飞机必须装备有被适当的国家当局认证为符合国际民航组织附件十规定的气压高度报告应答机。

3.2 INTERNATIONAL GENERAL AVIATION (IGA) TRANSPONDER EQUIPAGE.

ICAO Annex 6, Part II, states that, starting 1 January 2000, IGA airplanes shall be equipped with a pressure altitude reporting transponder certified by the appropriate State authority as meeting the provisions of Annex 10.

4. RVSM 空域中的飞行程序

4.1 在进入 RVSM 空域之前，飞行员应当检查所要求设备的状况。（有关飞行员的 RVSM 程序，见民航飞发[1999]144 号文件第 12.d 条或 FAA IG 91-RVSM 的附件 4）。下列设备应当工作正常:

(a) 两套主用高度测量系统;
(b) 一套自动高度保持装置; 及
(c) 一套高度告警装置。

4. In-flight Procedures within RVSM Airspace

4.1 Before entering RVSM airspace, the pilot should review the status of required equipment (see 12.d of CAAC flight standards [1999] Doc 144, or Appendix 4 of FAA IG 91-RVSM for pilot RVSM procedures). The following equipment should be operating normally:

(a) two primary altimetry systems;
(b) one automatic altitude-keeping device; and
(c) One altitude-alerting device.

4.2 有关在应急情况中飞行员和管制员的行动，参见 ENR3.3-21 的附件 A 或 FAA IG 91-RVSM 的附件 5。当航空器处于以下情况

4.2 See Attachment A ENR3.3-21 or Appendix 5 of FAA IG 91-RVSM for pilot and controller actions in contingencies. The pilot must notify ATC whenever the aircraft:

时，飞行员必须通知 ATC:

(a) 由于设备失效，不再继续执行 RVSM；或

(b) 失去高度测量系统的冗余；或

(c) 遇上影响保持高度能力的颠簸。

(a) Is no longer RVSM compliant due to equipment failure; or

(b) Experiences loss of redundancy of altimetry systems; or

(c) Encounters turbulence that affects the capability to maintain flight level.

4.3 飞行高度层间的过渡

在许可的高度层间进行过渡时，航空器在指定的高度层上改平不得提前或滞后超过 150 英尺（45 米）。

4.3 Transition between FL's

During cleared transition between levels, the aircraft should not overshoot or undershoot the assigned FL by more than 150 ft (45 m).

4.4 飞行员高度层报告

在 RVSM 空域内除有 ADS 或雷达管制的条件外，飞行员到达任何指定高度，都必须报告。

4.4 Pilot level call

Except in an ADS or radar environment, pilots shall report reaching any altitude assigned within RVSM airspace.

4.5 应急程序

下列 5、6、7 和 8 各段中包含有已根据 RVSM 运行进行更新后的飞行中应急程序。在海洋飞行中应当应用 5 至 6 中的应急程序和 8 中的偏离程序。7 中的绕飞天气程序可适用于本区的所用空域。

4.5 Contingency procedures

Paragraphs 5, 6, 7 and 8 below contain procedures for in-flight contingencies that have been updated for RVSM operations. The contingency procedures in paragraphs 5-6 and the offset procedures in paragraph 8 should be applied in Oceanic operations. The weather deviation procedures in paragraph 7 may be applied in all airspaces in the region.

5. 三亚飞行情报区海洋空域内飞行中应急情况的处置程序

5. Special procedures for In-flight contingencies in Oceanic Airspace in the Sanya FIR

通用程序

5.1 下列通用程序仅作指导之用，它们适用于亚音速和超音速两种航空器。它们尽管不能涵盖所有可能的应急情况，却提供有由于以下原因不能保持高度的情况:

(a) 天气;

(b) 航空器性能;

(c) 增压失效；及

(d) 与高空超音速飞行相关的故障。

General procedures

5.1 The following general procedures apply to both subsonic and supersonic aircraft and are intended as guidance only. Although all possible contingencies cannot be covered, they provide for cases of inability to maintain assigned level due to:

(a) Weather;

(b) Aircraft performance;

(c) Pressurization failure; and

(d) Problems associated with high-level supersonic flight.

5.2 本程序主要适用于要求迅速下降及/或返航或备降的情况。飞行员应根据对特定情况的判断而最终决定如何先后采取多种行动。

5.2 The procedures are applicable primarily when rapid descent and/or turn-back or diversion to an alternate airport is required. The pilot's judgment shall determine the sequence of actions to be taken, taking into account specific circumstances.

5.3 如果航空器不能按照空中交通管制许可继续飞行，在采取任何行动之前应当尽可能获取修订的 ATC 许可，必要时可使用遇险或紧急信号。

5.4 如果航空器驾驶员不能事先获得许可，采取行动之后应当及早获取 ATC 许可；在收到修改的许可之前，飞行员应当：

(a) 如有可能，偏出有组织的航迹或航线系统；

(b) 在现用的频率及 121.5 MHz 频率上以（或者，作为备份手段，在飞行员之间的空对空 VHF 频率 123.45 MHz 上），以合适的时间间隙、用广播方式与附近航空器建立联系并对它们进行警告，内容包括：航班号、飞行高度层、航空器位置（包括 ATS 航线名称或航迹代号）和意图；

(c) 目视或参照 ACAS（如果装备有）观察冲突活动；并

(d) 打开航空器所有外部灯光（要符合必要的运行限制）。

6. 三亚飞行情报区海洋空域内要求迅速下降、返航或备降的亚音速航空器的飞行中应急程序

起始行动

6.1 航空器如果不能按照 5.3 中的规定获得修改的 ATC 许可，如果可行，应当右转或左转 90 度，离开其指定航线或航迹。转弯的方向应当根据航空器相对于有组织的航线或航迹系统的位置确定（例如：航空器是位于系统之外，系统的边缘，或是系统之内）。其它应当考虑的因素还有：超障余度和分配给相邻航线或航迹的高度层。

随后行动

6.2 航空器可以保持高度层

可以保持指定高度层的航空器，应当获取并保持一个距指定航线或航迹左右两侧侧向间隔为 25 NM 的航迹，在建立偏离航迹

5.3 If an aircraft is unable to continue flight in accordance with its air traffic control clearance, a revised clearance shall, whenever possible, be obtained prior to initiating any action, using a distress or urgency signal as appropriate.

5.4 If prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time and, until a revised clearance is received, the pilot shall:

(a) If possible, deviate away from an organized track or route system;

(b) Establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position, (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45 MHz);

(c) Watch for conflicting traffic both visually and by reference to ACAS (if equipped); and

(d) Turn on all aircraft exterior lights (commensurate with appropriate operating limitations).

6. In-flight Contingency Procedures for Subsonic Aircraft Requiring Rapid Descent, Turn-Back or Diversion in Oceanic Airspace in the Sanya FIR.

Initial action

6.1 If unable to comply with the provisions of paragraph 5.3 to obtain a revised ATC clearance, the aircraft should leave its assigned route or track by turning 90 degrees right or left whenever this is possible. The direction of the turn should be determined by the position of the aircraft relative to any organized route or track system (for example, whether the aircraft is outside, at the edge of, or within the system). Other factors to consider are terrain clearance and the levels allocated to adjacent routes or tracks.

Subsequent action

6.2 Aircraft able to maintain level

An aircraft able to maintain its assigned level should acquire and maintain in either direction a track laterally separated by 25 NM from its assigned route or track and once established on the offset

后，上升或下降 500 英尺（150 米）。

6.3 航空器不能保持高度层

不能保持指定高度层的航空器，在转弯获取并保持一个距指定航线或航迹左右两侧侧向间隔为 25NM 的航迹过程中，如果可行，应当将下降率控制为最小。之后应当选取与正常使用的高度层相差 500 英尺（150 米）的飞行高度层。

6.4 改航穿越相邻的航线

航空器在开始改航穿越相邻的航线之前，应当保持偏离中心线 25NM，加速上升或下降到大多数航空器飞行的各高度层之上或之下（例：到 FL400 之上或 FL290 之下），然后保持与正常使用的高度层相差 500 英尺（150 米）的高度层。然而，如果飞行员不能或不愿进行大幅度上升或下降，在获得新 ATC 许可之前，航空器应当在正常使用的各飞行高度层之上或之下 500 英尺（150 米）处的高度层飞行。

6.5 延程飞行（ETOPS）航空器

如果双发航空器由于发动机关车或 ETOP 关键系统失效使用本应急程序，飞行员应当将情况尽快告知 ATC，提醒 ATC 所涉及的航空器类型并请求迅速处置。

7. 三亚飞行情报区海洋空域的绕飞天气程序

通用程序

7.1 下列程序旨在提供指导，并不涵盖所有可能发生的情况。飞行员的判断应最终决定如何先后采取的行动；管制员必须尽一切可能提供协助。

7.2 如果航空器有必要偏离航线绕飞天气，且不能事先获得许可，之后应当尽早获取空中交通管制许可。同时航空器应当遵循 7.9 中的详细程序。

track, climb or descend 500 ft (150m).

6.3 Aircraft unable to maintain level

An aircraft NOT able to maintain its assigned level should, whenever possible, minimize its rate of descent while turning to acquire and maintain in either direction a track laterally separated by 25 NM from its assigned route or track. For subsequent level flight, a level should be selected which differs by 500 ft (150 m) from those normally used.

