

**ZGHA AD 2.1 机场地名代码和名称 Aerodrome location indicator and name**

ZGHA-长沙/黄花 CHANGSHA/Huanghua

**ZGHA AD 2.2 机场地理位置和管理资料 Aerodrome geographical and administrative data**

1	机场基准点坐标及其在机场的位置 ARP coordinates and site at AD	N28°11.4' E113°13.1' 181°MAG, 300m from RWY18R/36L center
2	方向、距离 Direction and distance from city	92°GEO, 24.4km from May Day Square of Changsha city
3	标高/参考气温 Elevation / Reference temperature	66.9m/35.0°C(AUG)
4	机场标高位置/大地水准面波幅 AD ELEV PSN / geoid undulation	THR18R/-
5	磁差/年变率 MAG VAR/ Annual change	3°29'W(2016)/-
6	机场管理部门、地址、电话、传真、AFS、电子邮箱、网址 AD administration, address, telephone,telefax, AFS, E - mail, website	Hunan Airport CO.LTD Changsha Huanghua International Airport Branch Company Changsha Huanghua Airport, Hunan province, China Post code:410141 TEL:86-731-84797022 FAX:86-731-84799343 AFS:ZGHAYDYX Email:csjcm@hncaac.com
7	允许飞行种类 Types of traffic permitted(IFR / VFR)	IFR/VFR
8	机场性质/飞行区指标 Military or civil airport &Reference code	CIVIL/4E
9	备注 Remarks	Nil

**ZGHA AD 2.3 工作时间 Operational hours**

1	机场当局(机场开放时间) AD Administration (AD operational hours)	H24
2	海关和移民 Customs and immigration	H24
3	卫生健康部门	H24

	Health and sanitation	
4	航行情报服务讲解室 AIS Briefing Office	H24
5	空中交通服务报告室 ATS Reporting Office (ARO)	H24
6	气象讲解室 MET Briefing Office	H24
7	空中交通服务 ATS	H24
8	加油 Fuelling	H24
9	地勤服务 Handling	H24
10	保安 Security	H24
11	除冰 De-icing	H24
12	备注 Remarks	Nil

### ZGHA AD 2.4 地勤服务和设施 Handling services and facilities

1	货物装卸设施 Cargo-handling facilities	Platform lift, conveyor belt truck, luggage towing vehicle, container tractor, multifunctional container&paneling trailer, unit load device tractor, electric pallet dolly, electric tractor
2	燃油/滑油牌号 Fuel/oil types	Nr.3 jet fuel --
3	加油设施/能力 Fuelling facilities/capacity	Hydrant dispenser: 20 litres/ sec; tank vehicle: 20 litres/ sec; apron refueling well
4	除冰设施 De-icing facilities	5 de-icers, de-icing fluid
5	过站航空器机库 Hangar space for visiting aircraft	Nil
6	过站航空器的维修设施 Repair facilities for visiting aircraft	Line maintenance available for: B737-300/400/500/600/700/800/900、B757-200、B767-300、A300-600、

		A310-200、A319、A320-200、A321、A330-200/300、MD-90、DORNIER328-300、CRJ-200、EMB-145, etc.
7	备注 Remarks	Ground power unit, ground air supply unit, ground air preconditioning unit, jet bridge power unit, jet bridge air-conditioning

**ZGHA AD 2.5 旅客设施 Passenger facilities**

1	宾馆 Hotels	At AD
2	餐馆 Restaurants	At AD
3	交通工具 Transportation	Passenger's coaches, taxis
4	医疗设施 Medical facilities	First aid at AD, hospital in the city
5	银行和邮局 Bank and Post Office	At AD
6	旅行社 Tourist Office	At AD
7	备注 Remarks	Nil

**ZGHA AD 2.6 援救与消防服务 Rescue and fire fighting services**

1	机场消防等级 AD category for fire fighting	CAT 9
2	援救设备 Rescue equipment	Fire fighting facilities: primary foam tender, dry-chemical tender, heavy-duty foam tender, command car, disassembly rescue truck, illumination truck, rapid intervention vehicle Rescue equipment: hoodexhaustfan, electric handdrill, toothless cutting saw, life-saving air-cushion, hydraulic expander, temperature tester, combustible gas detector, fire axe, fire crowbar.
3	搬移受损航空器的能力 Capability for removal of disabled aircraft	MTOW up to B747
4	备注 Remarks	Nil

**ZGHA AD 2.7 可用季节- 扫雪 Seasonal availability-clearing**

1	可用季节及扫雪设备类型 Types of clearing equipment	All seasons snow blower
2	扫雪顺序 Clearance priorities	RWY18R/36L, TWY B, Apron(TWY A inclusive), RWY18L/36R, TWY C
3	备注 Remarks	Nil

### ZGHA AD 2.8 停机坪、滑行道及校正位置数据 Aprons, taxiways and check locations data

1	停机坪道面和强度 Apron surface and strength	Surface:	CONC
		Strength:	PCN 102/R/C/W/T (stands Nr.241-243) PCN 98/R/B/W/T (stands Nr.131-136, 251-257, 257R, 261-266, 261L/R, 262L/R, 263L/R, 264L/R, 265L/R, 266L/R ) PCN 74/R/B/W/T (stands Nr.201-207, 211-216, 221-228, 231-238) PCN 67/R/B/W/T (stands Nr.150-153, 155-159) PCN 64/R/C/W/T (stands Nr.122-128) PCN 53/R/B/W/T (stands Nr.1-10, 12, 14, 16-20, 210) PCN 52/R/B/W/T (stands Nr.154)
2	滑行道宽度、道面和强度 Taxiway width, surface and strength	Width:	44m: C2-C5, C14-C17, D1, D2, D7, D8, N; 40.8m: A(BTN A1 & A2); 39m: B2; 34.5m: B7, C1, C19, D9; 31m: A1-A4, B9; 27m: A5-A7; 25m: C, C6, C7, C12, C13, D(BTN D2 & M), D(BTN D7 & D9), M; 23m: A(BTN A2 & A7), B, B1, B3-B6, C8-C11, T12; 18m: T3, T6-T9, T13
		Surface:	ASPH: B, B1-B7, B9 CONC: A, A1-A7, C,C1-C17, C19, D(BTN D2 & M), D(BTN D7 & D9), D1, D2, D7-D9, M, N, T3-T13
		Strength:	PCN 102/R/C/W/T (C, C1-C5, C14-C17, C19, D(BTN D2 & M), D(BTN D7 & D9), D1, D2, D7-D9, M, N) PCN 98/R/B/W/T (T5(BTN T4 & T7), T6-T8, T10-T12) PCN 82/R/C/W/T (C6, C7, C12, C13) PCN 81/F/B/W/T (B, B1, B2, B7, B9)

			PCN 74/R/B/W/T (A(BTN A1 & A5), A1-A4) PCN 73/R/C/W/T (C8-C11) PCN 72/F/B/W/T (B3-B6) PCN 67/R/B/W/T (T5(BTN T7 & T9)) PCN 64/R/C/W/T (T4, T13) PCN 53/R/B/W/T (A(BTN A5 & A7), A5-A7, T1-T3) PCN 52/R/B/W/T (T9)
3	高度表校正点的位置及其标高 ACL location and elevation	Nil	
4	VOR/INS 校正点 VOR/INS checkpoints	Nil	
5	备注 Remarks	Nil	

### ZGHA AD 2.9 地面活动引导和管制系统与标识

#### Surface movement guidance and control system and markings

1	航空器机位号码标记牌、滑行道引导线、航空器目视停靠引导系统的使用 Use of aircraft stand ID signs, TWY guide lines and visual docking / parking guidance system of aircraft stands	Taxiing guidance signs at all intersections of TWY and RWY and at all RWY holding positions. Guide lines at apron and TWY. Aircraft stand identification sign board at boarding bridge stands. Marshalling assistance for stands Nr. 12, 14, 16-20, 122-128, 131-136, 150-159, 201-207, 210, 241-243, 251-257, 257R, 261-266, 261L/R, 262L/R, 263L/R, 264L/R, 265L/R, 266L/R. Refer AD1.1 for Visual docking guidance system at stands Nr. 1-10, 211-216, 221-228, 231-238.	
2	跑道和滑行道标志及灯光 RWY and TWY marking and LGT	RWY markings	THR, RWY designation, TDZ, edge line, center line and aiming point
		RWY lights	Center line, edge line, THR, RWY end, THR wing bar, TDZ(THR36R)
		TWY markings	Center line, edge line, RWY holding positions, intermediate holding position, No-entry marking(from TWYs B3-B6, C6-C13 to RWY), TWY shoulder
		TWY lights	Center line, edge line, intermediate holding position, RWY guard lights(TWYs B1, B2, B7, B9, C1-C5, C14-C17, C19, N,D1, D2, D7-D9), rapid exit taxiway indicator(TWYs C6-C13)
3	停止排灯 Stop bars	At TWYs C1, C3, C5, C15, C17, C19, D1, D2, D7-D9, M, N on RWY holding positions.	

		On TWY C, BTN TWY C3 and C5, C15 and C17; At the opposite direction of entry rapid exit TWY C6-C13, parallel with No-entry markings
4	备注 Remarks	Blue apron edge line lights. Road-holding position sign(RWY18L/36R) General apron: sign board (MAX wingspan).

