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

ZPPP- 昆明 / 长水 KUNMING/Changshui

ZPPP 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	N25° 06.3' E102° 56.5' On RWY04/22, 2000m from THR04
2	方向、距离 Direction and distance from city	073° GEO, 23.9km from the city center(Dongfeng square)
3	标高 / 参考气温 Elevation/Reference temperature	2104m/ 25.1° C (JUN)
4	机场标高位置 / 高程异常 AD ELEV PSN/ geoid undulation	490m inside the displaced THR of RWY03/-
5	磁差 / 年变率 MAG VAR/Annual change	1° W/-
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	Kunming Changshui International Airport CO.LTD Kunming Changshui International Airport, GuanDu district, Kunming 650211, Yunnan province, China TEL: 86-871-67091111 FAX: 86-871-67092222 AFS: ZPPPYDYX Website: www.ynairport.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/4F
9	备注 Remarks	Nil

ZPPP 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	HS or O/R
3	卫生健康部门 Health and sanitation	HS or O/R
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	HO
12	备注 Remarks	Nil

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

1	货物装卸设施 Cargo-handling facilities	Lift platform car (Max:14 tonnes), conveyor vehicle, forklift truck (Max:5 tonnes), longitudinal lifting composition platform
2	燃油 / 滑油牌号 Fuel/oil types	Nr.3 jet fuel/lubricating oil.254. И 2197.2389
3	加油设施 / 能力 Fuelling facilities/capacity	Fueling vehicle (47000liters,20000liters and 10000liters), tank truck, line gas truck, multi-function vehicle. Fuelling capacity: 278 litres/ sec Apron pipeline gas well: bolt, high exhaust, low drainage.
4	除冰设施 De-icing facilities	De-icing fluid (FCY-1A/FCY-2, NW-056A, KHF-1A) De-icer, de-icing apron
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 various types of aircraft on request, capable of supplying spare parts and other maintenance service after pre-arrangement.
7	备注 Remarks	Tractor, ground air supply unit, power unit

ZPPP AD 2.5 旅客设施 Passenger facilities

1	宾馆 Hotels	At AD and near AD
2	餐馆 Restaurants	At AD
3	交通工具 Transportation	Passenger's coaches, buses, taxis, subways
4	医疗设施 Medical facilities	First aid at AD, hospital near AD
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

ZPPP 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, heavy water tank, rapid intervention vehicle, heavy foam tender, dry-chemical tender, fire fighting command car, illumination truck, medicament supply truck, rescue tender; Rescue equipments: rescue cushion, rescue rod (hydraulic), manual hydraulic expander, electric hydraulic expander, cutter, oxygen cutter, chain saw, smoke ventilator, combustible gas detector.
3	搬移受损航空器的能力 Capability for removal of disabled aircraft	MTWA up to 120 tonnes Mobile surface, traier, hoisting gasbag, fork truck, rack
4	备注 Remarks	Nil

ZPPP AD 2.7 可用季节 - 扫雪 Seasonal availability-clearing

1	扫雪设备类型 Types of clearing equipment	All seasons Multi-functional snow ploughs, snow pusher, snow scraper, water cart, sweeper
2	扫雪顺序 Clearance priorities	RWY03/21 → TWY E, F and the TWYs connected with them → TWY R, Q → RWY04/22 → TWY C, D and the TWYs connected with them. Apron cleared at the same time.
3	备注 Remarks	Nil

ZPPP 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:	Cement concrete
		Strength:	PCN 106/R/B/W/T (Stands Nr. 105-107, 129, 134, 135, 140, 163, 164, 312, 313, 322, 323, 329, 330, 702, 708,708L, 708R, 709, 720, 721) PCN 98/R/B/W/T (Stands Nr.518-526, 519L, 519R, 521L, 521R, 522L, 522R, 523L, 523R, 524L, 524R, 525L, 525R, 526L, 526R) PCN 85/R/B/W/T (Stands Nr. 101, 103, 104, 108-110, 112-116, 126, 128, 130-133, 136-139, 141, 142, 153-162, 165-167, 311, 314, 318, 321, 705, 706, 722-724) PCN 75/R/B/W/T (Stands Nr. 102, 111, 117-125, 127, 143-152, 168, 315-317, 324-328, 701, 703, 704, 707, 710-719, 722A, 722B) PCN 67/R/B/W/T (Stands Nr.501-517, 531-544) PCN 65/R/B/W/T (Stands Nr.545-554) PCN 60/R/B/W/T (Stands Nr.591-593)