6.4 Diversion across the flow of adjacent traffic

Before commencing a diversion across the flow of adjacent traffic, the aircraft should, while maintaining the 25 NM offset, expedite climb above or descent below levels where the majority of aircraft operate (e.g. to a level above FL400 or below FL290) and then maintain a level which differs by 500 ft (150 m) from those normally used. However, if the pilot is unable or unwilling to carry out a major climb or descent, the aircraft should be flown at a level 500 ft above or below levels normally used until a new ATC clearance is obtained.

6.5 Etops aircraft

If these contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or a failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved and requesting expeditious handling.

7. Weather Deviation Procedures in the Oceanic Airspace of Sanya FIR.

General procedures

7.1 The following procedures are intended to provide guidance. All possible circumstances cannot be covered. The pilot's judgment shall ultimately determine the sequence of actions taken and ATC shall render all possible assistance.

7.2 If the aircraft is required to deviate from track to avoid weather and prior clearance cannot be obtained, an air traffic control clearance shall be obtained at the earliest possible time. In the meantime, the aircraft shall follow the procedures detailed in paragraph 7.9 below.

7.3 当不再需要绕飞或绕飞结束并返回到原许可航线的中心线时，飞行员应当告知ATC。

7.3 The pilot shall advise ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to the centerline of its cleared route.

7.4 当飞行员联系 ATC 时，讲明“WEATHER DEVIATION REQUIRED”可以获得迅速回答；这表示期望在频率上通信和 ATC 回答时予以优先。

7.4 When the pilot initiates communications with ATC, rapid response may be obtained by stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response.

7.5 飞行员还可以选择使用紧急呼叫通信“PAN PAN”，以警示收听各方这是需要特殊处置的情况，以优先获得 ATC 发布许可或协助。

7.5 The pilot still retains the option of initiating the communications using the urgency call "PAN PAN" to alert all listening parties to a special handling condition, which may receive ATC priority for issuance of a clearance or assistance.

7.6 在建立管制员与飞行员的联络时，飞行员应当告知 ATC 并请求偏离航迹的许可；如有可能，同时告知希望绕飞的范围。ATC 将采取下列行动之一:

(a) 如果在水平范围内没有冲突活动，ATC 将发布偏离航迹的许可；或

(b) 如果在水平范围内有冲突活动，ATC 将建立垂直间隔进行调配；如果不能建立垂直间隔，ATC 将:

i) 告知飞行员不能发布其申请绕飞的许可

ii) 告知飞行员冲突活动

iii) 询问飞行员意图

术语样例:

“Unable (申请的绕飞), traffic is (呼号、位置、高度、方向), advise intentions.”

7.6 When controller-pilot communications are established, the pilot shall notify ATC and request clearance to deviate from track, advising, when possible, the extent of the deviation expected. ATC will take one of the following actions:

(a) If there is no conflicting traffic in the horizontal dimension, ATC will issue clearance to deviate from track; or

(b) If there is conflicting traffic in the horizontal dimension, ATC will separate aircraft by establishing vertical separation or, if unable to establish vertical separation, ATC shall:

i) Advise the pilot unable to issue clearance for requested deviation

ii) Advise pilot of conflicting traffic

iii) Request pilot’s intentions

SAMPLE PHRASEOLOGY:

“Unable (requested deviation), traffic is (call sign, position, altitude, direction), advise intentions.”

7.7 飞行员将采取以下行动:

(a) 以可用的、最迅速的方式将意图告知给 ATC。

(b) 遵照已发布的空中交通管制许可，或

(c) 执行以下 7.9 中的程序（ATC 将为所有受影响的航空器发布重要交通情报）。

(d)如有必要，可与 ATC 建立话音通信，以加速有关情况的对话。

7.7 The pilot will take the following actions:

(a) Advise ATC of intentions by the most expeditious means available.

(b) Comply with air traffic control clearance issued or…

(c) Execute the procedures detailed in 7.9 below (ATC will issue essential traffic information to all affected aircraft).

(d) If necessary, establish voice communications with ATC to expedite dialogue on the situation

无法获得修订的空中交通管制许可时应当采取的行动

7.8 当从安全考虑认为绝对必要时，依据飞行员可以背离空中规则（例：沿航线或航迹中心线飞行的要求， ATC 另有指示除外）的条款，飞行员可以采取以下所列的行动。

7.9 如果无法获得修改的空中交通管制许可并且必须偏离航迹避开天气时，飞行员应当采取以下行动:

(a) 如果可能，偏离有组织的航迹或航线系统;

(b) 在现用的频率及 121.5 MHz 频率上（或者，作为备份手段，在飞行员之间的空对空 VHF 频率 123.45 MHz 上），以合适的时间间隙、用广播方式与附近航空器建立联系并对它们予以告警，内容包括：航班号、飞行高度层、航空器位置（包括 ATS 航线名称或航迹代号）和意图（预计偏离的程度）；

(c) 目视或参照 ACAS（如果装备有）观察冲突活动；并

(d) 打开航空器所有外部灯光（符合相关的操作限制）；

(e) 偏离小于 10NM 时，航空器应当保持 ATC 指定的高度;

(f) 偏离大于 10NM 时，当航空器距航迹大约 10NM 时，按照以下准则改变高度层:

Actions to be taken if a revised air traffic control clearance cannot be obtained

7.8 The pilot shall take the actions listed below under the provision that the pilot may deviate from rules of the air (e.g., the requirement to operate on route or track center line unless otherwise directed by ATC), when it is absolutely necessary in the interests of safety to do so.

7.9 If a revised air traffic control clearance cannot be obtained and deviation from track is required to avoid weather, the pilot shall take the following actions:

(a) If possible, deviate away from an organized track or route system;

(b) Establish communication with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position (including the ATS route designator or the track code) and intentions (including the magnitude of the deviation expected) on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45 MHz).

(c) Watch for conflicting traffic both visually and by reference to ACAS (if equipped);

(d)Turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

(e) For deviations of less than 10NM, aircraft should remain at the level assigned by ATC;

(f) For deviations of greater than 10NM, when the aircraft is approximately 10 NM from track, initiate a level change based on the following criteria:

航线中心线航迹 Route center line track	偏离大于 10NM Deviations >10 NM	高度层改变 Level change
东向 EAST 000°-179°磁航迹 magnetic	左 LEFT	下降 300 英尺 Descend 300 ft
	右 RIGHT	上升 300 英尺 Climb 300 ft
西向 WEST 180°-359°磁航迹 magnetic	左 LEFT	上升 300 英尺 Climb 300 ft
	右 RIGHT	下降 300 英尺 Descend 300 ft

注：以上 7.9 中 b）和 c）要求飞行员：广播航空器的位置；识别冲突活动；并与附近航

Note: 7.9 (b) and (c) above calls for the pilot to: broadcast aircraft position and pilot's intentions, identify

空器建立空对空联络。如果飞行员确定在同一高度层及其附近有可能冲突的另一架航空器，飞行员应当根据需要调整航空器路径避免冲突。

conflicting traffic and communicate air-to-air with near-by aircraft. If the pilot determines that there is another aircraft at or near the same FL with which his aircraft might conflict, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

(g) 如果在偏离之前未建立联系，继续设法与 ATC 建立联系并获取许可。如果已建立联系，随时将意图告知给 ATC 并获取重要交通情报。

(g) If contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

(h) 返回航迹过程中，当航空器距中心线约 10NM 时，保持指定的飞行高度层。

(h) When returning to track, be at its assigned flight level, when the aircraft is within approximately 10NM of centerline.

8. 三亚飞行情报区的海洋空域内减缓尾流影响和航空器系统警告干扰程序

8. Special Procedures to Mitigate Wake Turbulence Encounters and Distracting Aircraft System Alerts in the Oceanic Airspace of the Sanya FIR.

8.1 下列特殊程序适用于在亚太地区应用 RVSM 的空域内减缓尾流影响和航空器系统警告（例：ACAS、近地警告系统（GPWS））干扰:

注：在下列应急情况中，ATC 将不发布侧向偏离许可，一般也不对飞行员采取的行动做出反应。

8.1 The following special procedures are applicable to mitigate wake turbulence or distracting aircraft system alerts (e.g., ACAS, Ground Proximity Warning System (GPWS)) in Asia and Pacific airspace where RVSM is applied:

NOTE: in the contingency circumstances below, ATC will not issue clearances for lateral offsets and will not normally respond to actions taken by the pilots.

8.2 遇上尾流或受到航空器系统警告干扰的航空器应当告知 ATC 并申请改变飞行高度层、航迹或速度，以避免这种情况。然而，在这些改变不可能或不可行的情况下，飞行员可以主动执行以下临时偏离程序，但应当尽可能早地返回中心线:

8.2 An aircraft that encounters wake vortex turbulence or experiences distracting aircraft system alerts shall notify ATC and request a flight level, track or speed change to avoid the condition. However, in situations where such a change is not possible or practicable, the pilot may initiate the following temporary lateral offset procedure with the intention of returning to center line as soon as practicable:

(a) 如果可能，在适当的 VHF 飞行员之间空对空频率—123.45 MHz 上与其它航空器建立联络，并

(a) The pilot should establish contact with other aircraft, if possible, on the appropriate VHF inter-pilot air to air frequency; 123.45 MHz, and

(b) 其中一架（或双方）可主动进行距指定航迹不超过 2NM 的侧向偏离，但要求:

(b) One (or both) aircraft may initiate lateral offset(s) not to exceed 2 NM from the assigned track, provided that:

i) 偏离航空器应当尽快通知 ATC 它已采取侧向偏离，并说明缘由（ATC 一般不会做出回答）；并

i) As soon as practicable to do so, the offsetting aircraft notify ATC that temporary lateral offset action has been taken and specify the reason for doing so (ATC

且

ii) 当重新建立指定航线或航迹时，偏离航空器应当尽快通知 ATC（ATC 一般不会做出回答）

will not normally respond); and

ii) The offsetting aircraft notify ATC when re-established on assigned route(s) or track(s) (ATC will not normally respond).