**ZGHA AD 2.10 机场障碍物 Aerodrome obstacles**

Obstacles within a circle with a radius of 15km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
1	Iron TWR	001	5703	106.5	RWY36R Take-off path	
2	Iron TWR	004	10226	141.4	RWY18L/R GP INOP final approach	
3	Antenna	005	1579	80.6	RWY18R ILS/DME approach	
4	Iron TWR	106	8215	169.3	Circling CAT C	
5	Iron TWR	116	5206	145.4	Circling CAT B	
6	Antenna	173	1016	77.6	RWY36L/R ILS/DME approach	
7	Iron TWR	185	8362	125.4	RWY36R GP INOP final approach	
8	Iron TWR	187	10368	130.6	RWY36L GP INOP final approach	
9	Chimney	211	2080	106		
10	BLDG	294	10080	277.6	Circling CAT D	
11	*Control TWR	310	825	126.5	Circling CAT A	
12	*Control TWR	327	918	104.7		
13	Chimney	354	4253	106.2	RWY36L Departure	
14	Iron TWR	358	5568	114.5	RWY36L Take-off path	
15	*Iron TWR	359	7173	131.8	RWY36L/R Take-off	

Obstacles within a circle with a radius of 15km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
					path; RWY18R GP INOP final approach	
Others:						

Obstacles between two circles with the radius of 15km and 50km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
1	MT	025	24789	228	RWY36L/R Departure	
2	MT	028	28000	302	RWY18L/R Initial approach	
3	MT	030	27685	288	RWY18L/R RNAV initial approach	
4	MT	032	28408	291	RWY18L/R RNAV arrival(from DAPRO)	
5	MT	032	33070	486	RWY18L/R Arrival(from DAPRO)	
6	MT	033	21000	200	RWY36L/R Departure	
7	MT	034	32106	368		
8	MT	035	24657	215	RWY36L/R Departure	
9	MT	036	47720	654	RWY18L/R Arrival (from DAPRO) RWY36L/R Arrival (from DAPRO)	
10	MT	061	72731	1600	Minimum surveillance altitude sector Nr.8	

Obstacles between two circles with the radius of 15km and 50km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
11	MT	064	49437	1298	RWY36L/R Arrival (from DAPRO)	
12	Contour line	064	57729	1400	Sector	
13	MT	064	63450	1571		
14	MT	065	50300	1360	RWY36L/R Arrival (from DAPRO)、 18L/R Holding、 Sector	
15	MT	071	45800	991	RWY18L/R Arrival (from OVTAN) Minimum surveillance altitude sector Nr.2	
16	MT	080	39900	831	RWY18L/R Arrival (from OVTAN) RWY36L/R Arrival (from OVTAN) Minimum surveillance altitude sector Nr.3	
17	MT	091	34505	786	RWY18L/R RNAV Arrival(from OVTAN) RWY36L/R RNAV Arrival(from OVTAN)	
18	MT	095	21483	549	RWY36L/R Arrival(from OVTAN、 DAPRO)	
19	MT	097	18662	471	Minimum surveillance altitude sector Nr.4	
20	MT	103	26000	794	RWY18L/R RNAV Arrival(from LIG)	
21	MT	106	25714	755	RWY18L/R RNAV Holding	



Obstacles between two circles with the radius of 15km and 50km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
22	MT	107	21629	751	RWY36L/R Arrival	
23	MT	115	22630	556	RWY36L/R Arrival	
24	MT	124	17600	388	RWY18L/R ILS/DME、 GP INOP missed approach RWY36L/R Arrival	
25	MT	132	48000	817		
26	MT	136	47398	817	RWY36L/R Holding Sector	
27	MT	137	40050	811	RWY18L/R Arrival (from LIG)	
28	MT	140	44750	689	RWY36L/R Arrival (from LIG)	
29	MT	142	38226	663	RWY36L/R Arrival (from LIG)	
30	MT	146	37718	598	RWY36L/R Arrival (from LIG)	
31	MT	153	43816	191	RWY18L/R Departure(from NIVEM)	
32	MT	154	47940	708	RWY36L/R Arrival (from LIG)	
33	MT	156	40625	363	RWY18L/R Departure(from NIVEM) Minimum surveillance altitude sector Nr.5	
34	MT	176	28066	227	RWY36L/R Initial approach	
35	MT	177	18943	206	RWY18L/R Departure	
36	MT	177	36426	319	RWY36L/R Initial	

Obstacles between two circles with the radius of 15km and 50km centered on ARP						
序号 Serial Nr.	障碍物类型(*代表 有灯光) Obstacle type(*Lighted)	磁方位 BRG (MAG)(degree)	距离 DIST(m)	海拔高度 Elevation(m)	影响的飞行程序及起飞 航径区 Flight procedure / take - off flight path area affected	备注 Remarks
					approach(from LIG)	
37	MT	184	16800	234	RWY18L/R Departure	
38	MT	184	16910	237	RWY36L/R Intermediate approach	
39	MT	204	19265	235	RWY18L/R Departure	
40	MT	205	32996	328		
41	MT	217	24700	274	RWY36L/R Initial approach	
42	MT	253	91500	523	Minimum surveillance altitude sector Nr.6	
43	BLDG	276	24220	498		
44	MT	342	29300	319	Minimum surveillance altitude sector Nr.1	
45	MT	344	43600	777	Minimum surveillance altitude sector Nr.7	
46	Iron TWR	360	17517	157	RWY18L/R Intermediate approach	
Others:						

## ZGHA AD 2.11 提供的气象信息、机场观测与报告

## Meteorological information provided &amp; aerodrome observations and reports

1	相关气象台的名称 Associated MET Office	Hunan ATMB MET Office of CAAC
2	气象服务时间；服务时间以外的责任气象台 Hours of service, MET Office outside hours	H24
3	负责编发 TAF 的气象台；有效时段；发布间隔 Office responsible for TAF	Hunan ATMB MET Office of CAAC 9 HR, 3HR; 24 HR; 6HR

	preparation, Periods of validity; Interval of issuance	
4	趋势预报发布间隔 Issuance interval of trend forecast	1 HR
5	所提供的讲解/咨询服务 Briefing/consultation provided	P, T
6	飞行文件及其使用语言 Flight documentation, Languages used	Chart, International MET Codes, Abbreviated Plain Language Text Ch, En
7	讲解/咨询服务时可利用的图表和其它信息 Charts and other information available for briefing or consultation	Synoptic charts, significant weather charts, upper W/T charts, satellite and radar material, AWOS real-time data
8	提供信息的辅助设备 Supplementary equipment available for providing information	FAX, MET radar display, satellite cloud display, AWOS data display
9	提供气象情报的空中交通服务单位 ATS units provided with information	TWR, Changsha ACC, Changsha APP
10	观测类型与频率/自动观测设备 Type & frequency of observation/Automatic observation equipment	Hourly plus special observation/Yes
11	气象报告类型及所包含的补充资料 Type of MET Report & supplementary information included	METAR, SPECI, TREND
12	观测系统及位置 Observation System & Site(s)	RVR EQPT A: 120m E of RCL, 380m inward THR18R B: 120m E of RCL, 1600m inward THR36L C: 120m E of RCL, 435m inward THR36L D: 110m E of RCL, 500m inward THR18L E: 110m E of RCL, 1580m inward THR36R F: 110m E of RCL, 458m inward THR36R SFC wind sensors 18L: 110m E of RCL, 462m inward THR18L 18L/36R Center: 110m E of RCL, 1620m inward THR36R 36R: 110m E of RCL, 450m inward THR36R 18R: 120m E of RCL, 340m inward THR18R 18R/36L Center: 120m E of RCL, 1590m inward THR36L

		36L: 120m E of RCL, 425m inward THR36L Ceilometer 18L: 100m E of RCL, 457m inward THR18L 36R: 100m E of RCL, 445m inward THR36R 18R: 110m E of RCL, 335m inward THR18R 36L: 110m E of RCL, 420m inward THR36L
13	气象观测系统的工作时间 Hours of operation for meteorological observation system	H24
14	气候资料 Climatological information	Climatological tables AVBL
15	其他信息 Additional information	TEL: 86-731-84798822

### ZGHA AD 2.12 跑道物理特征 Runway physical characteristics

跑道号码 Designations RWY NR	真方位和磁方位 TRUE & MAG BRG	跑道长宽 Dimensions of RWY(m)	跑道强度(PCN), 跑道道面/ 停止 道面 RWY strength (PCN), RWY surface / SWY surface	着陆入口坐标及 高程异常 THR coordinates and geoid undulation	跑道入口标高,精密进近 跑道接地带最高标高 THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
18L	177.23°GEO 181°MAG	3800×60	102/R/C/W/T CONC/-		THR64.5m
36R	357.23°GEO 001°MAG	3800×60	102/R/C/W/T CONC/-		THR57.2m
18R	177.23°GEO 181°MAG	3200×45	79/F/B/W/T ASPH/-		THR66.9m
36L	357.23°GEO 001°MAG	3200×45	79/F/B/W/T ASPH/-		THR60.4m
跑道-停止道坡度 Slope of RWY-SWY	停止道长宽 SWY dimensions(m)	净空道长宽 CWY dimensions(m)	升降带长宽 Strip dimensions(m)	无障碍物区 OFZ	跑道端安全区长宽 RWY end safety area dimensions(m)
7	8	9	10	11	12

See AOC	Nil	Nil	3920×300	Nil	240×150
See AOC	Nil	Nil	3920×300	Nil	240×150
See AOC	Nil	Nil	3320×300	Nil	130×120
See AOC	Nil	Nil	3320×300	Nil	190×150
Remark: 1. RWY18L/36R shoulder: 7.5m on each side, RWY18R/36L shoulder: 7.5m on each side; 2. RWY18L/36R grooved: 6mm×6mm×32mm; 3. RWY18L/36R parallels to RWY18R/36L; 4. Distance between RCL of RWY18L/36R and RCL of RWY18R/36L is 380m; THR36R is 300m south of THR36L; THR18L is 300m north of THR18R.					