2	滑行道宽度、道面和强度 Taxiway width, surface and strength	Width:	23m: C5,C6,E,F,F3-F8,H1(north of P),H2 （BTN R&S）,H3 （BTN R&S）,H3(BTN Q&P),H4(north of P),P(BTN H3&H4),Q （BTN H1&H4）,R （BTN H1&H4）, 24.5m: H4(BTN Q&P) 25m: C,C3,C4,C7,C8,D,H2(BTN Q&P),L(BTN D&H1), S(BTN H1&H2),S （BTN H3&H4） 27.5m: H4 （south of R） 28m: D6 （BTN D&H1）,P(BTN H1&H2) 28.5m: S(BTN H2&H3) 29.5m: E3 （east of E） 30m: D4 （west of D）,H1(BTN Q&P) 31m: E2(BTN E&H4), E1(BTN E&H4), F1(west of F), F2（east of E）,F10 （west of F）,P （BTN E&H4） 31.5m: H1(south of R) 33.5m: S(BTN E&H4) 34.5m: C1(east of C),C10(east of C) 35m: E4(east of E), R(BTN E&H4), S(BTN D&H1),U(BTN D&H1) 35.5m: F1(BTN E&F), F10(BTN E&F) 36m: R （BTN D&H1） 37.5m: C10(BTN C&D) 39m: F2(west of F),F9(west of F),Q （BTN D&H1）,Q(BTN E&H4),L(BTN E&H4),K(BTN E&H4) 43.5m: P （BTN D&H1） 44m: C2(east of C),C9 （east of C）,D5(BTN D&H1),J（east of C） 46.5m: K(BTN E&F) 47m: C1(BTN C&D),F2(BTN E&F),P(BTN E&F) 47.5m: E2(BTN E&F), L(BTN E&F) 48m: C2(west of D),D3(west of D), E1(BTN E&F),E3(BTN E&F),E4(BTN E&F),E5(BTN E&F),E6(BTN E&F),F9(BTN E&F),H1(BTN R&Q),H2(BTN R&Q),H3(BTN R&Q),H4(BTN R&Q),J(west of D),Q(BTN E&F),R(BTN E&F),S(BTN E&F),W(BTN E&F) 49m: D5(BTN C&D) 49.5m: L(BTN C&D),P(BTN C&D) 50m: C2(BTN C&D),C9(BTN C&D),D3(BTN C&D),D4(BTN C&D),D6(BTN C&D),D7(BTN C&D),D8(BTN C&D),D9(BTN C&D),J(BTN C&D),Q（BTN C&D）,R(BTN C&D),S(BTN C&D),U(BTN C&D)
		Surface:	Cement concrete
		Strength:	PCN 113/R/B/W/T: TWY D(BTN Q and D4), E(north of Q), H1(north of Q), H4(north of Q), P. PCN 111/R/B/W/T: TWY E(south of Q), F, F1, F2(west of E), F3-F10, H1(south of Q), H2, H3, H4(south of Q), Q, R, S. PCN 110/R/B/W/T: TWY C, C1-C10, D(north of D4, south of Q). PCN 106/R/B/W/T: TWY D3, D4, D6-D9, E3-E6, J, U, W. PCN 98/R/B/W/T: TWY D5, E1, E2, F2(east of E), K, L.
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

ZPPP 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 / 停放位置引导系统的使用 Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Taxiing guide lines at all intersections of TWY and RWY; Aircraft stand identification sign board at stands(except stands Nr. 703-709, 517, 518 ,591); Visual docking guidance system is available for aircraft stands 101-168, marshaller guidance and sign boards at other aircraft stands.	
2	跑道和滑行道标志及灯光 RWY and TWY marking and LGT	RWY markings	RWY designation, THR, TDZ, center line, edge line, aiming point
		RWY lights	THR, center line, edge line, RWY end, wing bar,TDZL(for RWY03 & RWY22)
		TWY markings	RWY holding positions, intermediate holding positions, center line, edge line, shoulders, information signs, instruction signs
		TWY lights	Center line, edge line, RWY guard lights, reflect strikes, rapid exit taxiway indicator, TWY intermediate holding position lights
3	停止排灯 Stop bars	Stop bars at C1 for RWY22, stop bars at F9 & F10 for RWY03	
4	备注 Remarks	Service vehicle lane edge line for crossing TWY, service vehicle lane line, service vehicle orientation arrow, give-way line.	