9. 过渡区域

9.1 三亚飞行情报区海洋空域相邻的香港飞行情报区和胡志明飞行情报区都为 RVSM 空域，故没有设立 RVSM 过渡区域。

9. Transition Areas

9.1 The adjacent Hongkong FIR and Ho Chi Minh FIR are also RVSM airspace, so no RVSM Transition areas are established.

10. 飞行计划要求

10.1 除按以下有特殊安排外，在指定的 RVSM 空域内飞行，要求航空器取得 RVSM 批准。运营人必须确定有关国家当局已经给予他们 RVSM 运行准许并且满足填报的飞行航线与计划的备份航线的 RVSM 要求。在 ICAO 标准飞行计划的第 10 项（设备）中应当填入字母“W”，表示航空器和运营人都已取得 RVSM 批准。

10. Flight Planning Requirements

10.1 Unless special arrangement is made as detailed below, RVSM approval is required for operators and aircraft to operate within designated RVSM airspace. The operator must determine that the appropriate State authority has granted them RVSM operational approval and they will meet the RVSM requirements for the filed route of flight and any planned alternate routes. The letter “W” shall be inserted in item 10 (Equipment) of the ICAO standard flight plan to indicate that both the aircraft and operator are RVSM approved.

10.2 其他飞越三亚飞行情报区的飞行计划要求，见 CHINA AIP ENR2.1.1。

10.2 Other flight planning requirements for flying over Sanya FIR are indicated in CHINA AIP ENR2.1.1.

11. RVSM 空域中不符合 RVSM 运行的航空器的运行程序

11.1 飞行优先权

应当注意到：在高度层分配时，符合 RVSM 运行的航空器将获得优于不符合 RVSM 运行的航空器。

11. Procedures for Operation of Non-RVSM Compliant Aircraft in RVSM Airspace

11.1 Flight priority

It should be noted that RVSM approved aircraft will be given priority for level allocation over non-RVSM approved aircraft.

11.2 应用的间隔

在 RVSM 层内飞行的不符合 RVSM 运行的航空器与所有其它航空器之间的垂直间隔标准为 2 000 英尺。

11.2 Vertical separation applied

The vertical separation minimum between non-RVSM aircraft operating in the RVSM stratum and all other aircraft is 2 000 ft.

11.3 术语

在 RVSM 层内飞行的不符合 RVSM 运行的航空器应当使用附件 B 中的术语。

11.3 Phraseology

Non-RVSM compliant aircraft operating in RVSM airspace should use the phraseology contained in Attachment B.

11.4 不符合 RVSM 运行的航空器连续上升下降通过 RVSM 空域

可以许可不符合 RVSM 运行的航空器上升至 FL410 并在此高度层以上飞行，或者下降至 FL290 并在此高度层以下飞行，但航空器:

(a) 不得以小于航空器的正常上升下降率上升或下降，并

(b) 在通过 RVSM 层当中，不得在中间的高度层上改平。

11.4 Continuous climb/descent of non-compliant aircraft through RVSM airspace

Non-RVSM compliant aircraft may be cleared to climb to and operate above FL410 or descend to and operate below FL290 provided that they:

(a) Do not climb or descend at less than the normal rate for the aircraft and

(b) Do not level off at an intermediate level while passing through the RVSM stratum.

11.5 不符合 RVSM 运行的航空器在 RVSM 空域做巡航飞行的特殊协调程序

不符合 RVSM 运行的航空器不得计划在 RVSM 空域内 FL290 和 FL410（含）之间飞行，但下列情况除外:

(a) 该飞机正在被起始交付给注册国或运营人的航空器（见: 12 中的附加详细资料）; 或

(b) 该飞机以前取得了 RVSM 批准，但在经历设备失效之后，为了满足 RVSM 要求或取得批准，正在飞往维修设施进行修理的航空器; 或

(c) 该飞机正在运送机翼下加装的发动机的航空器; 或

(d) 该飞机正在用作慈善或人道主义目的的航空器; 或

(e) 国家航空器（用作军事、海关和公安服务的航空器被认作为国家航空器）。

11.5.1 上段所述的不符合RVSM运行的航空器飞行高度层的分配按照管制指令执行，航空器运营人应当在ICAO飞行计划中第18字段中填写“STS/任务性质(即FERRY/HUMANITARIAN/MILITARY/CUSTOMS/POLICE)/NON-RVSM COMPLIANT”。

11.5 Special coordination procedures for cruise operation of Non-RVSM compliant aircraft in RVSM airspace

Non-RVSM compliant aircraft may not flight plan between FL 290 and FL410 inclusive within RVSM airspace, except for the following situations:

(a) The aircraft is being initially delivered to the State of Registry or Operator (see Paragraph 12 for additional details and information); or

(b) The aircraft was RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repair in order to meet RVSM requirements and/or obtain approval; or

(c) The aircraft is transporting a spare engine mounted under the wing; or

(d) The aircraft is being utilized for mercy or humanitarian purposes; or

(e) State aircraft (those aircraft used in military, custom and police services shall be deemed state aircraft)

11.5.1 The assignment of cruising levels to non-RVSM compliant aircraft listed in paragraph 11.5 (a) to (e) shall be subject to an ATC clearance. Aircraft operators shall include the “STS/ Category of operations (i.e. FERRY/HUMANITARIAN/ MILITARY/CUSTOMS/POLICE)/NON-RVSM COMPLIANT” in Field 18 of the ICAO Flight Plan.

11.5.2 必要时，可以与有关单位联系，地址为:

中国民航局空管局运行中心

AFTN: ZBBBZGZX

电传: (86-10) 65135983

11.5.2 Where necessary, the unit or Air Traffic Control Centre may be contacted as follows:

The Operational Center of ATMB of CAAC:

AFTN: ZBBBZGZX

FAX: (86-10) 65135983

三亚区域管制中心
电话： (86-898) 88289756
AFTN: ZJSYZRZX
电传： (86-898) 88289785

Sanya Area Control Center
Telephone: (86-898) 88289756
AFTN: ZJSYZRZX
FAX: (86-898) 88289785

11.5.3 本批准手续仅供以上指明的目的，不得用作逃避正常批准手续的手段。

11.5.3 This approval process is intended exclusively for the purposes indicated above and not as a means to circumvent the normal RVSM approval process.

12. 交付符合 RVSM 要求的航空器时的交付飞行

12.1 符合 RVSM 要求的航空器，在交付时，可在 RVSM 空域飞行，但机组必须经过空域内有关的 RVSM 政策和程序的培训，并且有关国家为运营人颁发有准许运行的批准书。国家应当以书信、电子邮件或传真形式通知 APARMO，为该一次性飞行出具证明文件。其中应当包括：计划飞行日期，飞行识别，注册号和机型/系列等。

12. Delivery Flights for Aircraft that are RVSM Compliant on Delivery

12.1 An aircraft that is RVSM compliant on delivery may operate in RVSM airspace provided that the crew is trained on RVSM policies and procedures applicable in the airspace and the responsible State issues the operator a letter of authorization approving the operation. State notification to the APARMO should be in the form of a letter, e-mail or fax documenting the one-time flight. The planned date of the flight, flight identification, registration number and aircraft type/series should be included.

13. RVSM 的暂停程序

13.1 当飞行员报告有中度以上颠簸时，空中交通服务将考虑在三亚飞行情报区海洋空域受影响的区域内暂停 RVSM 程序。在 RVSM 程序被暂停的区域内，所有航空器之间的垂直间隔标准为 2 000 英尺。高度层分配时,在六条主要的 RVAV 航路 L642、M771、N892、L625、N884 和 M767 上飞行的航空器将优先，其它与这六条主要航路交叉的航路，在其上飞行的航空器的高度层分配要经过与受影响的 FIR 协调。

13. Procedures for Suspension of RVSM

13.1 Air traffic services will consider suspending RVSM procedures within affected areas of the Oceanic Airspace of Sanya FIR when there are pilot reports of greater than moderate turbulence. Within areas where RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 2 000 ft. In the assignment of levels, aircraft operating on the six major RNAV routes (viz L642, M771, N892, L625, N884 and M767) would have priority. Aircraft operating on routes that cross the six major routes would be assigned levels, subject to coordination with the affected FIRs.

14. 航空器系统故障或遇上中度以上颠簸情况下，管制员和飞行员的行动指导

14.1 在这些情况下的指导，见附件 A。

14. Guidance for Pilots and Controllers for Actions in the Event of Aircraft System Malfunction or Turbulence Greater than Moderate

14.1 See Attachment A for guidance in these circumstances.

15. 陆空通信失效程序的处置程序

15.1 结合中国 AIP，按照 ICAO 空中导航服务程序·空中交通管理—4444 文件中所规定的陆空通信失效程序。

15. Procedures for Air-Ground Communication Failure

15.1 The air-ground communication failure procedures specified in ICAO PANS-ATM Doc 4444 should be applied, in conjunction with AIP China.

附件 A

ATTACHMENT A

应急情形

以下各段总结了在一些应急情况下飞行员减小与其它航空器潜在冲突可能性的行动。在查看这些行动时，应当参照含有扩展的应急情况的 ENR3.3.23 页，在这些页中有附加的技术和运行细节。

Contingency scenarios.