### ZGHA AD 2.13 公布距离 Declared distances

跑道号码 RWY Designator	可用起飞滑跑距离 TORA(m)	可用起飞距离 TODA(m)	可用加速停止距离 ASDA(m)	可用着陆距离 LDA(m)	备注 Remarks
1	2	3	4	5	6
18L	3800	3800	3800	3800	Nil
36R	3800	3800	3800	3800	Nil
18R	3200	3200	3200	3200	Nil
18R	2600	2600	2600	3200	FM B7
36L	3200	3200	3200	3200	Nil
36L	2800	2800	2800	3200	FM B2
Remarks:					

### ZGHA AD 2.14 进近和跑道灯光 Approach and runway lighting

跑道 代号 RWY Desig nator	进近灯 类型、 长度、 强度 APCH LGT type LEN INTST	入口灯 颜色、 翼排灯 THR LGT colour WBAR	目视进近坡 度指示系统( 跑道入口最 低眼高), 精 密进近航道 指示器 VASIS (MEHT) PAPI	接地地带 灯长度 TDZ LGT LEN	跑道中心线灯 长度、间隔、 颜色、强度 RWY Center line LGT LEN, spacing, colour, INTST	跑道边灯长 度、间隔、颜 色、强度 RWY edge LGT LEN, spacing, colour, INTST	跑道末端 灯颜色 RWY end LGT colour	停止道灯 长度、颜 色 SWY LGT LEN, colour
1	2	3	4	5	6	7	8	9

跑道 代号 RWY Desig nator	进近灯 类型、 长度、 强度 APCH LGT type LEN INTST	入口灯 颜色、 翼排灯 THR LGT colour WBAR	目视进近坡 度指示系统( 跑道入口最 低眼高), 精 密进近航道 指示器 VASIS (MEHT) PAPI	接地地带 灯长度 TDZ LGT LEN	跑道中心线灯 长度、间隔、 颜色、强度 RWY Center line LGT LEN, spacing, colour, INTST	跑道边灯长 度、间隔、颜 色、强度 RWY edge LGT LEN, spacing, colour, INTST	跑道末端 灯颜色 RWY end LGT colour	停止道灯 长度、颜 色 SWY LGT LEN, colour
18L	PALS CAT I* 900m LIH	GREEN Yes	PAPI LEFT 436m inward displaced THR18L 3° 22.8m	Nil	3800m** spacing 15m	3800m**** spacing 60m	RED	Nil
36R	PALS CAT III* 900m LIH	GREEN Yes	PAPI LEFT 410m inward displaced THR36R 3° 22.8m	900m	3800m** spacing 15m	3800m**** spacing 60m	RED	Nil
18R	PALS CAT I* 900m LIH	GREEN Yes	PAPI LEFT 474m inward THR18R 3° 18.4m	Nil	3200m*** spacing 30m	3200m***** spacing 60m	RED	Nil
36L	PALS CAT I* 900m LIH	GREEN Yes	PAPI RIGHT 414m inward THR36L 3° 17m	Nil	3200m*** spacing 30m	3200m***** spacing 60m	RED	Nil

跑道 代号 RWY Designator	进近灯 类型、 长度、 强度 APCH LGT type LEN INTST	入口灯 颜色、 翼排灯 THR LGT colour WBAR INTST	目视进近坡 度指示系统( 跑道入口最 低眼高), 精 密进近航道 指示器 VASIS (MEHT) PAPI	接地地带 灯长度 TDZ LGT LEN	跑道中心线灯 长度、间隔、 颜色、强度 RWY Center line LGT LEN, spacing, colour, INTST	跑道边灯长 度、间隔、颜 色、强度 RWY edge LGT LEN, spacing, colour, INTST	跑道末端 灯颜色 RWY end LGT colour	停止道灯 长度、颜 色 SWY LGT LEN, colour
Remarks: *SFL **up to 2900m WHITE VRB LIH, 2900-3500m RED/WHITE VRB LIH, 3500-3800m RED VRB LIH ***up to 2300m WHITE VRB LIH, 2300-2900m RED/WHITE VRB LIH, 2900-3200m RED VRB LIH ****up to 3200m WHITE VRB LIH, 3200-3800m YELLOW VRB LIH *****up to 2600m WHITE VRB LIH, 2600-3200m YELLOW VRB LIH								

### ZGHA AD 2.15 其他灯光,备份电源 Other lighting, secondary power supply

1	机场灯标/识别灯标位置、特性和工作时间 ABN/IBN location, characteristics and hours of operation	Nil
2	着陆方向标/风向标位置和灯光 LDI/WDI location and LGT	WDI: 18L:100m E of RCL, 454.1m inward THR18L 36R:100m W of RCL, 435.6m inward THR36R 18R:115m E of RCL, 450m inward THR18R 36L:115m E of RCL, 530m inward THR36L
3	滑行道边灯和中线灯 TWY edge and center line lighting	All TWYs
4	备份电源/转换时间 Secondary power supply/switch-over time	Secondary power supply available/15 sec
5	备注 Remarks	Nil

### ZGHA AD 2.16 直升机着陆区域 Helicopter landing area

1	TLOF 坐标或 FATO 入口坐标及大地水准面 波幅 Coordinates TLOF or THR of FATO Geoid	Nil
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	undulation	
2	TLOF 和/或 FATO 标高 (m/ft) TLOF and/or FATO elevation (m/ft)	Nil
3	TLOF 和 FATO 区域范围、道面、强度和标志 TLOF and FATO area dimensions,surface, strength, marking	Nil
4	FATO 的真方位和磁方位 True and MAG BRG of FATO	Nil
5	公布距离 Declared distance available	Nil
6	进近灯光和 FATO 灯光 APP and FATO lighting	Nil
7	备注 Remarks	Nil

**ZGHA AD 2.17 空中交通服务空域 ATS airspace**

名称 Designation	水平范围 Lateral limits	垂直范围 Vertical limits	备注 Remarks
Huanghua tower control area	A circuit, 4 arcs with radius 13km centered at centers of RWY18R/36L THR and 4 lines tangential to the adjacent 2 arcs.	750m(QNH) and below	AD Control Zone is same as TWR Control area
Fuel dumping area	N29 15.0E113 49.0— N29 02.0E114 34.0— N28 32.0E114 22.0— N28 57.0E113 59.0— N29 15.0E113 49.0	Above 4000m	
Altimeter setting region and TL/TA	Same as Changsha APP Control Area	TL 3600 TA 3000 3300(QNH≥1031hPa) 2700(QNH≤979hPa)	

**ZGHA AD 2.18 空中交通服务通信设施 ATS communication facilities**



服务名称 Service Designation	呼号 Call sign	频率 Frequency (MHz)	工作时间 Hours of operation	备注 Remarks
1	2	3	4	5
ATIS		127.6(arrival)	H24	D-ATIS available
ATIS		127.075(departure)	H24	D-ATIS available
APP	Changsha Approach	APP01:119.65(120.6)	H24	
APP	Changsha Approach	APP02:125.65(125.05)	by ATC	Contact ZGHAAP01 when ZGHAAP02 U/S.
APP	Changsha Approach	APP03:124.6(125.05)	by ATC	Contact ZGHAAP01 when ZGHAAP03 U/S.
TWR	Huanghua Tower	118.55/124.325(118.175)	H24	
GND	Huanghua Ground	121.75	0100-1530	contact Huanghua TWR when Huanghua Ground U/S
GND	Huanghua Delivery	121.95	By ATC	contact Huanghua Ground when Huanghua Delivery U/S
APN	Changsha Apron	121.85	HO or By ATC	Contact Huanghua Ground when Changsha Apron U/S
EMG		121.5	H24	

### ZGHA AD 2.19 无线电导航和着陆设施 Radio navigation and landing aids

设施名称和类型 Name and type of aid	识别 ID	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
1	2	3	4	5	6
Liling VOR/DME	LIG	112.4MHz CH71X	N27°38.9' E113°31.0'	85m	
Liuyang VOR/DME	LYH	113.55MHz CH82Y	N28°23.6' E113°20.6' 032° MAG/ 25221m FM RWY18R/36L	215m	For arrival procedure, beyond 51NM on R105° for DME U/S

设施名称和类型 Name and type of aid	识别 ID	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标 高 Elevation of DME transmitting antenna	备注 Remarks
			center		
Tiaoma VOR/DME	DTM	114.05MHz CH87Y	N27°59.0' E113°07.5' 206° MAG/ 24719m FM RWY18R/36L center	186m	
Luchong NDB	SV	345kHz	N28°13.0' E113°20.9' 081° MAG/ 12862m FM RWY18R/36L center		11NM-13NM and 20NM-22NM on bearing 272°,beyond 14NM on bearing 067°U/S;For departure procedure, 5NM-7NM, 9NM-10NM and 14NM-19NM on bearing 304°U/S; For arrival procedure, 15NM-18NM on bearing 071°U/S, 12NM-13.5NM and 19NM-20.5NM on bearing 270°U/S, 16NM-17NM and 18NM-20NM on bearing 339°U/S; For holding procedure, 18NM-20NM on bearing 339°U/S
Gutang NDB	W	388kHz	N28°13.1' E113°13.0' 001°MAG/1518m FM THR 18R		For departure procedure, beyond 7NM on bearing 083° U/S; BTN 10-12NM and 17-18NM on bearing 083° U/S.
LOC 18L ILS CAT I	ISL	109.3MHz	181° MAG/ 265m FM RWY 18L end		Beyond 20NM of front course U/S

