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中国民用航空局管制规则和程序临时规定
Provisional rules and procedures for ATC issued by CAAC

1. 总则

下述规则仅适用于经中国民用航空局空中交通管理局批准的相关管制单位。基本条件如下:

（a）管制单位装备合格的雷达设备;

（b）塔台管制员能目视观测到航空器活动;

（c）中国民用航空局 CCAR-93-TM-R4 更新后，本规定自行废止。

1. General principle

Rules below shall only be applicable to those ATC facility which are authorized by ATMB of CAAC. The basic conditions are as follows:

(a) The ATC facility is equipped with certificated radar;

(b) The movement of aircraft can be observed by visual contact of the tower controller;

(c) The provisional rules and procedures will be terminated immediately when the CCAR-93-TM-R4 of CAAC is updated to a new version.

2. 基于监视系统的尾流间隔应用

2.1 航空器尾流分类

尾流间隔最低标准根据机型种类而定，本规则中航空器机型种类按航空器最大允许起飞全重分为下列三类:

（a）重型机：最大允许起飞全重等于或大于 136000 千克的航空器;

（b）中型机：最大允许起飞全重大于 7000 千克，小于 136000 千克的航空器;

（c）轻型机：最大允许起飞全重等于或小于 7000 千克的航空器。

2.2 对提供 ATS 监视服务的航空器在飞行的进近和离场阶段必须使用下列以距离为基准的尾流间隔:

2. Wake turbulence separation application on ATS surveillance systems

2.1 Wake turbulence categories of aircraft

Wake turbulence separation minima shall be based on a grouping of aircraft types into three categories according to the maximum certificated take-off mass as follows:

(a) HEAVY (H) — all aircraft types of 136000 kg or more;

(b) MEDIUM (M) — aircraft types less than 136000 kg but more than 7000 kg; and

(c) LIGHT (L) — aircraft types of 7000 kg or less.

2.2 The following distance-based wake turbulence separation minima shall be applied to aircraft being provided with an ATS surveillance service in the approach and departure phases of flight in the circumstances given below：

Preceding aircraft 前机	Succeeding aircraft 后机	Distance-based wake turbulence separation minima 基于距离的尾流间隔
HEAVY 重型	HEAVY 重型	7.4 km (4.0 NM)
	MEDIUM 中型	9.3 km (5.0 NM)
	LIGHT 轻型	11.1 km (6.0 NM)
MEDIUM 中型	LIGHT 轻型	9.3 km (5.0 NM)

2.3 当符合下述条件时，必须应用上述间隔标准:

（a）一航空器在同一或小于 300 米（1000 英尺）高度紧随另一航空器后面飞行；或

（b）两架航空器使用同一跑道，或间隔小于 760 米（2500 英尺）的平行跑道；或

（c）一航空器在同一或小于 300 米（1000 英尺）高度飞行时从后面横越另一航空器。

2.3 The minima set out above shall be applied when:

(a) an aircraft is operating directly behind another aircraft at the same altitude or less than 300 m (1000 ft) below; or

(b) both aircraft are using the same runway, or parallel runways separated by less than 760 m (2500 ft); or

(c) an aircraft is crossing behind another aircraft, at the same altitude or less than 300 m (1000 ft) below.

3. 活动区滑行速度

不再执行《中国民用航空空中交通管理规则》“航空器滑行速度不得超过 50 千米／小时（牵引速度不得超过 10 千米／小时）”的规定，但在障碍物附近滑行，速度不得超过每小时 15 公里。

3. Taxi speed in the movement area

Cancel the speed restriction 50km/h in the movement area in the CCAR-93-TM-R4 , but the taxi speed shall be restricted to 15km/h when taxing closing to the obstacles.

4. 同跑道间隔

4.1 离场航空器间隔

除非需要应用尾流间隔，否则通常在前方的离场航空器已飞越使用跑道终端或已开始转弯之后，或所有在前方的着陆航空器均已离开使用跑道之后，方准许离场航空器开始起飞。

4.2 使用同一跑道的着陆航空器与前方着陆和离场航空器的间隔

4. The same runway separation

4.1 Separation of departing aircraft

Unless the wake turbulence separation application between aircraft is required, normally a departing aircraft will not be permitted to commence take-off until the preceding departing aircraft has crossed the end of the runway-in-use or has started a turn or until all the preceding landing aircraft are cleared off the runway-in-use.