The following paragraphs summarize pilot actions to mitigate the potential for conflict with other aircraft in certain contingency situations. They should be reviewed in conjunction with the expanded contingency scenarios detailed on page ENR3.3.23, which contain additional technical and operational detail.

情形 1: 飞行员：1）由于主高度测量系统失效或等级降低，不知航空器的垂直位置，或 2）由于颠簸或所有自动高度控制系统失效，不知是否有能力保持许可的飞行高度层

*Scenario 1: The pilot is: 1) unsure of the vertical position of the aircraft due to the loss or degradation of all primary altimetry systems, or 2) unsure of the capability to maintain cleared flight level (CFL) due to turbulence or loss of all automatic altitude control systems.

飞行员应当: The Pilot should:	可期待 ATC: ATC can be expected to:
在评估情况的同时保持 CFL Maintain CFL while evaluating the situation;	
目视或参照 ACAS(如果装备有)观察冲突活动 Watch for conflicting traffic both visually and by reference to ACAS, if equipped;	
如果认为必要，用以下方式警告附近航空器: 1) 充分使用外部灯光; 2) 在 121.5 MHz 上（作为备份手段，可使用飞行员之间的空对空 VHF 频率 123.45），广播位置、飞行高度层和意图。 If considered necessary, alert nearby aircraft by 1) making maximum use of exterior lights; 2) Broadcasting position, FL, and intentions on 121.5 MHz (as a back up, the VHF inter-pilot air-to-air frequency, 123.45MHz, may be used).	
将情况和打算采取的行动告知 ATC。可能采取的行动包括: Notify ATC of the situation and intended course of action. Possible courses of action include:	获取飞行员的意图；发送重要交通情报。 Obtain the pilot's intentions and pass essential traffic information.
1) 如果 ATC 能够提供侧向、纵向或常规的垂直间隔，保持 CFL 和航线 1) Maintaining the CFL and route provided that ATC can provide lateral, longitudinal or conventional vertical separation.	1) 如果飞行员打算继续在 RVSM 空域中飞行，评估交通情况并确定可否为该航空器配备侧向、纵向或常规的垂直间隔；如果可以，应用恰当的标准。 1) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation, and if so, apply the appropriate minimum.
2) 如果航空器无法保持 CFL 并且 ATC 无法建立与其	2）如果飞行员申请脱离 RVSM 空域，如果可能，迅速

它航空器足够的间隔，申请上升到 RVSM 空域之上或下降到它之下的 ATC 许可。 2) Requesting ATC clearance to climb above or descend below RVSM airspace if the aircraft cannot maintain CFL and ATC cannot establish adequate separation from other aircraft.	安排。 2) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
3）如果无法获得 ATC 许可并且航空器无法保持 CFL，执行 5 和 6 中所述的应急机动飞行，偏出指定航迹和飞行高度层。 3) Executing the contingency maneuver shown in paragraphs 5 and 6 to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	3）如果无法保持足够的间隔并且不可能允许飞行员脱离 RVSM 空域的申请，告知附近其它航空器并继续监视情况。 3) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	4）将情况告知邻近的 ATC 单位/扇区 4) Notify adjoining ATC facilities/sectors of the situation.

情形 2: 一套主用高度测量系统失效或失准（例：两套主用高度表相差大于 200 英尺）

Scenario 2: There is a failure or loss of accuracy of one primary altimetry system (e.g., greater than 200 foot difference between primary altimeters)

飞行员应当: The Pilot should
对照检查备用高度表，证实主用高度表系统的准确性并告知 ATC 失去冗余。如果不能证实主用高度表系统的准确性，遵照前一情形中所列出的飞行员行动。 Cross check standby altimeter, confirm the accuracy of a primary altimeter system and notify ATC of the loss of redundancy. If unable to confirm primary altimeter system accuracy, follow pilot actions listed in the preceding scenario.

扩充的设备失效和遇上颠簸的情形

Expanded equipment failure and turbulence encounter scenarios.

运营人可考虑用本材料作培训科目。

Operators may consider this material for use in training programs.

情形 1: 所有自动高度控制系统失效（例: 自动高度保持）

*Scenario 1: All automatic altitude control systems fail (e.g., Automatic Altitude Hold).

飞行员应当: The Pilot should	可期待 ATC: ATC can be expected to
起始 Initially	
保持 CFL Maintain CFL	
评估航空器通过人工操纵保持高度的能力。 Evaluate the aircraft's capability to maintain altitude through manual control.	
随后 Subsequently	
目视或参照 ACAS（如果装备有）观察冲突活动 Watch for conflicting traffic both visually and by reference to ACAS, if equipped.	
如果认为必要，用以下方式警告附近航空器: 1）充分使用外部灯光; 2）在 121.5 MHz 上（作为备份手段，可使用飞行员之间的空对空 VHF 频率 123.45），广播位置、飞行高度层和意图。 If considered necessary, alert nearby aircraft by 1) making maximum use of exterior lights; 2) Broadcasting position, FL, and intentions on 121.5MHz (as a back-up, the VHF inter-pilot air-to-air frequency, 123.45MHz, may be used.)	
将失效情况和打算采取的行动告知 ATC。可能采取的行动包括: Notify ATC of the failure and intended course of action. Possible courses of action include:	
1）如果航空器能保持高度，保持 CFL 和航线 1) Maintaining the CFL and route, provided that the aircraft can maintain level.	1）如果飞行员打算继续在 RVSM 空域中飞行，评估交通情况并确定可否为该航空器配备侧向、纵向或常规的垂直间隔；如果可以，应用恰当的标准。 1) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation, and if so, apply the appropriate minimum.

2）如果航空器无法保持 CFL 并且 ATC 无法建立侧向、纵向或常规垂直间隔，申请上升到 RVSM 空域之上或下降到它之下的 ATC 许可。 2) Requesting ATC clearance to climb above or descend below RVSM airspace if the aircraft cannot maintain CFL and ATC cannot establish lateral, longitudinal or conventional vertical separation.	2）如果飞行员申请脱离 RVSM 空域，如果可能，迅速安排。 2) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
3）如果无法获得 ATC 许可并且航空器无法保持 CFL，执行 5 和 6 中所述的应急机动飞行，偏出指定航迹和飞行高度层。 3) Executing the contingency maneuver shown in paragraphs 5 and 6 to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	3）如果无法保持足够的间隔并且不可能允许飞行员脱离 RVSM 空域的申请，告知附近其它航空器并继续监视情况。 3) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	4）将情况告知邻近的 ATC 单位/扇区 4) Notify adjoining ATC facilities/ sectors of the situation.

情形 2: 主用高度测量系统的失去冗余 *Scenario 2: Loss of redundancy in primary altimetry systems

飞行员应当: The Pilot should	可期待 ATC: ATC can be expected to
如果剩余高度测量系统工作正常，将该系统与自动高度控制系统耦合，告知 ATC 失去冗余并注意高度的保持。 If the remaining altimetry system is functioning normally, couple that system to the automatic altitude control system, notify ATC of the loss of redundancy and maintain vigilance of altitude keeping.	表示收到情况的报告并继续监视进展情况。 Acknowledge the situation and continue to monitor progress

情形 3: 所有的主用高度测量系统都被认为是不可靠的或失效的 Scenario 3: All primary altimetry systems are considered unreliable or fail

飞行员应当: The Pilot should	可期待 ATC: ATC can be expected to
参照备用高度表（如果航空器装备有）保持 CFL Maintain CFL by reference to the standby altimeter (if the aircraft is so equipped).	
如果认为必要，用以下方式警告附近航空器: 1) 充分使用外部灯光; 2）在 121.5 MHz 上（作为备份手段，可使用飞行员之间的空对空 VHF 频率 123.45），广播位置、飞行高度层和意图。	

Alert nearby aircraft by 1) making maximum use of exterior lights; 2) Broadcasting position, FL, and intentions on 121.5 MHz (as a back up, the VHF inter-pilot air-to-air frequency, 123.45MHz, may be used).	
考虑宣布紧急情况，将失效情况和打算采取的行动告知 ATC。可能采取的行动包括: Consider declaring an emergency. Notify ATC of the failure and intended course of action. Possible courses of action include:	获取飞行员的意图；发送重要交通情报。 Obtain pilot's intentions, and pass essential traffic information.
1）如果 ATC 能够提供侧向、纵向或常规的垂直间隔，保持 CFL 和航线 1) Maintaining CFL and route provided that ATC can provide lateral, longitudinal or conventional vertical separation.	1）如果飞行员打算继续在 RVSM 空域中飞行，评估交通情况并确定可否为该航空器配备侧向、纵向或常规的垂直间隔；如果可以，应用恰当的标准。 1) If the pilot intends to continue in RVSM airspace, assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation, and if so, apply the appropriate minimum.
2）如果 ATC 无法建立与其它航空器足够的间隔，申请上升到 RVSM 空域之上或下降到它之下的 ATC 许可。 2) Requesting ATC clearance to climb above or descend below RVSM airspace if ATC cannot establish adequate separation from other aircraft.	2）如果飞行员申请脱离 RVSM 空域，如果可能，迅速安排。 2) If the pilot requests clearance to exit RVSM airspace, accommodate expeditiously, if possible.
3）如果无法获得 ATC 许可，执行 5 和 6 中所述的应急机动飞行，偏出指定航迹和飞行高度层。 3) Executing the contingency maneuver shown in paragraphs 5 and 6 to offset from the assigned track and FL, if ATC clearance cannot be obtained.	3）如果无法保持足够的间隔并且不可能允许飞行员脱离 RVSM 空域的申请，告知飞行员重要交通情报，通知附近其它航空器并继续监视情况。 3) If adequate separation cannot be established and it is not possible to comply with the pilot's request for clearance to exit RVSM airspace, advise the pilot of essential traffic information, notify other aircraft in the vicinity and continue to monitor the situation.
	4）将情况告知邻近的 ATC 单位扇区 4) Notify adjoining ATC facilities/sectors of the situation.