设施名称和类型 Name and type of aid	识别 ID	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标 高 Elevation of DME transmitting antenna	备注 Remarks
GP 18L		332.0MHz	120m E of RCL , 306m inward THR 18L		Angle 3° RDH 15m
DME 18L	ISL	CH30X (109.3MHz)		64m	Co-located with GP18L
OM 18R		75MHz	001° MAG/ 6822m FM THR 18R		
LOC 18R ILS CAT I	IWW	110.3MHz	181° MAG/ 190m FM RWY 18R end		Beyond 20NM of front course U/S
GP 18R		335.0MHz	120m E of RCL , 326m inward THR 18R		Angle 3° RDH 15m
DME 18R	IWW	CH40X (110.3MHz)		72m	Co-located with GP18R
LMM 36L	Q	265kHz	181° MAG/ 1203m FM THR 36L		
OM 36L		75MHz	181° MAG/ 8455m FM THR 36L		
LOC 36L ILS CAT I	ISV	109.9MHz	001° MAG/ 250m FM RWY 36L end		
GP 36L		333.8MHz	130m E of RCL , 292m inward THR36L		Angle 3° RDH 15m
IM 36R		75MHz	181° MAG/ 286m FM THR 36R		
LOC 36R ILS CAT III	ICR	111.1MHz	001° MAG/ 295m FM RWY 36R end		CAT I operation
GP 36R		331.7MHz	120m E of RCL , 288m inward THR36R		Angle 3° RDH 15m
DME 36R	ICR	CH48X		57m	Co-located with

设施名称和类型 Name and type of aid	识别 ID	频率 Frequency	发射天线位置、坐标 Antenna site coordinates	DME 发射天线标 高 Elevation of DME transmitting antenna	备注 Remarks
		(111.1MHz)			GP36R

**ZGHA AD 2.20 本场飞行规定**

**ZGHA AD 2.20 Local traffic regulations**

**1. 机场使用规定**

**1.Airport operations regulations**

1.1 所有技术试飞需事先申请,并在得到空中交通管制部门批准后方可进行;

1.1 Each and every technical test flight shall be filed in advance and conducted only after clearance has been obtained from ATC;

1.2 禁止未安装二次雷达应答机的航空器起降,在特殊情况下,可允许无二次雷达应答机的航空器起降。

1.2 Take off/landing of aircraft without SSR transponder are forbidden unless under exceptional circumstances.

**2. 跑道和滑行道的使用**

**2. Use of runways and taxiways**

2.1 禁止航空器在跑道和滑行道上作 180°的大转弯;

2.1 180° turn around on RWY and TWY is forbidden for all aircraft;

2.2 当转换使用跑道方向的过程中,短时使用跑道顺风分量超过3.5m/s但不大于5m/s时,管制员应通知机组,飞行员应根据机型性能或者运行手册,决定是否使用管制员安排的顺风跑道起飞或者着陆,并通知管制员;

2.2 when aircraft change direction of runway in use, if downwind speed is more than 3.5m/s and not exceeding 5m/s for short time, ATC controller shall inform flight crew. According to aircraft performance or operation handbook, pilot shall decide whether aircraft will take off or land on downwind runway allocated, then inform ATC controller;

2.3 因管制调配等原因需要或机组提出申请,征得塔

2.3 Due to ATC control allocation and other reasons or

台管制员同意后,离场航空器可实施非全跑道起飞; flight crew request, it is available to use partial runway to take-off when flight crew get permission from TWR ATC;

## 2.4 跑道运行规则

## 2.4 General rules for the use of runways

18R/36L 号跑道主要用于离场;

18R/36L is mainly used for departure;

18L/36R 号跑道主要用于进场,经管制员许可,可用于出港;

18L/36R is mainly used for arrival, and departure with ATC permission;

## 2.5 穿越跑道规定

## 2.5 RWY crossing rules

航空器穿越跑道时 使用的滑行道 TWYs used for A/C crossing RWY	RWY36R(for arrival)	Landing A/C: C14→RWY36L→B7
	RWY36L(for departure)	or C16→RWY36L→B9
	RWY18L(for arrival)	Landing A/C: C2→RWY18R→B1
	RWY18R(for departure)	or C4→RWY18R→B2
	RWY36R(for departure/arrival)	Departure A/C: B1→RWY36L→C2 Landing A/C: C14→RWY36L→B7 or C16→RWY36L→B9
	RWY18L(for departure/arrival)	Departure A/C: B9→RWY18R→C16 Landing A/C: C2→RWY18R→B1 or C4→RWY18R→B2
穿越程序 Procedures for RWY crossing	按照管制员指挥滑行至跑道等待点外等待; Taxi following the instructions of controller to the holding position and hold short of RWY; 收到穿越指令后,需尽快实施穿越,如有疑问,请在穿越前证实; Cross the runway immediately upon receiving the crossing clearance. Any questions shall be clarified before crossing RWY;	

	<p>机组应完整复诵管制员有关穿越跑道和跑道外等待的指令,穿越结束后,机组需向塔台报告“已脱离跑道”;</p> <p>Repeat all the ATC instructions concerning 'hold short of RWY or cross the RWY',finally, report to TWR Control 'RWY vacated'; 穿越跑道时,机组应注意监听其他有关跑道的指令或信息通报,并注意观察跑道及附近的活 动;</p> <p>Pilots shall monitor the ATC instructions or information about RWY and watch the activities on and around RWY;</p> <p>紧跟在起飞航空器后穿越跑道时,机组自行负责其与起飞航空器之间的距离以免受起飞航空器喷流的影响;</p> <p>While crossing RWY after the take-off aircraft, pilots shall be responsible for the safety distance with the aircraft to avoid the effect of wake turbulence;</p>
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2.6 跑道等待位置

2.6 Runway holding position

2.6.1 航空器在进入跑道前应在指定的跑道等待位置处等待塔台管制员指令, 参见 AD2.24-1A/2;

2.6.1 Aircraft shall stop and wait for TWR ATC instruction at the runway holding positions. Refer to AD2.24-1A/2;

2.6.2 航空器未获管制员许可,机头越过跑道等待位置时,立即向管制员报告;

2.6.2 A/C shall report to ATC when the nose of A/C exceeding holding position without instruction;

2.7 禁止翼展大于 52m (含) 的航空器使用滑行道 B4, B5; 滑行道 A (A5 与 A6 之间)、T10、T12 机坪滑行道翼展限制 65m (不含), T11 机坪滑行道翼展限制 36m (不含);

2.7 TWY B4, B5 are only available for aircraft with wing span less than 52m. TWYs A (BTN A5&A6), TWY T10, TWY T12 are only available for aircraft with wing span less than 65m. TWY T11 is only available for aircraft with wing span less than 36m.

- 2.8 当航空器在跑道等待点外等待时, 禁止其它航空器从其后方通过; 2.8 It is forbidden that taxiing behind the A/C which is holding at short of the runway holding position;
- 2.9 机场冲突多发地带运行要求 2.9 Hot spot procedure
- 2.9.1 机动区冲突多发地带位置见 AD2.24-1A/2; 2.9.1 Refer to AD2.24-1A/2;
- HS1: 滑行道 A7、B7、B 及交叉区域。航空器在 HS1 区域运行时需加强观察, 严格照管制员的指令运行, 避免冲突。若观察到 B7 有航空器脱离, 应主动避让; HS1: Intersections of TWYs A7, B7, B. A/C in HS1 shall observe cautiously, then operate according to ATC clearance, and avoid conflict. A/C shall hold short in front of TWY B7, when other A/C is vacating TWY B7;
- HS2: 滑行道 C16 穿越 36L 跑道等待区域。航空器由此区域穿越跑道之前, 必须得到塔台管制员的许可。 HS2: Cross RWY36L at TWY C16 holding area. A/C shall get clearance from TWR controller before crossing RWY36L.
- HS3: 滑行道 C14 穿越 36L 跑道等待区域。航空器由此区域穿越跑道之前, 必须得到塔台管制员的许可。 HS3: Cross RWY36L at TWY C14 holding area. A/C shall get clearance from TWR controller before crossing RWY36L.
- HS4: 滑行道 C4 穿越 18R 跑道等待区域。航空器由此区域穿越跑道之前, 必须得到塔台管制员的许可。 HS4: Cross RWY18R at TWY C4 holding area. A/C shall get clearance from TWR controller before crossing RWY18R.
- HS5: 滑行道 C2 穿越 18R 跑道等待区域。航空器由此区域穿越跑道之前, 必须得到塔台管制员的许可。 HS5: Cross RWY18R at TWY C2 holding area. A/C shall get clearance from TWR controller before crossing RWY18R.
- 2.10 离港航空器应按照 ATC 指定的滑行路线滑行, 得到允许后方可由滑行道进入跑道; 2.10 Departure aircraft shall taxi on the route designated by ATC. And shall receive clearance before

entering RWY.