4.2 Separation between the landing aircraft and the preceding landing or departing aircraft using the same runway

除非需要应用尾流间隔，否则通常在前方的离场航空器已飞越使用跑道的终端或已开始转弯或所有在前方的着陆航空器均已离开使用跑道之后，方可准许一架正在着陆的航空器飞越其最后进近阶段跑道入口。

Unless the wake turbulence separation application between aircrafts is required, normally a landing aircraft will not be permitted to cross the runway threshold on its final approach until the preceding departing aircraft has crossed the end of the runway-in-use, or has started a turn, or until all the preceding landing aircraft are cleared off the runway-in-use.

5. 使用同一跑道的航空器间缩小跑道间隔最低标准

5. Reduced runway separation minima between aircraft using the same runway

所有有关施用缩小的跑道最低间隔标准的适用程序，都必须在航行资料汇编以及当地的空中交通管制指令中予以公布。必须向管制员提供关于使用该程序的适当及充分的训练。

All applicable procedures related to the application of the reduced runway separation minima shall be published in the Aeronautical Information Publication as well as contained in the local air traffic control instructions. Controllers shall be provided with appropriate and adequate training for the use of the procedures.

缩小的跑道最低间隔标准只能在昼间，从当地日出后 30 分钟至当地日落前 30 分钟的期间适用。

Reduced runway separation minima shall only be applied during the hours of daylight from 30 minutes after local sunrise to 30 minutes before local sunset.

为了缩小跑道间隔之目的，必须按照下列方式对航空器进行分类：

（a）1 类航空器：最大审定起飞质量为 2000 千克或以下的单发螺旋桨航空器；

（b）2 类航空器：最大审定起飞质量超过 2000 千克，但低于 7000 千克的单发螺旋桨航空器；和最大审定起飞质量低于 7000 千克的双发螺旋桨航空器；

（c）3 类航空器：所有其他航空器。

For the purpose of reduced runway separation, aircraft shall be classified as follows:

(a) Category 1 aircraft: single-engine propeller aircraft with a maximum certificated take-off mass of 2000 kg or less;

(b) Category 2 aircraft: single-engine propeller aircraft with a maximum certificated take-off mass of more than 2000 kg but less than 7000 kg; and twin-engine propeller aircraft with a maximum certificated take-off mass of less than 7000 kg;

(c) Category 3 aircraft: all other aircraft.

缩小的跑道最低间隔标准不适用于离场航空器和前方着陆航空器之间。

Reduced runway separation minima shall not apply between a departing aircraft and a preceding landing aircraft.

缩小的跑道最低间隔标准必须受下列条件限制：

（a）必须应用尾流最低间隔标准；

（b）能见度必须至少为 5 千米，云高不得低于 300 米（1000 英尺）；

Reduced runway separation minima shall be subject to the following conditions:

(a) wake turbulence separation minima shall be applied;

(b) visibility shall be at least 5 km and ceiling shall not be lower than 300 m (1000 ft);

（c）顺风不得超过 2.5 米/秒;

（d）必须有可用的方法，例如合适的地标，以协助管制员判断航空器之间的距离。可以使用场面监视系统，为空中交通管制员提供航空器的位置情报，但条件是，对批准此类设备的运行使用要包括一项安全评估，以确保其符合所有必需的运行和性能要求;

（e）在两架离场航空器之间，在第二架航空器起飞之后，必须立即继续保持最低间隔;

（f）必须向有关的后方航空器的飞行机组提供交通情报；和

（g）刹车作用不得受到包括积冰、雪水、雪、水等跑道污染物的不利影响。

在机场必须为每条单独跑道确定可以适用的缩小的跑道最低间隔标准。所适用的间隔在任何情况下都不得小于下列最低标准:

1. 着陆航空器:

1.1 前方的 1 类或 2 类航空器满足下列条件时，后随的 1 类航空器可以飞越跑道入口:

（a）已经着陆，越过了距离跑道入口至少 600 米的一点，并且正在移动之中，无需反向滑行将会脱离跑道时；或

（b）已离地且越过了距离跑道入口至少 600 米的一点时。

1.2 前方的 1 类或 2 类航空器满足下列条件时，后随的 2 类航空器可以飞越跑道入口:

（a）已经着陆，越过了距离跑道入口至少 1500 米的一点，并且正在移动之中，无需反向滑行将会脱离跑道时；或

（b）已离地且越过了距离跑道入口至少 1500 米的一点时。

(c) tailwind component shall not exceed 2.5 m/s

(d) there shall be available means, such as suitable landmarks, to assist the controller in assessing the distances between aircraft. A surface surveillance system that provides the air traffic controller with position information on aircraft may be utilized, provided that approval for operational use of such equipment includes a safety assessment to ensure that all requisite operational and performance requirements are satisfied;

(e) minimum separation continues to exist between two departing aircraft immediately after take-off of the second aircraft;

(f) traffic information shall be provided to the flight crew of the succeeding aircraft concerned; and

(g) the braking action shall not be adversely affected by runway contaminants such as ice, slush, snow and water.