情形 4: 主用高度测量系统之间相差 200 英尺(60 米)以上

Scenario 4: The primary altimeters diverge by more than 200ft (60m)

飞行员应当: The Pilot should
使用确立的故障排除程序并且/或者比较主用高度表与备用高度表（如果必要，按修正卡进行修正）的偏差设法断定故障系统。 Attempt to determine the defective system through established trouble-shooting procedures and/or comparing the primary altimeter displace to the standby altimeter (as corrected by the correction cards, if required).

如果可以断定故障系统，将工作正常的高度表系统与高度保持装置耦合。 If the defective system can be determined, couple the functioning altimeter system to the altitude-keeping device.
如果无法断定故障系统，遵循情形 3 种的所有主用高度表的高度指示失效或不可靠的指导。 If the defective system cannot be determined, follow the guidance in Scenario 3 for failure or unreliable altimeter indications of all primary altimeters.

情形 5: 飞行员确信会影响航空器保持飞行高度层的颠簸情况（中度以上）

*Scenario 5: Turbulence (greater than moderate) which the pilot believes will impact the aircraft's capability to maintain flight level.

飞行员应当: The Pilot should	可期待 ATC: ATC can be expected to
目视或参照 ACAS （如果装备有）观察冲突活动 Watch for conflicting traffic both visually and by reference to ACAS, if equipped.	
如果认为必要，用以下方式警告附近航空器: 1) 充分使用外部灯光; 2）在 121.5 MHz 上（作为备份手段，可使用飞行员之间的空对空 VHF 频率 123.45），广播位置、飞行高度层和意图。 If considered necessary, alert nearby aircraft by: 1) making maximum use of exterior lights; 2) Broadcasting position, FL, and intentions on 121.5 MHz (as a back up, the VHF inter-pilot air-to-air frequency, 123.45MHz, may be used).	
将打算采取的行动尽快告知 ATC。可能采取的行动包括: Notify ATC of intended course of action as soon as possible. Possible courses of action include:	
1）如果 ATC 能够提供侧向、纵向或常规的垂直间隔，保持 CFL 和航线 1) Maintaining CFL and route provided ATC can provide lateral, longitudinal or conventional vertical separation.	1）评估交通情况并确定可否为该航空器配备侧向、纵向或常规的垂直间隔；如果可以，应用恰当的标准。 1) Assess traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal, or conventional vertical separation, and if so, apply the appropriate minimum.
2）如有必要，申请改变飞行高度层 2) Requesting flight level change, if necessary.	2）如果不能提供足够的间隔，告知飞行员重要交通情报并询问飞行员的意图。 2) If unable to provide adequate separation, advise the pilot of essential traffic information and request pilot's intentions.
3）如果无法获得 ATC 许可并且航空器无法保持 CFL，执行 5 和 6 中所述的应急机动飞行，偏出指定航迹和飞行高度层。	3）告知附近其它航空器并监视情况。

3) Executing the contingency maneuver shown in paragraphs 5 and 6 to offset from the assigned track and FL, if ATC clearance cannot be obtained and the aircraft cannot maintain CFL.	3) Notify other aircraft in the vicinity and monitor the situation
	4）将情况告知邻近的 ATC 单位/扇区 4) Notify adjoining ATC facilities/sectors of the situation.

附件 B **ATTACHMENT B**

有关 RVSM 运行的术语 **Phraseology Related to RVSM Operations**

管制员—飞行员术语: Controller-pilot phraseology:

语义 Message	术语 Phraseology
用于管制员确认航空器的 RVSM 准许状况: For a controller to ascertain the RVSM approval status of an aircraft:	(呼号 call sign) COMFIRM RVSM APPROVED
用于飞行员报告非 RVSM 准许状况: i) 在 RVSM 空域的频率上首次呼叫（管制员将复诵相同的短语），及 ii) 在申请所有有关 RVSM 空域的飞行高度层的飞行高度层改变时；及 iii) 在复诵所有有关 RVSM 空域的飞行高度层的飞行高度层许可时。 此外，除国家航空器外，飞行员在复诵涉及垂直穿越 FL 290 或 FL 410 的飞行高度层许可时应当包括该短语。 见下面的例子。 For a pilot to report non-RVSM approval status: i) on the initial call on any frequency within the RVSM airspace (controllers shall provide a readback with this same phrase), and ii) in all requests for flight level changes pertaining to flight levels within the RVSM airspace; and iii) In all read-backs to flight level clearances pertaining to flight levels within the RVSM airspace. Additionally, except for State aircraft, pilots shall include this phrase to read back flight level clearances involving the vertical transit through FL 290 or FL 410. See examples that follow.	NEGATIVE RVSM*
用于飞行员报告 RVSM 准许状况。 For a pilot to report RVSM approval status.	AFFIRM RVSM*
用于非 RVSM 准许的国家航空器的飞行员在回答短语“(呼号)CONFIRM RVSM APPROVED”时，报告非 RVSM 准许状况。 For a pilot of a non-RVSM approved State aircraft to report non-RVSM approval status, in response to the phrase (call sign) CONFIRM RVSM APPROVED.	NEGATIVE RVSM STATE AIRCRAFT*
用于拒绝进入 RVSM 空域 Denial of clearance into the RVSM airspace:	（呼号 call sign)UNABLE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN [or DESCEND TO, or CLIMB TO] FLIGHT LEVEL （数字 number)

用于飞行员报告严重颠簸影响航空器保持 RVSM 的高度保持要求的能力 For a pilot to report when severe turbulence affects the aircraft's capability to maintain the height-keeping requirements for RVSM.	UNABLE RVSM DUE TURBULENCE*
用于飞行员报告航空器的设备等级已经降低到 RVSM 空域内飞行所要求的 MASPS 以下。 (该短语用来表示不符和 MASPS，既用于起始时，也用于在问题消除之前或航空器脱离 RVSM 空域之前，在 RVSM 空域的侧向界限之内的所用频率上的首次联络时。) For a pilot to report that the aircraft's equipment has degraded enroute below that required for flight within the RVSM airspace. (See Attachment A) (This phrase is to be used to convey both the initial indication of the non-MASPS compliance, and henceforth, on initial contact on all frequencies within the lateral limits of the RVSM airspace until such time as the problem ceases to exist, or the aircraft has exited the RVSM airspace.)	UNABLE RVSM DUE EQUIPMENT*
用于在设备或与天气有关的应急情况之后，飞行员报告可恢复在 RVSM 空域飞行的能力。 For a pilot to report the ability to resume operations within the RVSM airspace after an equipment or weather-related contingency.	READY TO RESUME RVSM
用于管制员确认航空器已经再次取得 RVSM 准许的状况，或确认飞行员已经准备好恢复 RVSM 飞行。 For a controller to confirm that an aircraft has regained its RVSM approval status or to confirm that the pilot is ready to resume RVSM operations.	REPORT ABLE TO RESUME RVSM

例 1: 非 RVSM 准许的国家航空器，现在保持 FL 260，随后申请上升到 FL 320。

Example 1: A non-RVSM approved aircraft, maintaining FL 260, subsequently requests a climb to FL 320.

Pilot: (call sign) REQUEST FL 320, NEGATIVE RVSM

Controller: (call sign) CLIMB TO FL 320

Pilot: (call sign) CLIMB TO FL 320, NEGATIVE RVSM

例 2: 非 RVSM 准许的国家航空器，现在保持 FL 260，随后申请上升到 FL 430。

Example 2: A non-RVSM approved aircraft, maintaining FL 260, subsequently requests a climb to FL 430.

Pilot: (call sign) REQUEST FL 430, NEGATIVE RVSM

Controller: (call sign) CLIMB TO FL 430

Pilot: (call sign) CLIMB TO FL 430, NEGATIVE RVSM

例 3: 非 RVSM 准许的国家航空器，现在保持 FL 360，随后申请上升到 FL 380。

Example 3: A non-RVSM approved aircraft, maintaining FL 360, subsequently requests a climb to FL 380.

Pilot: (call sign) REQUEST FL 380, NEGATIVE RVSM

Controller: (call sign) CLIMB TO FL 380

Pilot: (call sign) CLIMB TO FL 380, NEGATIVE RVSM

例 4: 非 RVSM 准许的民用航空器，现在保持 FL 280，随后申请上升到 FL 320。

Example 4: A non-RVSM approved civil aircraft maintaining FL 280, subsequently requests a climb to FL 320.