2.11 T4-T8 滑行道航空器翼展要求小于 36m(不含),  
T9 滑行道禁止翼展大于 29.2m (不含) 的航空器使用;

2.11 The wing span limit for TWYs T4-T8 is less than 36m, and the wing span limit for TWY T9 is no more than 29.2m.

2.12 管制范围规定如下:

2.12 Rules of ATC scope as follows:

空管塔台管制区: B 滑行道(含)以东的机动区, 以及 241-243 号停机位;长沙机坪管制区: B 滑行道(不含)以西的联络道及机坪, 241-243 号停机位除外;机坪管制区范围见 ZGGG AD2.24-1A, 2; 具体管制移交点及移交方式听从管制员指令执行。

TWR ATC: maneuvering area (east of TWY B(inclusive)), stands Nr. 241-243; APN ATC: TWYs (west of TWY B(exclusive)), apron (except for stands Nr.241-243); APN ATC refers to ZGGG AD2.24-1A, 2; The specific hand-over point and mode shall be instructed by ATC.

3. 机坪和机位的使用

3. Use of aprons and parking stands

3.1 航空器滑入机坪须由引导车引导。

3.1 A/C taxiing into apron shall guided by follow-me vehicle.

3.2 机位使用限制

3.2 Limits for aircraft parking on the following stands:

停机位/Stand	航空器翼展限制 /Wing span limits for A/C(m)	机身长度限制 /Fuselage limits for A/C(m)	滑入、滑出方式 /Enter or Exit
Nr.154-159	32.5	28	Taxi in and push back
Nr.16-20	36	36.7	Taxi in and taxi out
Nr.122-128		49	
Nr.131-136,150-153,251-257		44.5	



Nr.261L/R,262L/R,263L/R,264L/R,265L/R,266L/R		45	
Nr.215,216		51	
Nr.9		51.7	
Nr.3		53.7	
Nr.2		54.1	
Nr.227,228		59	Taxi in and push
Nr.221,222,224,225		60	back
Nr.231		62.5	
Nr.232		64	
Nr.238		65.7	
Nr.201-207		70	
Nr.7		83	
Nr.12		83.6	Taxi in and taxi out
Nr.4		93.8	Taxi in and push back
Nr.8	38	63.5	
Nr.236,237		65.7	
Nr.213		73.4	
Nr.223		75	
Nr.211		75.7	
Nr.234	52	76.3	Taxi in and push back
Nr.226		91	
Nr.5		113.2	
Nr.6		113.9	
Nr.1	60.3	81.8	
Nr.233	61	83	

Nr.14		83.6	Taxi in and taxi out
Nr.214		94	Taxi in and push back
Nr.10		94.5	
Nr.241		94.7	
Nr.257R	65	84.5	Push in and taxi out
Nr.261-266(stands Nr.261L/R-266L/R are not in use )		76	Taxi in and push back
Nr.242,243		94.7	
Nr.212		99.1	
Nr.210		103.1	
Nr.235		113	
Remarks: 1. Stand Nr.8 is only available for A/C type B757-200 and below; 2.Stands Nr.16-20, 122-128 are only available for A/C parking with nose to west; 3.A/C shall taxi out apron by its own power after exiting stands by the way mentioned on the table above. 4.A/C CAT D&E shall taxi to stand Nr.257R via TWY T10 and be pushed into the stand with nose to north.			

3.3 航空器不能同时使用的机位

3.3 Pair of stands forbidden to use simultaneously:

使用机位/The stands in use	禁用机位/The stands forbidden to be used	使用机位/The stands in use	禁用机位/ The stands forbidden to be used
210	211	211	210
257	257R	257R	257
261	261L and 261R	261L or 261R	261
262	262L and 262R	262L or 262R	262
263	263L and 263R	263L or 263R	263

264	264L and 264R	264L or 264R	264
265	265L and 265R	265L or 265R	265
266	266L and 266R	266L or 266R	266

使用机位/The stands in use	不能同时滑行或推出的机位/The stands forbidden to taxi in or pushed back
210 or 211	212 or 1
212 or 1	210 or 211
10	12 or 14
12 or 14	10
Remarks: All the adjacent stands on apron cannot operate simultaneously.	

3.4 航空器在进入 16-20 号机位时，不得在已开车航空器的后方通过；

3.4 A/C entering into stands Nr. 16-20 cannot taxi behind started-up A/C at these stands;

3.5 进场航空器需要申请地面服务时，可联系机场运行控制室(131.15MHz)；

3.5 Arrival A/C shall contact Areodrome Operation Control Office on 131.15MHz to apply handling services;

3.6 需要试车的航空器，需经长沙机坪和机务维修部门许可，并在指定地点进行。严禁在廊桥附近、滑行道试车；

3.6 Engine run-ups are subject to Changsha Apron and maintenace department clearance, and may only be carried out at a designated location. Fast engine run-ups in the vicinity of boarding bridges and TWYs are strictly forbidden;

3.7 241-243 号停机位属于空管塔台的地面管制责任区。航空器在该区域运行时，由黄花地面负责发布推出、开车许可以及进、出停机位滑行路线等指令。

3.7 Stands Nr.241-243 belong to the TWR control area. A/C taxiing in/out stands Nr.241-243 shall contact Huanghua Ground for push-back or start-up clearence

and taxiing instructions.

#### 4. 进、离场管制规定

#### 4. Air traffic control regulations

##### 4.1 进港航空器管制规定

##### 4.1 Control regulations for arrival A/C

4.1.1 为规范跑道占用时间,提高跑道容量,做出以下规定(湿跑道或污染跑道除外):落地航空器应尽快退出跑道,从接地到脱离跑道时间应控制在 50 秒以内;如机组认为无法在上述要求的时间内完成,须在着陆前通知管制员;

4.1.1 Except for wet RWY or contaminated RWY, requirement as follows to increase RWY operation capacity: Aircraft shall fully vacate runway within 50 seconds after touching down; If flight crew consider that they can not fulfill the process within the required time, pilot shall inform ATC controller before landing;

4.1.2 进场航空器脱离跑道后,由黄花塔台指挥其脱波联系黄花地面。航空器与黄花地面联系时,必须向黄花地面报告脱离的跑道和所使用的滑行道等具体位置;

4.1.2 Arrival A/C shall follow Huanghua Tower instructions to change to contact Huanghua Ground after vacating RWY. Then report the specific position of vacated RWY and TWY in use to Huanghua Ground;

4.1.3 进港航空器滑行至相应机坪联络道口(B滑行道与停机坪的交汇处)并目视引导车后,由黄花地面指挥其联系长沙机坪。航空器按照长沙机坪的指令跟随引导车进入停机位,并在到达机位后报告。

4.1.3 Arrival A/C shall follow Huanghua Ground instructions to change to contact Changsha Apron when taxi into the intersection between TWY B and apron. With Changsha Apron instructions, A/C shall be guided by follow-me vehicle to enter into stand and report to Changsha Apron after parking.

##### 4.2 离港航空器管制规定

##### 4.2 Control regulations for departure A/C

4.2.1 离港航空器通过语音或者 PDC 向黄花放行申请放行许可,复诵正确后由黄花放行指挥其联系长沙机坪,并与长沙机坪保持长守;

4.2.1 Departure A/C shall contact Huanghua Delivery to obtain delivery clearance via voice or PDC. Then A/C shall follow Huanghua Delivery instructions to change to contact Changsha Apron after repeating

correctly. And keep listening the Changsha Apron frequency;

4.2.2 长沙机坪负责发布离港航空器的推出、开车和滑行等指令。在航空器进入地面移交位置（B 滑行道与停机坪的交汇处）前，由长沙机坪指挥联系黄花地面。黄花地面继续指挥航空器滑行至跑道等待位置；

4.2.2 Changsha Apron issued information such as push-back, start-up and taxiing. Departure A/C shall follow Changsha Apron instructions to change to contact Huanghua Ground before entering the intersection between TWY B and apron. Then taxi to the RWY holding position with Huanghua Ground instructions ;

4.2.3 为减少波道占用时间,航空器起飞离地后自动与黄花塔台脱波(不需要通话脱波),塔台将在 ATC 许可中明确脱波后应该联系的离场管制频率；

4.2.3 In order to avoid frequency congestion, pilot shall leave Huanghua Tower frequency without radiotelephony instruction from controller after taking off and contact APP immediately on the frequency assigned by ATC clearance;

4.2.4 为规范跑道占用时间,提高跑道容量,做出以下规定（湿跑道或污染跑道除外）：起飞的航空器从接到管制员进跑道指令至对正跑道时间应控制在 60 秒以内；如机组认为无法在上述要求的时间内完成,须在到达跑道外等待点之前向塔台管制员说明；

4.2.4 Except for wet RWY or contaminated RWY, requirement as follows to increase RWY operation capacity:Departure aircraft shall finish runway alignment within 60 seconds after receiving ATC instructions of entering runway;If flight crew consider that they can not fulfill the process within the required time, pilot shall inform TWR ATC controller before reaching the runway holding point;

## 5. 机场的 II/III 类运行

## 5. CAT II/III operations at AD

### 5.1 HUD 特殊批准I/II类运行程序

### 5.1 HUD SA CAT I/II operation procedures

## 5.1.1 跑道运行方式

## 5.1.1 RWY operation

运行标准 Operating Standards	可使用跑道 RWY available
ILS 特殊I类运行 ILS SA CAT I	RWY18L、RWY18R/36L
ILS 特殊II类运行 ILS SA CAT II	RWY18L
低能见度起飞 Low visibility take-off	RWY18L/36R、RWY18R/36L

## 5.1.2 天气条件

## 5.1.2 Weather conditions

	实施阶段天气条件 Weather conditions for implementation	结束阶段天气条件 Weather conditions for termination
特殊I类 SA CAT I	550m>RVR≥450m or 60m>ceiling≥45m	RVR≥550m and ceiling≥60m(getting better)
		RVR<450m or ceiling<45m(getting bad)
特殊II类 SA CAT II	450m>RVR≥350m or 45m>ceiling≥30m	RVR≥450m and ceiling≥45m(getting better)
		RVR<350m or ceiling<30m(getting bad)
低能见度起飞 Low visibility take-off	400m>RVR≥200m	RVR≥400m(getting better)
		RVR<200(getting bad)

## 5.1.3 信息发布及启动申请

## 5.1.3 LPV commencement and termination

5.1.3.1 根据天气条件及地面保障情况，由机场运行控制室宣布启动或结束 HUD 特殊批准 II 类运行和低能见度起飞，由民航湖南空管分局塔台管制室通过 D-ATIS、ATIS、VHF（根据运行情况选择方式）向机组发布信息。

5.1.3.1 Depending on weather and ground service conditions, HUD SA CAT II and low visibility takeoff procedures commencement and termination will be issued by Areodrome Operation Control Office, ATC will inform flightcrew via D-ATIS, ATIS, VHF(depending on operational situations).