Reduced runway separation minima which may be applied at an aerodrome shall be determined for each separate runway. The separation to be applied shall not in any case be less than the following minima:

1. Landing aircraft

1.1 a succeeding landing Category 1 aircraft may cross the runway threshold when the preceding aircraft is a Category 1 or 2 aircraft which either

(a) has landed and has passed a point at least 600 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or

(b) is airborne and has passed a point at least 600 m from the threshold of the runway;

1.2 a succeeding landing Category 2 aircraft may cross the runway threshold when the preceding aircraft is a Category 1 or 2 aircraft which either:

(a) has landed and has passed a point at least 1500 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or

(b) is airborne and has passed a point at least 1500 m from the threshold of the runway;

1.3 当前方 3 类航空器满足下述条件时，后方的航空器可以飞越跑道入口：

（a）已经着陆，越过了距离跑道入口至少 2400 米的一点，并且正在移动之中，无需反向滑行将会脱离跑道时；或

（b）已离地且越过了距离跑道入口至少 2400 米的一点时。

2. 离场航空器：

2.1 当前方离场航空器是一架 1 类或 2 类航空器，已在空中，且越过了距离后方航空器所在位置至少 600 米的一点时，可以许可一架 1 类航空器起飞；

2.2 当前方离场航空器是一架 1 类或 2 类航空器，已在空中，且越过了距离后方航空器所在位置至少 1500 米的一点时，可以许可一架 2 类航空器起飞；和

2.3 当一架前方离场的 3 类航空器已在空中，并且越过了距离后方航空器所在位置至少 2400 米的一点时，可以许可一架航空器起飞。

应该考虑在高性能单发航空器和前方的 1 类或 2 类航空器之间增加间隔。

6. 预期落地许可

当有理由确信一架航空器飞越跑道入口时建立了 4.2 和 5.0 中规定的间隔，便可向该航空器发放着陆许可，但此项着陆许可不得在前方一架着陆航空器飞越跑道入口之前发出。

7. 基于符合要求的监视系统下五边 5 公里最小间隔标准

在跑道末端 18 公里范围内的同一最后进近航迹的航空器间，在下述前提下，可实施 5km 最低间隔标准：

1.3 a succeeding landing aircraft may cross the runway threshold when a preceding Category 3 aircraft:

(a) has landed and has passed a point at least 2400 m from the threshold of the runway, is in motion and will vacate the runway without backtracking; or

(b) is airborne and has passed a point at least 2400 m from the threshold of the runway;

2. Departing aircraft

2.1 a Category 1 aircraft may be cleared for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 600 m from the position of the succeeding aircraft;

2.2 a Category 2 aircraft may be cleared for take-off when the preceding departing aircraft is a Category 1 or 2 aircraft which is airborne and has passed a point at least 1500 m from the position of the succeeding aircraft; and

2.3 an aircraft may be cleared for take-off when a preceding departing Category 3 aircraft is airborne and has passed a point at least 2400 m from the position of the succeeding aircraft.

Consideration should be given to increased separation between high performance single-engine aircraft and preceding Category 1 or 2 aircraft.

6. Anticipating landing clearance

An aircraft may be cleared to land when there is reasonable assurance that the separation minima in 4.2 or 5.0 above will exist when the aircraft crosses the runway threshold, provided that a clearance to land shall not be issued until a preceding landing aircraft has crossed the runway threshold.