Pilot: (call sign) REQUEST FL 320, NEGATIVE RVSM

Controller: (call sign) UNABLE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN FL 280

ATS 部门之间的协调 **Coordination between ATS units:**

段落 Para	语义 Message	术语 Phraseology
1	口头补充未能自动传输的第 18 项飞行计划信息的自动化预计电报交换 To verbally supplement an automated estimate message exchange which does not automatically transfer Item 18 flight plan information.	NEGATIVE RVSM or NEGAVIVE RVSM STATE AIRCRAFT [根据可应用性 as applicable]
2	口头补充非 RVSM 准许航空器的预计电报 To verbally supplement estimate messages of non-RVSM approved aircraft.	NEGATIVE RVSM or NEGAVIVE RVSM STATE AIRCRAFT [根据可应用性 as applicable]
3	交流有关航空器由于严重颠簸或严重的天气现象[设备失效，根据可应用性]造成的不能进行 RVSM 飞行的原因 To communicate the cause of a contingency relating to an aircraft that is unable to conduct RVSM operations due to severe turbulence or other severe weather-related phenomenon [or equipment failure, as applicable].	UNABLE RVSM DUE TURBULENCE [or EQUIPMENT，根据可应用性 as applicable]

三亚飞行情报区海洋空域实施策略横向偏移程序
Implementation of Strategic Lateral Offset Procedures in the Oceanic Airspace of Sanya FIR

在洋区空域的策略横向偏移程序

1. 横向偏移仅适用于三亚飞行情报区洋区空域内的 A1、L642、M771 和 N892 航路。

2. 横向偏移仅适用于具有自动偏移跟踪能力的航空器。

3. 以下要求适用于使用横向偏移:

a.飞行机组负责决定是否使用策略横向偏移;

b.横向偏移只能在飞行方向中心线右侧 1 海里或者 2 海里的距离上实施;

c.设计策略横向偏移程序的目的是利用偏移来缓解前面航空器的尾流效应。如果需要避免尾流效应，则应当使用 3 种可用的方法之一（中心线、右侧偏移 1 海里或者 2 海里）;

d.在已经批准使用该程序的空域内，航空器驾驶员无须将正在使用偏移的情况通知空中交通管制单位。

e.航空器在允许偏移航迹的空域内，经过雷达覆盖的区域时，可以启动或继续偏移。

Strategic lateral offsets in oceanic airspace

1. Offsets are only applied on routes A1, L642, M771 and N892 in the oceanic airspace of Sanya FIR.

2. Offsets are applied only by aircraft with automatic offset tracking capability.

3. The following requirements apply to the use of the offset:

a. The decision to apply a strategic lateral offset is the responsibility of the flight crew.

b. The offset shall be established at a distance of one or two nautical miles to the right of the centre line relative to the direction of flight.

c. The strategic lateral offset procedure has been designed to include offsets to mitigate the effects of wake turbulence of preceding aircraft. If wake turbulence needs to be avoided, one of the three available options (centerline, 1NM or 2NM right offset) shall be used.

d. In airspace where the use of lateral offsets has been authorized, pilots are not required to inform air traffic control that an offset is being applied.

e. Aircraft transiting areas of radar coverage in airspace where offset tracking is permitted may initiate or continue an offset.

PAGE RESERVED

L888, Y1, Y2, Y3

1. 简介

1.1 本规定仅适用于使用数据链技术并按如下程序为航空器提供空中交通服务的管制空域。

2. 背景

2.1 数据链服务可以在现有视距雷达监视和 VHF/HF 话音通信无法实现情况下，为航空器提供监视和管制员-航空器驾驶员通信服务。

2.2 在启用空中交通服务数据链之前，地面系统（管制员）将使用 VHF 或卫星话音与航空器（驾驶员）交换信息。

2.3 航空器驾驶员和管制员的数据链直接通信是通过 CPDLC 功能实现的。

2.4 CPDLC 支持以下功能:

a. 管制员发布管制许可和指令;
b. 航空器驾驶员进行报告和申请管制许可;
c. 使用自由格式报文作为标准报告和管制许可申请的补充;
d. 数据链责任的转换（管制移交）。

2.5 空中交通服务中的数据链监视功能是通过自动相关监视（ADS）实现的。

2.6 自动相关监视支持以下功能:

a. 航空器自动报告位置及有关信息;
b. 航路/高度一致性监视;
c. 紧急情况告警;
d. 可用于减小飞行间隔。

2.7 机载飞行管理系统(FMS)将按照管制员设置的参数报告相应的信息。

1. Introduction

1.1 These rules describe the airspace within which data-link-based ATS will be available, and prescribe procedures for data-link service.

2. Background

2.1 Data-link services provide surveillance and Direct Controller-Pilot Communications (DCPC) capabilities beyond the range of existing line of sight radar and VHF/HF voice facilities.

2.2 Initial ATS Data-link applications will utilize VHF or satellite to transfer information between airborne and ground based systems, and between controller and pilot.

2.3 DCPC via data-link is supported by the data-link application of Controller-Pilot Data-link Communications (CPDLC).

2.4 CPDLC supports the following services:

a. controller initiated clearances and instructions;
b. pilot reports and clearance requests;
c. free text to supplement standard reports and clearance requests;
d. Transfer of data-link responsibility (transfer of control).

2.5 ATS surveillance via data-link is supported by the data-link application of Automatic Dependent Surveillance (ADS).

2.6 ADS supports the following services:

a. automatic reporting of aircraft position and relevant information;
b. route/altitude conformance monitoring;
c. emergency alerting;
d. application of reduced separation criteria

2.7 Flight Management System (FMS) reports the required information in accordance with parameters (contracts) preset by ATC controller.

3. 运行区域/航路

3.1 在昆明、成都、兰州和乌鲁木齐情报区指定区域内将为具有卫星数据链能力的航空器提供 CPDLC 和自动相关监视(ADS)服务（见航路图）。

3.2 数据链航路 Y1，Y2，L888 宽度为 56 千米，Y3 宽度为 33.4 千米，管制单位将在 Y1，Y2，Y3 航路，L888 航路的 BIDRU 至库车(VOR)段提供数据链空中交通服务，航路点如下(请看航路图):
L888: BIDRU MAKUL DONEN NIVUX LEVBA PEXUN SANLI LUVAR MUMAN TEMOL LEBAK TONAX NOLEP SADAN KCA (VOR).
Y1: OMBON MEPEP LUSMA DUMIN SADAN
Y2: LUVAR MEPEP
Y3: DUMIN TUSLI RUSDI IPMUN FKG(VOR)

3.3 准备在数据链航路飞行的数据链航空器必须满足 RNP4 或更高的导航精度。

3.4 在以上指定区域飞行的数据链航空器，在正常情况下应使用 CPDLC 通信替代 VHF 和 HF 话音通信作为与空中交通管制的首选通信手段。

3.5 当开始使用 CPDLC 通信时，空中交通管制单位应通知航空器备用的 HF 或 VHF 话音通信频率。(见 ENR 2)

4. 间隔和飞行高度层

4.1 在数据链服务空域内，同航路同高度飞行的数据链航空器最小纵向间隔为 10 分钟。

4.2 在数据链服务空域内，航路最小垂直间隔为 300 米。

3. Area/route of operation

3.1 CPDLC and ADS services will initially be provided to satellite data-link capable aircraft within designated airspace in Kunming, Chengdu, Lanzhou and Urumqi Flight Information Regions (FIRS). See En-route Chart.

3.2 The width of the data-link route Y1, Y2, L888 is 56km, width of Y3 is 33.4km, Air Traffic services with data-link will be available on route Y1, Y2 and the segment of BIDRU to KCA VOR of L888, the way-points are: (See En-route Chart)
L888: BIDRU MAKUL DONEN NIVUX LEVBA PEXUN SANLI LUVAR MUMAN TEMOL LEBAK TONAX NOLEP SADAN KCA (VOR)
Y1: OMBON MEPEP LUSMA DUMIN SADAN
Y2: LUVAR MEPEP
Y3: DUMIN TUSLI RUSDI IPMUN FKG(VOR)

3.3 The data-link aircraft of which planning to operate the data-link route shall be satisfied the navigation requirements of RNP 4 or higher.

3.4 For data-link aircraft operating within this airspace, CPDLC will be used as the primary means of voice communication with ATC in normal conditions instead of VHF and HF voice communication.

3.5 When CPDLC is being used, a backup HF or VHF voice frequency will be notified to the pilot by relevant ATC facility. See ENR 2 for back-up voice communications

4. Separations and flight level

4.1 The minimum longitudinal separation between two data-link aircraft flying on same flight level in data-link service space is 10 minutes.

4.2 The minimum vertical separation in data-link service space is 300 meters.

4.3 飞行高度层

L888，Y1，Y2：9 200 米或以上。

Y3 无高度限制（最低飞行高度以上）。

4.3 Available flight levels are:

L888, Y1, Y2: 9 200m or above.

Y3 no flight levels limits (above MFA).

5. 登录程序

5. LOG ON procedures

5.1 在建立 CPDLC 连接之前，航空器必须先登录到地面系统。

5.1 Before CPDLC connection is established, the aircraft must LOG ON to the ground system.

5.2 航空固定服务登录的地址

5.2 The AFS LOG ON addresses are as follows:

ATS Units	ICAO Facility Designators
Kunming	ZPPP
Chengdu	ZUUU
Lanzhou	ZLLL
Urumqi	ZWWW

5.3 航空器驾驶员用以登录地面系统的识别标志必须与飞行计划相关项填写的飞机识别标志一致。

5.3 The flight identification used by the pilot in the LOG ON process must be identical to that contained in the ATC flight plan.

5.4 航空器从一个不提供数据链服务的区域飞入提供数据链服务的区域，航空器驾驶员必须在预计进入其区域前 15 分钟人工登录到该地面系统。

5.4 Data-link aircraft entering designated data-link airspace from airspace within which data-link services are not being provided are required to manually LOG ON to the appropriate ATS unit before entering the data-link designated airspace. Pilots shall initiate the AFS LOG ON 15 minutes prior to the pilot estimated time of entering the airspace.

5.5 数据链航空器在将要离开数据链服务区域前应登录到相应的空中交通服务单位。

5.5 Data-link aircraft that will depart from an aerodrome within the area designated for data-link services shall LOG ON with the appropriate ATS unit preflight.