5.1.3.2 航空公司飞行机组在运行 HUD 特殊批准 I 类前应主动向管制员报告。

5.1.3.2 Flightcrew shall report to ATC before implementing HUD SA CAT I.

## 5.1.4 地面运行规定

## 5.1.4 Ground operation rules.

5.1.4.1 实施 HUD 低能见度运行时，机组严格按照管制指令给出的地面路线滑行。

5.1.4.1 Flightcrew shall strictly follow ATC instructions when conducting LVP.

5.1.4.2 进场航班从建立 18L 跑道航向道至落地期间，离场航班不得进入 18R 跑道，应在 B9、18R 跑道等待位置等待；航班在 18L 跑道落地后，必须滑行穿越 18R 跑道后方可指挥后续进场航班使用 18L 跑道进近落地。

5.1.4.2 If an approaching aircraft have established on the ILS RWY18L, departure aircraft shall hold short of RWY18R at TWY B9 until arrival aircraft getting off the RWY. Only after approaching aircraft landed on the RWY18L and taxi across RWY18R, the following approaching aircraft can be instructed to approach and land on RWY18L.

5.1.4.3 实施 HUD 低能见度运行时，通常情况下，B 滑行道上同时运行的航空器不超过两架。

5.1.4.3 Generally, when conducting LPV, not more than 2 aircraft are allowed to taxi simultaneously on TWY B.

5.1.4.4 在实施 HUD 低能见度运行时，所有进离港航空器的地面滑行根据机组需求提供引导车引导。

5.1.4.4 All arrival and departure aircraft will be guided by follow-me vehicle depending on flightcrew demands

when conducting LPV

#### 5.1.5 特殊要求

#### 5.1.5 Special requirements

5.1.5.1 机场 HUD 低能见度程序从准备至启动一般需要 20-30 分钟，准备实施 HUD 低能见度运行的航空公司应提前向机场运行控制室或空管提出申请。

5.1.5.1 It usually takes about 20-30min from preparation to implement LPV, flightcrew shall file an application in advance to Aerodrome Operation Control Office.

5.1.5.2 如机组确定自身具备 RVR200m 起飞运行能力，应在申请放行许可时向空管塔台予以说明。

5.1.5.2 If flightcrew confirms aircraft capable of low visibility take-off(RVR 200m), flightcrew shall report to ATC when requesting delivery clearance.

### 6. 除冰规则

### 6. Rules for deicing

冬季除冰，经机场运行控制室许可，可在停机坪上或指定除冰位置为航空器除冰。除冰结束后，向长沙机场坪申请回到原机位或就地进入滑行起飞程序。

De-icing for aircraft shall be carried out at apron or designated location with clearance of Aerodrome Operation Control Office, A/C shall contact Changsha Apron to apply the procedure for taxiing back to the stands or directly taxiing and taking-off when de-icing finished.

### 7. 平行跑道同时仪表运行

### 7. Simultaneous operations on parallel runways

无

Nil

### 8. 警告

### 8. Warning

无

Nil

### 9. 直升机飞行限制，直升机停靠区

### 9. Helicopter operation restrictions and helicopter



**parking / docking area**

9.1 直升机的停靠由机场运行控制室指定位置,按照长沙机坪的指令执行,并注意不得妨碍其它航空器的运行;

9.1 Helicopter shall park at the designated stand by Aerodrome Operation Control Office and conduct with Changsha Apron instructions. Helicopter shall avoid affecting other A/C operation.

9.2 直升机进出停机位必须由引导车引导。

9.2 Helicopter taxiing enter into or exit stands shall be guided by follow-me vehicle.

**ZGHA AD 2.21 噪音限制规定及减噪程序**

**ZGHA AD 2.21 Noise restrictions and Noise abatement procedures**

**1 起飞减噪程序**

**1 Noise abatement procedures for departure**

在保证安全超障和飞行程序最低爬升梯度的条件下,执行如下起飞减噪程序。由于非管制原因不执行减噪程序,飞行员必须在起飞前告知管制员并说明原因(校验飞行等特殊飞行除外)。

In condition of complying with the requirements of obstacle clearance and climb gradient required by flight procedure, the following noise abatement climb procedures shall be implemented. If the procedures can not be implemented due to any reason except ATC, pilot shall inform the controller with a reasonable explanation(except for flight check and other special flight).

1.1 在飞机起飞性能运行允许的情况下,尽可能使用减推力起飞;

1.1 The derated take-off is strongly recommended if the take-off performance of aircraft permit;

1.2 在高度 450 米时,起始爬升速度  $V_2+20\text{km/h}$  (10 海里/小时),减小功率和俯仰角,保持可靠上升率和襟翼继续爬升;

1.2 At altitude 450m, with a climb speed of  $V_2$  plus 20km/h(10kt), reduce engine power/thrust and angle of pitch, maintain a speed with flaps and slats in the take-off configuration;

1.3 高度 900 米以上时, 转为正常航路爬升速度并按规定收襟翼/缝翼。

1.3 At altitude 900m or above, maintain a positive rate of climb, accelerate to normal en-route climb speed and retract flaps/slats on schedule.

## ZGHA AD 2.22 飞行程序

## ZGHA AD 2.22 Flight procedures

### 1. 总则

### 1. General

除经长沙进近或塔台特殊许可外, 在长沙进近管制区和机场管制地带内的飞行, 必须按照仪表飞行规则进行。

Flights within Changsha APP Control Area and Aerodrome Control Zone shall operate under IFR unless special clearance has been obtained from APP and TWR Control.

### 2. 起落航线

### 2. Traffic circuits

起落航线在跑道东侧, A、B 类航空器高度 400 米。C、D 类航空器高度 600 米。

Traffic circuits shall be made to the east of RWY, at the altitude of 400m for aircraft CAT A/B, and 600m for aircraft CAT C/D.

### 3. 仪表飞行程序

### 3. IFR flight procedures

3.1 严格按照航图中公布的进、离场程序飞行。如果需要, 航空器可在空中交通管制部门指定的航路、导航台或定位点上空等待或做机动飞行;

3.1 Strict adherence is required to the relevant arrival/departure procedures published in the aeronautical charts. Aircraft may, if necessary, hold or maneuver on an airway, over a navigation facility or a fix designated by ATC;

3.2 本场 24 小时实行 RNAV 1 进离场程序,不能执行 RNAV 1 程序的航空器驾驶员应在首次联系黄花塔台或长沙进近时报告;

3.2 RNAV 1 procedures are implemented in the Changsha/Huanghua airport for the whole day. If A/C can not fulfill the requirements of the RNAV 1

procedures operation, pilot shall inform the TWR or APP ATC at the first contact;

3.3 等待程序见标准仪表进场图。

3.3 Holding procedures refer to STAR.

#### 4. 雷达程序和/或 ADS-B 程序

#### 4. Radar procedures and/or ADS-B procedures

4.1 长沙进近管制区域内实施雷达管制。航空器最小水平间隔为 6 千米,最小垂直间隔为 300 米;

4.1 Radar control within Changsha APP has been implemented. The minimum horizontal radar separation is 6km, the minimum vertical radar separation is 300m;

4.2 通常,航空器从管制移交点得到进近雷达引导和排序,直至相应的最后进近航迹或目视跑道;

4.2 Normally, aircraft will be vectored and sequenced from transfer of control point to the appropriate final approach segment or to the time when RWY is in sight;

4.3 若离场航空器在起飞前收到塔台管制员给出的起飞限制条件,则起飞后由雷达管制员引导加入标准离场航线;

4.3 If aircraft receive the departure clearance including departure limitation from controller, the aircraft will be vectored to join in the standard departure routes by radar controller;

#### 4.4 雷达管制规定

#### 4.4 Radar control rules

##### 4.4.1 有 SSR 应答机的航空器

##### 4.4.1 For A/C with SSR transponder

##### 4.4.1.1 按照管制员要求开放 A 模式;

##### 4.4.1.1 Set to model A as required;

4.4.1.2 开放应答机时应同时开放编码和高度,除非管制员另有要求;

4.4.1.2 Code and altitude should both set to open, except required by ATC;

4.4.1.3 进入长沙管制区的航班应保留管制单位制定的最后一个应答机编码,如整个飞行过程中没有管制单位指定 SSR 编码的应开“2000”;

4.4.1.3 A/C entering into Changsha APP shall retain the last code. Set the SSR transponder code '2000' if A/C not be designated any code during flight.