7. Separation minima 5km on final approach based on certificated ATS surveillance system

5km between succeeding aircraft which are established on the same final approach track within 18km of the runway end. A reduced separation minimum of 5 km may be applied, provided:

（a）通过诸如数据采集、统计分析以及基于理论模型的方法等方式，证明着陆航空器的跑道占用平均时间不超过 50 秒;

（b）报告的刹车效应为好，以及跑道占用时间不会受到跑道污染物（如湿雪、雪或冰）的严重影响;

（c）具有适当的方位和范围分析和修正率为 5 秒或少于 5 秒的雷达系统与适当的雷达显示器结合使用;

（d）机场管制员能够目视或通过地面活动雷达或地面活动引导和管制系统观察到被使用跑道以及有关的退出和进入的滑行道;

（e）符合 2.0 规定的基于距离的尾流最低间隔;

（f）管制员密切监视航空器进近速度，并且必要时，调整其速度以保证间隔不低于最低标准;

（g）无论何时，只要在最后进近中实施缩减的最低间隔标准，航空器运营人及驾驶员就会完全明确需以快速方式退出跑道；和

（h）关于使用缩小的最低间隔标准的程序载于 AIPs。

(a) The average runway occupancy time of landing aircraft is proven, by means such as data collection and statistical analysis and methods based on a theoretical model, not to exceed 50 seconds;

(b) Braking action is reported as good and runway occupancy times are not adversely affected by runway contaminants such as slush, snow or ice;

(c) A radar system with appropriate azimuth and range resolution and an update rate of 5 seconds or less is used in combination with suitable radar displays;

(d) The aerodrome controller is able to observe, visually or by means of surface movement radar (SMR) or a surface movement guidance and control system (SMCGS), the runway-in-use and associated exit and entry taxiways;

(e) Distance-based wake turbulence separation minima application shall be strictly accordance with the rule in 2.0 above;

(f) Aircraft approach speeds are closely monitored by the controller and when necessary adjusted so as to ensure that separation is not reduced below the minimum;

(g) Aircraft operators and pilots have been made fully aware of the need to exit the runway in an expeditious manner whenever the reduced separation minimum on final approach is applied; and

(h) Procedures concerning the application of the reduced minimum are published in AIPs.

8. 连续或同时雷达离场

终端区内。同一或相邻机场，符合航空器在起飞跑道末端 2km 内被识别且航迹分离至少 15 度以上要求时:

同一跑道或间距小于 760 米的平行跑道:如果起飞后立即分离，则 2 公里。

8. Successive or simultaneous radar departures

Terminal. Separate aircraft departing from the same airport or adjacent airports in accordance with the following minima provided radar identification with the aircraft will be established within 2 km of the takeoff runway end and courses will diverge by 15 degrees or more.

Between aircraft departing from the same runway or parallel runways takeoff courses separated by less than 760m — 2km if courses diverge immediately after departure. （SEE FIG1 & FIG2）

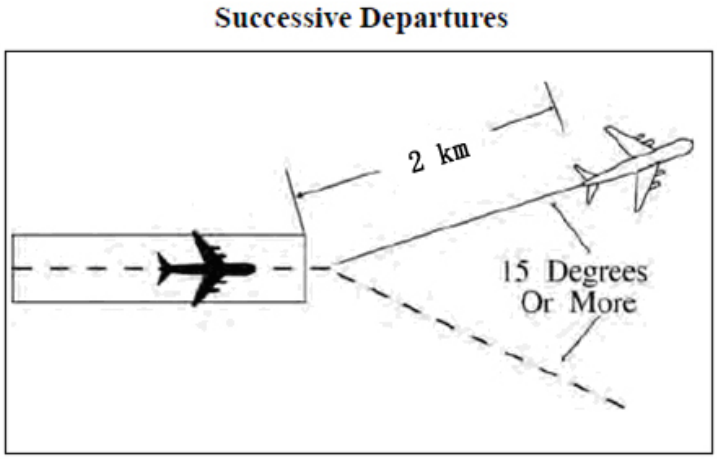

FIG1 successive departures

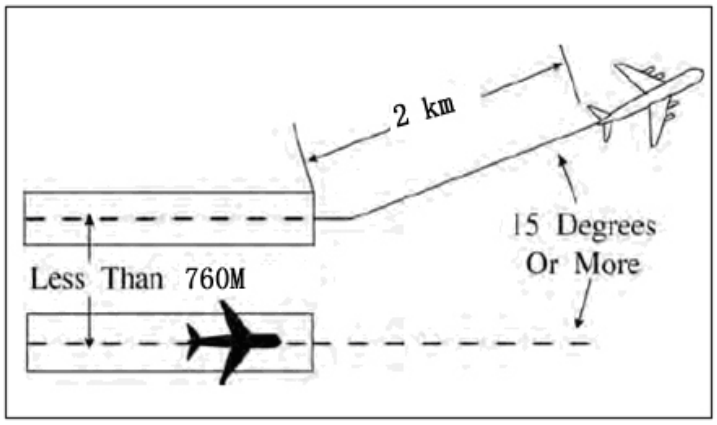

FIG2 simultaneous departures