5.6 除非地面管制单位要求，数据链航空器在从一个数据链区域飞入另一个数据链区域时，一般不需要人工登录到下一个地面系统。向下一个地面系统进行登录的工作由正在为航空器提供服务的管制单位在航空器进入下一个区域前完成，而不需要飞行机组的干预。

5.6 Unless specifically advised, a data-link equipped aircraft entering designated data-link airspace from adjacent airspace where data-link services are being provided are not required to manually LOG ON to the succeeding ground system. This process is initiated by the controlling ATS unit, without the need for flight crew involvement, before the aircraft enters the next airspace.

6. CPDLC 连通

6.1 登录是航空器将自己的识别标志和通信地址信息通知地面系统的过程。一但登录成功，地面系统将建立与航空器的 CPDLC 连通。

6. CPDLC connection

6.1 The LOG ON process provides the aircraft identification and address information to the ground system. Once LOG ON is complete the ground system will establish its CPDLC connection.

7. 话音通信与 CPDLC 通信的转换

7.1 将在 Y1，Y2，Y3 航路，L888 航路 BIDRU 至库车 VOR 段为航空器提供 CPDLC 通信服务。空中交通管制单位将使用话音通知航空器转到 CPDLC 联系，术语如下:

Transfer to (ATS UNIT) control on data-link. Monitor (HF frequency)。

7. Transfer of voice communications to CPDLC

7.1 CPDLC service will be provided on route Y1, Y2, Y3 and the segment of BIDRU to KCA VOR of L888. ATC will instruct the pilot to transfer the communication from voice to CPDLC using the following phraseology:

Transfer to (ATS UNIT) control on data-link. Monitor (HF frequency).

7.2 一但 CPDLC 连通建立，航空器驾驶员应下发一个 CPDLC 位置报告。

7.2 Once CPDLC communication starts Pilot shall downlink a CPDLC position report.

8. CPDLC 程序

8.1 管制员-航空器驾驶员间的对话，如果是由话音开始的，必须用话音结束。

8. CPDLC specific procedures

8.1 Controller-Pilot dialogues opened by voice must be closed by voice.

8.2 管制员-航空器驾驶员间的对话，如果是由 CPDLC 开始的，必须用 CPDLC 结束。

8.2 Controller-Pilot dialogues opened by CPDLC must be closed by CPDLC.

8.3 航空器驾驶员不必按话音通信的规定，在每收到一个 CPDLC 许可时都进行复诵。

例如: 接收到爬升至 10 700 米的许可时并不需要复诵 10 700 米,这是因为每一个 CPDLC 报文中都包含有完整性发送检查信息（任何一个需要处理的报文，系统都将为其编码）。

8.3 A clearance issued by CPDLC dose not requires a read-back as would be the case if the clearance had been issued by voice.

For example, a CPDLC clearance CLIMB TO 10 700m does not require a read-back of the10 700m. This is because each CPDLC message contains information to support an integrity check of transmitted information (as well as a coded reference to any preceding related message).

8.4 下行回复“WILCO”表示航空器驾驶员收到了所有上行信息，包括“管制许可或指令”。

8.4 A downlink response of WILCO indicates that the pilot accepts the full terms of the whole up-link message, including any CLEARANCE or INSTRUCTION.

8.5 航空器驾驶员不能使用“AFFIRM”作为 CPDLC“管制许可”的回复。

8.5 A downlink response of AFFIRM is not acceptable as a pilot's acknowledgement, or reply, to a CLEARANCE issued by CPDLC.

8.6 为了避免可能发生的混淆，每一个下行 CPDLC 中只能包含一个请求。

8.6 To avoid potential ambiguity in message handling and response, each CPDLC downlink shall only contain a single message request.

8.7 由话音转为 CPDLC 通信后，航空器驾驶员必须继续按航路点报告位置。只有当收到管制员“position reports not required”信息后才可以终止位置点报告。

8.7 After transferring from voice communication to CPDLC, pilots must continue to report at waypoints associated with the FIR boundary. If further reports within the FIR are not required, ATC will advise “position reports not required”.

8.8 尽可能使用固定格式报文。自由格式报文只能用于固定格式报文的补充，或当没有合适的固定格式报文可用时。

8.8 Pre-defined message format shall be used whenever possible. Free text messages shall only be used when appropriate pre-defined messages do not exist, or as a supplement to pre-defined messages.

8.9 如果管制员发送的报文中只包含自由格式内容，或其他内容不需要航空器驾驶员回复时，航空器驾驶员可以发送“ROGER”报文，然后再发送另一份报文，回答管制员。只有这样，管制员界面的自由格式文本才能够关闭。

8.9 When a controller sends a message containing only free text, or a free text element with other elements of which do not require a response, the pilot can only respond with a ROGER response. The pilot shall send the ROGER response before responding to the actual content of the message. If this procedure is not followed, the free text up-link message will not be closed.

8.10 航空器驾驶员下发的固定格式的位置报告是不需要管制员回答的。但是，如果管制员没有收到预期的位置报告，航空器驾驶员将会收到管制员的上行信息“request position report”。

8.10 No response from ATC is required for a pre-formatted position report. If a scheduled report is not received when expected, pilot may receive the up-link message “request position report”.

8.11 在使用 CPDLC(NDA)进行通信移交时，如果移交方通信历史记录中存在没有关闭的上行信息，将会导致要求航空器向新的管制单位登录失败。

8.11 Any open up-link messages at the time of connection transfer will cause the Next Data Authority (NDA) connection to fail requiring a new AFS LOG ON to the new ATS unit.

9. 管制单位间的 CPDLC 移交

9. Transfer of CPDLC between ATS centers

9.1 使用 CPDLC 与相邻管制单位进行移交时，移交方将首先进行操作，完成航空器向下一个管制单位登陆，除非另外通知，航空器不需要人工登录到下一个管制单位。

9.1 The controlling ATS unit providing data-link services will initiate the transfer of CPDLC to the next adjacent data-link facility, unless otherwise advised, an AFS LOG ON to the adjacent center is not required.

10. ADS 联系

10.1 航空器登陆地面系统后，地面系统将建立与航空器的 ADS 联系。

10.2 机载 FMS 和地面系统将建立 ADS 协议。协议包括：固定时间间隔或要求位置报告、航路点报告、水平和垂直偏移报告和垂直速率变化报告。

11. ADS 程序

11.1 在进入有关区域之前，航空器驾驶员应确认 ADS 可用。

11.2 如果航空器在航向选择模式下偏离航路或平行航路飞行，航空器的预计航迹仍将是 FMC 中的计划航迹，为避免管制员看到错误的推测航迹，航空器驾驶员应按照实际的预飞航路修改 FMC 飞行计划航路。

11.3 管制员收到 ADS 紧急状况提示后，将向航空器发出固定格式的上行报文“ROGER”。 此上行报文不需要航空器驾驶员回复。

12. 飞行申请

12.1 拟使用中国数据链航路的航空公司开飞之前应向中国民用航空局空中交通管理局递交飞行申请，申请应包括:

a. 城市对;
b. 航班时刻;
c. 开飞时间;
d. 使用机型;
e. 机队卫星电话号码表;
f. 航路紧急脱离程序。（使用 Y1，Y2，Y3 不包括此项内容）

12.2 管制单位只有在收到有关航空器具有数据链能力信息后才能为该航空器提供数据链服务。

10. ADS connection

10.1 Following AFS LOG ON, an ADS connection is established by the ground system.

10.2 ADS contracts are established between airborne FMS and the ground system. Contracts include periodic or demand (current) position reporting, waypoint reports, lateral and vertical deviation, and vertical rate change.

11. ADS specific procedures

11.1 Prior to entering the designated airspace, pilots shall verify ADS is available for operation.

11.2 If an aircraft is flying an offset route or diverting while operating in heading selects mode, the intent of the aircraft will still be projected along the FMC flight plan route regardless of the actual route flown. To avoid misinformation being displayed to the controller, the FMC flight plan route should be amended to the actual route being flown.

11.3 In the event that an ADS emergency indication is received, the controller will acknowledge by sending a CPDLC preformatted up-link message ROGER. This message does not require pilot to respond to close the CPDLC dialogue.

12. Flight application

12.1 A formal application shall be submitted to Air Traffic Management Bureau of the Civil Aviation Administration of China before air carriers operate data-link route, the application shall include:

a. City pairs;
b. Schedules;
c. Starting time;
d. Type of aircraft used;
e. Satellite telephone numbers for the fleet;
f. Procedure of emergent escape. (Y1, Y2, Y3 exceptive)

12.2 Flight plan notification of data-link capability is required before data-link services can be provided.

12.3 具备空中交通服务数据链装备的航空器必须按如下要求填写飞行计划申报表:

a. 建议使用的数据链方式应包括在第 10 项中(通讯与导航),简写为"J";

b.建议使用的数据链媒介应包括在第 18 项中，在 DAT/后用一个或几个字母记录:

(1) DAT/S 为卫星数据链,
(2) DAT/H 为 HF 数据链,
(3) DAT/V 为 VHF 数据链,
(4) DAT/M 为 SSR 模式数据链,
(5) DAT/SAT 为卫星电话。

12.3 Aircraft equipped with serviceable ATS data-link equipment shall fill in ICAO flight plan forms as follows:

a. Advice of data-link capability shall be included in Field 10 (Communication and Navigation) by using an abbreviation "J".

b. Advice of available data-link media shall be included in field 18 by use of the prefix DAT/followed by one or more letters, as follows:

(1) DAT/S for satellited data-link,
(2) DAT/H for HF data-link,
(3) DAT/V for VHF data-link,
(4) DAT/M for SSR mode data-link,
(5) DAT/SAT for satellite phone.