4.4.1.4 如机组已知应答机故障（包括无显示或显示错误），在进入长沙管制区时应主动向管制员报告；

4.4.1.4 For A/C with transponder malfunction (including non-display or display error), pilot shall report to ATC controller before entering Changsha APP;

4.4.2 无 SSR 应答机的航空器进入长沙管制区时，应主动向管制员报告机上未装应答机。

4.4.2 A/C without SSR transponder shall report to ATC before entering into Changsha APP.

4.5 最低监视引导高度扇区

4.5 Surveillance Minimum Altitude Sectors

4.5.1 扇区位置点坐标

4.5.1 Coordinates of sector location point

Location Point	Coordinate	Location Point	Coordinate	Location Point	Coordinate
A1	N282500E1130600	C1	N273906E1131850	E2	N280500E1125400
A2	N282847E1131631	C2	N275543E1132317	F1	N280400E1121234
A3	N281612E1132218	C3	N280218E1132018	F2	N282945E1124155
A4	N281218E1132100	C4	N280800E1132018	F3	N282402E1125958
A5	N280818E1130600	C5	N273743E1133143	G1	N284900E1130406
B1	N281918E1133346	D1	N280400E1131700	G2	N284332E1135132
B2	N281844E1135909	D2	N281016E1131924	G3	N282850E1133502
B3	N273754E1135054	E1	N274400E1123124	H1	N284203E1140355

4.5.2 扇区范围及最低引导高度

4.5.2 Range of sectors and minimum altitude limits

Sector 1	ALT limit: 650m or above
A1-A2-A3-A4-A5-A1	

Sector 2	ALT limit: 1350m or above
B1-B2-B3-B1	
Sector 3	ALT limit: 1150m or above
A3-B1-B3-C5-C1-C2-C3-C4-A3	
Sector 4	ALT limit: 800m or above
A3-C4-C3-D1-D2-A4-A3	
Sector 5	ALT limit: 700m or above
E1-E2-A5-A4-D2-D1-C3-C2-C1-E1	
Sector 6	ALT limit: 850m or above
E1-F1-F2-F3-A1-A5-E2-E1	
Sector 7	ALT limit: 1100m or above
F2-G1-G2-G3-B1-A3-A2-A1-F3-F2	
Sector 8	ALT limit: 1950m or above
B1-G3-G2-H1-B2-B1	

**5. 无线电通信失效程序****5. Radio communication failure procedures**

无

Nil

**6. 目视飞行程序****6. Procedures for VFR flights**

6.1 机场塔台（进近）管制区正式实施目视间隔和目视进近运行，此运行方式须得到 ATC 许可；

6.1 With the prior permission of ATC, visual separation and visual approach can be implemented within TWR control area and APP control area;

6.2 实施目视进近时，机组应控制表速，预计飞行航迹距接地点 10 海里时速度不大于 180 节，距接地点 5 海里时速度不大于 160 节。如果不能执行，应及时通知管制员；

6.2 In visual approach, flight crew shall control IAS, IAS is no more than 180kt, when predict flight track-mile are 10NM from touch down, and IAS is no more than 160kt, when predict flight track-mile are

5NM. If flight crew can not conduct, inform ATC;

6.3 实施目视进近的航空器在四边上得到许可前,无法与进近保持联系时,应及时转弯切入指定跑道的五边实施仪表进近,并联系塔台。

6.3 In visual approach, when aircraft on the base before permission and can not contact APP, they should turn in time and intercept designated RWY final, then implement instrument approach and contact TWR.

## 7. 目视飞行航线

## 7. VFR route

无

Nil

## 8. 目视参考点

## 8. Visual reference point

无

Nil

## 9. 其它规定

## 9. Other regulations

### 9.1 对机组的要求

### 9.1 Requirements for flight crew

听清并重复地面管制员的滑行指令,尤其是界限性指令,发现疑问及时证实。

Repeat the whole taxiing instructions issued by GND Control , especially the boundary instructions, and make it clear when there is a doubt.

## 10. 区域导航飞行程序相关数据

## 10. Data for RNAV flight procedures

### Waypoint Coordinates

Waypoint ID	COORDINATES(WGS-84)	Waypoint ID	COORDINATES(WGS-84)
CS01	N281517 E1135813	HA368	N281431 E1131313
CS02	N280455 E1135601	HA372	N275924 E1131356
CS03	N273822 E1133737	HA374	N275924 E1131409
CS04	N275959 E1121622	HA375	N275946 E1132139
CS06	N284557 E1133051	HA376	N275624 E1131915

CS07	N284438 E1134205	HA378	N275146 E1132710
		HA379	N280639 E1132114
HA301	N280512 E1131334	HA381	N281013 E1132403
HA302	N275905 E1131357	HA382	N281325 E1132635
HA304	N275918 E1130105	HA383	N281603 E1132840
HA306	N280640 E1132012	HA384	N283544 E1133006
HA307	N280344 E1132942	HA385	N280600 E1130751
HA309	N281104 E1133928		
HA310	N290642 E1134350	DTM	N2759.0 E11307.5
HA311	N280646 E1141203	LIG	N2738.9 E11331.0
HA312	N282427 E1134031	LLC	N2804.1 E11212.5
HA321	N281657 E1131250	LYH	N2823.6 E11320.6
HA324	N281703 E1132054		
HA325	N281034 E1131339	BEMTA	N2808.9 E11216.4
HA326	N280947 E1133006	DAPRO	N2915.5 E11338.4
		DODSA	N2806.6 E11221.7
HA350	N290656 E1133224	EKIBA	N2805.7 E11300.9
HA356	N281539 E1140436	KAPSA	N2759.1 E11320.4
HA357	N281446 E1134919	MOMRA	N2802.9 E11338.8
HA358	N275156 E1133154	NIVEM	N2719.9 E11336.7
HA359	N280022 E1133232	NODEB	N2823.9 E11329.2
HA362	N282308 E1131227	OKIXA	N2800.6 E11221.5
HA364	N282309 E1131241	OVTAN	N2812.7 E11420.9
HA365	N281752 E1132038	PUKAD	N2759.1 E11209.1
HA367	N281322 E1132544	TASAD	N2833.7 E11341.2

Path	Waypoint	Fly	Magnetic	Turn	Altitude	IAS	VPA/	Navigation
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Terminator	ID	over	Course (°)	Direction	(m)	(km/h)	TCH	Specification
RWY18L SID LLC-6W								
CF	HA301		183					RNP1
TF	HA302					MAX380		RNP1
TF	KAPSA							RNP1
TF	HA306					MAX380		RNP1
TF	HA301							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1
RWY18L SID PUK-6W								
CF	HA301		183					RNP1
TF	HA302					MAX380		RNP1
TF	KAPSA							RNP1
TF	HA306					MAX380		RNP1
TF	HA301							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY18L SID LLC-7W								



CF	HA301		183					RNP1
TF	HA302					MAX380		RNP1
TF	DTM							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1
RWY18L SID PUK-7W								
CF	HA301		183					RNP1
TF	HA302					MAX380		RNP1
TF	DTM							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY18L SID NIV-7W								
CF	HA301		183			MAX380		RNP1
TF	KAPSA							RNP1
TF	LIG							RNP1
TF	NIVEM							RNP1
RWY18L SID OVT-7W								
CF	HA301		183					RNP1
TF	HA307				↓1800			RNP1

					↑1200			
TF	MOMRA							RNP1
TF	CS02							RNP1
TF	HA311							RNP1
TF	OVTAN							RNP1
RWY18L SID DPR-7W								
CF	HA301		183					RNP1
TF	HA307				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	HA309				↑3000			RNP1
TF	HA312							RNP1
TF	TASAD							RNP1
TF	CS07							RNP1
TF	HA310							RNP1
TF	DAPRO							RNP1
RWY18R SID LLC-8W								
CF	HA301		181					RNP1
TF	HA302					MAX380		RNP1
TF	KAPSA							RNP1
TF	HA306					MAX380		RNP1
TF	HA301							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1

RWY18R SID PUK-8W								
CF	HA301		181					RNP1
TF	HA302					MAX380		RNP1
TF	KAPSA							RNP1
TF	HA306					MAX380		RNP1
TF	HA301							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY18R SID LLC-9W								
CF	HA301		181					RNP1
TF	HA302					MAX380		RNP1
TF	DTM							RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1
RWY18R SID PUK-9W								
CF	HA301		181					RNP1
TF	HA302					MAX380		RNP1
TF	DTM							RNP1
TF	HA304				↓5100			RNP1

					↑3000 or by ATC			
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY18R SID NIV-9W								
CF	HA301		181			MAX380		RNP1
TF	KAPSA							RNP1
TF	LIG							RNP1
TF	NIVEM							RNP1
RWY18R SID OVT-9W								
CF	HA301		181					RNP1
TF	HA307				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	CS02							RNP1
TF	HA311							RNP1
TF	OVTAN							RNP1
RWY18R SID DPR-9W								
CF	HA301		181					RNP1
TF	HA307				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	HA309				↑3000			RNP1
TF	HA312							RNP1
TF	TASAD							RNP1
TF	CS07							RNP1