12.4 航空器装备有可用的 ADS 设备，应在 SSR 数据栏中填写字母 “D”。

12.4 Serviceable ADS equipment carried will be annotated by adding the letter D to the SSR equipment carried.

12.5 要求航空器承运人提供使用 L888，Y1，Y2，Y3 航路的航空器的卫星电话号码。

12.5 Air Carriers are required to provide a list of satellite telephone numbers with each aircraft which flying along route L888, Y1, Y2, Y3.

13. 数据链失效

13. Data-link failure

13.1 航空器驾驶员识别到 CPDLC 连通失败后，必须毫不迟疑地使用备用话音通信频率。一旦建立了备用话音通信方式，应在此方式下继续保持联系，直至重新与数据链空中交通服务单位建立 CPDLC 连通。

13.1 Pilots detecting a CPDLC connection failure shall, without delay, establish communications on the backup voice frequency. Once voice contact is established on the backup frequency, communications must continue via voice until a CPDLC service is re-established by the appropriate ATS data-link facility.

13.2 ADS 系统失效情况下，航空器驾驶员应恢复航路点位置报告直至重新与地面建立 ADS 服务。

13.2 In the event of ADS system failure, pilots will be required to resume full ATC waypoint position reporting until ADS services are re-established.

14. 应急程序

14. Emergency procedures

14.1 发生紧急情况时，航空器驾驶员应将 ARCAS 设备调至 ADS EMERGENCY MODE，并尽早利用最有效的方法与管制单位恢复话音通信。

14.1 In the case of emergency, pilot shall operate the ARCAS with an ADS EMERGENCY MODE to notify the ground facility for the emergency, resume voice communication with ATC authority by the most efficient method (VHF/satellite phone) at early time.

14.2 L888 的备降机场是： 昆明机场、成都机场、乌鲁木齐机场和喀什机场。

14.2 The available alternate airports for route L888 is: Kunming airport, Chengdu airport, Urumqi airport and Kashi airport.

14.3 航空器遇到紧急情况需要撤离或备降时，航空器驾驶员应按照航路图中的路线撤离 L888。

BIDRU--直飞昆明机场;

MAKUL--直飞昆明机场;

NIVUX-- 飞往 XIC(VOR)、SB(NDB)、XFA(VOR)至昆明机场;

LEVBA-- 飞往 XIC(VOR)、SB(NDB)、XFA(VOR)至昆明机场;

PEXUN--飞往 JTG(VOR)至成都机场;

SANLI--飞往 JTG(VOR)至成都机场;

LUVAR-- 飞往 MEPEP、LUSMA、DUMIN、TUSLI、HMI(VOR)、GREEN2、LIGHT 至乌鲁木齐;

MUMAN-- 飞往 LUSMA、DUMIN、TUSLI、HMI(VOR)、GREEN2、LIGHT、FKG(VOR)至乌鲁木齐机场;

LEBAK--飞往 LUSMA/DUMIN、TUSLI、HMI (VOR)、GREEN2、LIGHT、FKG (VOR)至乌鲁木齐机场;

TONAX-- 飞往 DUMIN、TUSLI、HMI (VOR)、GREEN2、LIGHT、FKG (VOR)至乌鲁木齐机场;

SADAN--飞往 SCH(VOR)至喀什机场。

14.3 Pilot shall fly via regulated way points to break away from route L888 when alternating or diverting is decided in an emergent condition. The breaking points are:

BIDRU--direct to Kunming airport;

MAKUL--direct to Kunming airport;

NIVUX--direct to XIC(VOR), SB(NDB), XFA(VOR), Kunming airport;

LEVBA--direct to XIC(VOR), SB(NDB), XFA(VOR), Kunming airport;

PEXUN--direct to JTG(VOR), Chengdu airport;

SANLI--direct to JTG(VOR), Chengdu airport;

LUVAR--direct to MEPEP, LUSMA, DUMIN, TUSLI, HMI(VOR), GREEN2, LIGHT, Urumqi;

MUMAN--direct to LUSMA, DUMIN, TUSLI, HMI(VOR), GREEN2, LIGHT, FKG (VOR), Urumqi;

LEBAK--direct to LUSMA/DUMIN, TUSLI, HMI (VOR), GREEN2, LIGHT, FKG (VOR), Urumqi airport;

TONAX--direct to DUMIN, TUSLI, HMI (VOR), GREEN2, LIGHT, FKG (VOR), Urumqi airport;

SADAN--direct to SCH (VOR) Kashi airport.

14.4 航空器驾驶员将对座舱释压紧急下降时的下降高度和机动飞行的航迹负责。

14.4 Pilot will be responsible for the descending levels and maneuvering track when emergency descent is executed in the condition of air cabin depressurizing.

14.5 当航空器退出 L888，Y1，Y2，Y3 航路时,航空器驾驶员应恢复使用 HF，卫星电话或 VHF 话音通信与地面联系，但一般情况下，管制单位会首先使用话音与航空器驾驶员联系。

海事卫星电话：昆明区域管制室-441204

成都区域管制室-441202

兰州区域管制室-441205

乌鲁木齐区域管制室-441208

注:HF 和 VHF 参看 ENR 2

14.5 In the case of escaping from L888, Y1, Y2, Y3 pilot shall resume voice communication by HF, Satellite Phone or VHF, switch the radio receivers to proper frequencies on which shall be guarded, Air traffic control center may normally initiate a voice contact.

Inmarsat phone: Kunming ACC-441204

Chengdu ACC-441202

Lanzhou ACC-441205

Urumqi ACC-441208

Note: HF and VHF see ENR 2

M503

1 通信导航监视

M503 航线采用 RNAV2 技术标准，全程雷达和 VHF 覆盖，全程提供雷达管制服务。目前阶段仅支持使用全球导航卫星系统（GNSS）进行位置更新。

1 CNS Requirements

M503 is a RNAV2 route entirely within radar coverage and VHF coverage. Radar control service is provided along the route. At present, the position updating of the aircraft operating on this air route is provided by GNSS only.

2 航空器及营运人要求

2.1 在 M503 航线上运行的航空器应当获得基于 GNSS 导航的 RNAV2 适航许可及运行批准。航空器营运人必须确保机载设备、人员资质和运行程序等符合该航线的运行要求。

2 Requirements for aircraft and operators

2.1 Operators shall not file flight plans for operations on M503 unless they have obtained the airworthiness and the operational approval of RNAV2 based on GNSS navigation for the aircraft. Operators shall ensure that the on-board equipment, personnel qualification and operational procedures abide by the operational requirements of the route.

2.2 航空器营运人使用该航线，应当在领航计划报（FPL）第 10 项中填写字母“R”，第 18 项填写补充信息“PBN/C1”或“PBN/C2”，表明航空器机载设备具备 RNAV2（基于 GNSS 导航）运行的能力。

2.2 While conducting flight on M503, operators shall insert letter “R” in Item 10 of the Flight Plan (FPL) and supplementary information of “PBN/C1” or “PBN/C2” in Item 18 to indicate the on-board equipment capability of aircraft for RNAV2 (GNSS required）operation.

3 运行要求

3.1 飞行高度使用

M503 航线使用高度为 8400 米（含）至 12500 米（含）。通常情况下，ATC 仅会批准航空器使用 9200 米（含）以上高度。

3 Operational Requirements

3.1 Flight levels usage

The available flight levels of M503 are between 8400m and 12500m. Normally ATC will only approve the usage of flight levels 9200m or above.

3.2 导航能力

航空器在 M503 航线上运行，需使用 GNSS 导航。如果航空器的导航能力无法继续满足该航线运行要求，驾驶员必须及时告知相关空中交通管制单位。

3.2 Navigation capability

GNSS navigation is required for aircraft operating on M503. If aircraft navigation capability is unable to meet the relevant operational requirements of this route, the pilot shall immediately notify the relevant ATC unit.

3.3 策略性侧向偏置

3.3.1 航空器在 M503 航线 PONEN 至 LELIM 航段向南运行时，实施向西 6 海里的侧向偏置飞行。

3.3 Strategic lateral offset

3.3.1 Aircraft shall establish a lateral offset at a distance of 6 nautical miles to the west side of M503 while operating from PONEN to LELIM.

3.3.2 不具备平行偏置功能的航空器，在加入 M503 航线前，驾驶员应主动告知相关空中交通管制单位。

3.3.2 In case of aircraft without parallel offset function, pilot shall inform the relevant ATC unit of this situation before joining M503.

3.3.3 航空器在该航段运行期间如失去平行偏置功能，驾驶员应及时告知相关空中交通管制单位。

3.3.3 If aircraft loses the parallel offset function while operating on the above mentioned route segment, pilot shall immediately inform relevant ATC unit.

3.4 特殊要求

3.4.1 航空器未经 ATC 许可，不得擅自偏航。

3.4 Special requirements

3.4.1 Aircraft is prohibited to initiate any deviation without ATC clearance.

3.4.2 航空器不得向 M503 航线东侧偏航。如遇紧急情况，处置措施应向 ATC 提出申请，以便相关空中交通管制单位进行管制协调。

3.4.2 Aircraft is not allowed to deviate eastwards beyond M503. In an emergency condition, pliot shall present a request to ATC concerned to make a deviaton, so the relevant ATC unit could conduct operational coordination accordingly.