TF	HA310							RNP1
TF	DAPRO							RNP1
RWY36L SID LLC-9X								
CF	HA321		001					RNP1
TF	HA362							RNP1
TF	LYH							RNP1
TF	HA324					MAX380		RNP1
TF	HA325				↑2700			RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1
RWY36L SID PUK-9X								
CF	HA321		001					RNP1
TF	HA362							RNP1
TF	LYH							RNP1
TF	HA324					MAX380		RNP1
TF	HA325				↑2700			RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY36L SID NIV-9X								

CF	HA321		001					RNP1
TF	HA324					MAX380		RNP1
TF	HA326				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	CS03							RNP1
TF	NIVEM							RNP1
RWY36L SID OVT-9X								
CF	HA321		001					RNP1
TF	HA324					MAX380		RNP1
TF	HA326				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	CS02							RNP1
TF	HA311							RNP1
TF	OVTAN							RNP1
RWY36L SID DPR-9X								
CF	HA321		001			MAX380		RNP1
TF	TASAD				↓2700 ↑2100			RNP1
TF	CS07							RNP1
TF	HA310							RNP1
TF	DAPRO							RNP1
RWY36R SID LLC-7X								
CF	HA321		358					RNP1
TF	HA362							RNP1
TF	LYH							RNP1
TF	HA324					MAX380		RNP1

TF	HA325				↑2700			RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	LLC							RNP1
RWY36R SID PUK-7X								
CF	HA321		358					RNP1
TF	HA362							RNP1
TF	LYH							RNP1
TF	HA324					MAX380		RNP1
TF	HA325				↑2700			RNP1
TF	HA304				↓5100 ↑3000 or by ATC			RNP1
TF	OKIXA							RNP1
TF	CS04							RNP1
TF	PUKAD							RNP1
RWY36R SID NIV-7X								
CF	HA321		358					RNP1
TF	HA324					MAX380		RNP1
TF	HA326				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	CS03							RNP1
TF	NIVEM							RNP1

RWY36R SID OVT-7X								
CF	HA321		358					RNP1
TF	HA324					MAX380		RNP1
TF	HA326				↓1800 ↑1200			RNP1
TF	MOMRA							RNP1
TF	CS02							RNP1
TF	HA311							RNP1
TF	OVTAN							RNP1
RWY36R SID DPR-7X								
CF	HA321		358			MAX380		RNP1
TF	TASAD				↓2700 ↑2100			RNP1
TF	CS07							RNP1
TF	HA310							RNP1
TF	DAPRO							RNP1
RWY18L/R STAR LLC-1W								
IF	LLC							RNP1
TF	DODSA					MAX460		RNP1
TF	EKIBA				↓5100 ↑3000 or by ATC			RNP1
TF	HA368							RNP1
TF	HA365							RNP1
TF	LYH				↑900	MAX380		RNP1
RWY18L/R STAR BEM-1W								
IF	BEMTA							RNP1



TF	DODSA					MAX460		RNP1
TF	EKIBA				↓5100 ↑3000 or by ATC			RNP1
TF	HA368							RNP1
TF	HA365							RNP1
TF	LYH				↑900	MAX380		RNP1
RWY18L/R STAR LIG-1W								
IF	LIG					MAX460		RNP1
TF	HA358				↑3000			RNP1
TF	HA359							RNP1
TF	HA367				↑1800			RNP1
TF	HA365							RNP1
TF	LYH				↑900	MAX380		RNP1
RWY18L/R STAR OVT-1W								
IF	OVTAN							RNP1
TF	HA356							RNP1
TF	CS01					MAX460		RNP1
TF	HA357				↑2100			RNP1
TF	HA367				↑1800			RNP1
TF	HA365							RNP1
TF	LYH				↑900	MAX380		RNP1
RWY18L/R STAR DPR-1W								
IF	DAPRO							RNP1
TF	HA350							RNP1
TF	CS06					MAX460		RNP1
TF	HA384							RNP1

TF	NODEB				↑1500			RNP1
TF	LYH				↑900	MAX380		RNP1
RWY36L/R STAR LLC-1X								
IF	LLC							RNP1
TF	DODSA					MAX460		RNP1
TF	EKIBA				↓5100 ↑3000 or by ATC			RNP1
TF	HA385				↓2700			RNP1
TF	HA379							RNP1
TF	HA375				↑1200	MAX380		RNP1
RWY36L/R STAR LLC-2X(by ATC)								
IF	LLC							RNP1
TF	DODSA					MAX460		RNP1
TF	EKIBA				↓1800 or by ATC			RNP1
TF	DTM				↑900	MAX380		RNP1
RWY36L/R STAR BEM-1X								
IF	BEMTA							RNP1
TF	DODSA					MAX460		RNP1
TF	EKIBA				↓5100 ↑3000 or by ATC			RNP1
TF	HA385				↓2700			RNP1
TF	HA379							RNP1
TF	HA375				↑1200	MAX380		RNP1

RWY36L/R STAR BEM-2X(by ATC)								
IF	BEMTA							RNP1
TF	DODSA					MAX460		RNP1
TF	EKIBA				↓1800 or by ATC			RNP1
TF	DTM				↑900	MAX380		RNP1
RWY36L/R STAR LIG-1X								
IF	LIG					MAX460		RNP1
TF	HA378				↑1500			RNP1
TF	HA375				↑1200	MAX380		RNP1
RWY36L/R STAR LIG-2X(by ATC)								
IF	LIG					MAX460		RNP1
TF	HA378				↑1500			RNP1
TF	HA376				↑1200	MAX380		RNP1
RWY36L/R STAR OVT-1X								
IF	OVTAN							RNP1
TF	HA356							RNP1
TF	CS01					MAX460		RNP1
TF	HA357				↑2100			RNP1
TF	HA382				↑2100			RNP1
TF	HA381							RNP1
TF	HA379							RNP1
TF	HA375				↑1200	MAX380		RNP1
RWY36L/R STAR DPR-1X								
IF	DAPRO							RNP1
TF	HA350							RNP1

TF	CS06					MAX460		RNP1
TF	HA384							RNP1
TF	NODEB							RNP1
TF	HA383							RNP1
TF	HA382				↑2100			RNP1
TF	HA381							RNP1
TF	HA379							RNP1
TF	HA375				↑1200	MAX380		RNP1
RWY18L/R Holding (outbound time: 1min)								
HM	LLC	Y	034	L	3000	MAX380		RNP1
HM	HA358	Y	007	R	3000	MAX380		RNP1
HM	HA357	Y	270	L	2100	MAX380		RNP1
HM	HA357	Y	270	R	2100	MAX380		RNP1
HM	HA384	Y	187	L	2400	MAX380		RNP1
HM	HA365	Y	002	R	1200	MAX380		RNP1
RWY36L/R Holding (outbound time: 1min)								
HM	LLC	Y	034	L	3000	MAX380		RNP1
HM	HA381	Y	218	L	2100 or by ATC	MAX380		RNP1
HM	HA357	Y	270	L	2100	MAX380		RNP1
HM	HA357	Y	270	R	2100	MAX380		RNP1
HM	HA384	Y	187	L	2400	MAX380		RNP1
HM	HA375	Y	332	R	1200	MAX380		RNP1
HM	HA378	Y	348	R	1500	MAX380		RNP1
RWY18L Transition (From LYH)								
IF	LYH				↑900	MAX380		RNP1
TF	HA364				650	MAX315		RNP1

RWY18R Transition (From LYH)								
IF	LYH				↑900	MAX380		RNP1
TF	HA362				650	MAX315		RNP1
RWY36L Transition (From HA375)								
IF	HA375				↑1200	MAX380		RNP1
TF	HA372				700	MAX315		RNP1
RWY36L Transition (From HA376)								
IF	HA376				↑1200	MAX380		RNP1
TF	HA372				700	MAX315		RNP1
RWY36L Transition (From DTM)								
IF	DTM				↑900	MAX380		RNP1
TF	HA372				700	MAX315		RNP1
RWY36R Transition (From HA375)								
IF	HA375				↑1200	MAX380		RNP1
TF	HA374				700	MAX315		RNP1
RWY36R Transition (From HA376)								
IF	HA376				↑1200	MAX380		RNP1
TF	HA374				700	MAX315		RNP1
RWY36R Transition (From DTM)								
IF	DTM				↑900	MAX380		RNP1
TF	HA374				700	MAX315		RNP1

**ZGHA AD 2.23 其它资料****ZGHA AD 2.23 Other information**

机场附近有鸟类活动，主要在昼间活动，各类鸟的数量较多，主要在 200m 以下的高空活动，有明显的季节变化，有候鸟活动。本场有多种驱鸟设施。

Birds activity are found around aerodrome in all seasons all the year round, and their activities mainly take place in daytime. There are a fairly great number

of birds of various species, and their activities mainly take place below 200m, the number changes obviously with the change of season. Activities of migratory birds are also found. The aerodrome is equipped with many kinds of bird dispersal facilities.

Bird name	Activity season	Activity time	Flight height
<i>Alauda gulgula</i>	All seasons	22:30-10:30	0-100m;
<i>Pycnonotus sinensis</i>	All seasons	22:30-10:30	0-100m
Snipe	Spring and summer	The whole day;	0-100m
Grey-headed Lapwing	Spring, summer, autumn;	The whole day	0-100m
Turtledove	All seasons	22:30-10:30	0-100m
<i>Lanius schach</i>	All seasons	22:30-10:30	0-100m
Crested myna	All seasons	22:30-10:30	0-100m