ZPPP 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**
1	MT	005	4774	2130.6	RWY 03/Take-off flight path
2	MT	008	4642	2122.8	RWY 03/Take-off flight path
3	MT	063	14838	2257	
4	MT	070	13308	2427	
5	MT	075	7171	2231	

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
6	MT	076	13108	2569	
7	MT	078	6516	2226	
8	MT	080	12993	2520	
9	MT	081	8883	2300	
10	MT	085	13740	2480	
11	MT	089	10086	2440	
12	MT	094	6452	2440.8	
13	MT	097	4003	2251.9	
14	MT	097	9665	2520	
15	MT	104	7314	2400	
16	MT	105	9425	2520	
17	MT	113	6311	2520	
18	MT	116	6104	2581.3	
19	MT	121	7373	2540	
20	MT	125	6029	2560	
21	MT	127	6034	2580	
22	MT	130	6998	2648	
23	MT	136	10217	2680	
24	MT	138	6863	2540	
25	MT	138	10501	2730.1	
26	MT	141	5842	2460	
27	MT	145	5967	2500	
28	MT	145	11000	2640	
29	MT	148	6324	2480	
30	MT	151	6617	2460	
31	MT	151	3674	2174.6	
32	Iron tower	155	3508	2235.6	
33	Iron tower	158	3816	2254	
34	MT	161	13405	2440	
35	MT	162	5389	2420	
36	Iron tower	164	5148	2451.8	
37	MT	165	7863	2460	

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
38	MT	165	13704	2520	
39	MT	173	5971	2334	
40	MT	175	14084	2460	
41	MT	178	9461	2360	
42	MT	179	6115	2240	
43	MT	180	12256	2400	
44	MT	186	12743	2380	
45	MT	192	13583	2340	
46	MT	205	10678	2265	
47	MT	207	8164	2147	
48	MT	208	9332	2194.4	
49	MT	242	13451	2215.5	
50	MT	263	10139	2300	
51	*Chimney	266	3944	2153.6	
52	MT	268	9778	2280	
53	MT	275	11859	2300	
54	MT	285	14895	2300	
55	MT	291	11879	2300	
56	*Control TWR	293	1065	2208.2	
57	Iron tower	295	3597	2161.5	
58	MT	300	5008	2280	
59	*Station	309	5345	2376.5	
60	MT	310	4527	2260	
61	Grassland	315	4876	2280	
62	MT	318	4649	2240	
63	MT	322	7827	2320	
64	MT	324	6884	2280	
65	MT	326	4547	2200	
66	MT	327	6803	2276	
67	MT	327	9007	2374	
68	MT	338	8990	2300	
69	MT	342	13334	2522.2	

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
70	MT	343	8749	2280	
71	MT	345	5528	2186	
72	MT	346	13241	2476	
73	MT	352	13878	2420	
Remarks: No significant obstacles in the RWY 04/21/22 take-off flight path area.					

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
1	Contour line	001	114248	3960	MVA SECTOR
2	MT	003	46863	2801	
3	MT	006	49254	2881	
4	MT	010	58342	2997	MVA SECTOR
5	MT	011	28994	2328	
6	MT	011	36912	2820	
7	MT	016	40393	2740	
8	MT	017	82982	3295	MVA SECTOR
9	Contour line	017	83187	3180	MVA SECTOR
10	MT	044	35617	2627	
11	MT	063	16881	2344	
12	MT	069	15106	2340	
13	MT	084	16478	2400	
14	MT	086	15452	2320	
15	MT	090	16493	2480	
16	MT	094	15143	2300	
17	MT	095	87726	2687	
18	MT	099	16735	2420	
19	MT	106	16302	2400	
20	MT	114	16401	2300	
21	MT	117	19686	2400	
22	MT	119	19619	2400	
23	MT	120	17333	2340	

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
24	MT	181	38015	2741	
25	MT	188	38001	2801	
26	MT	194	46857	2620	
27	MT	196	44856	2440	
28	MT	234	40263	2421	
29	MT	239	75861	2618	
30	MT	241	35949	2501	
31	MT	262	37239	2480	
32	MT	263	42374	2501	
33	MT	275	46851	2581	
34	MT	279	47957	2600	
35	MT	290	33475	2481	
36	MT	294	34248	2581	
37	MT	295	23989	2501	
38	MT	301	22700	2521	
39	MT	302	18823	2320	
40	MT	304	44641	2641	
41	MT	304	23020	2581	
42	MT	308	44107	2660	
43	MT	311	19192	2340	
44	MT	311	28598	2440	
45	MT	313	18440	2380	
46	MT	318	19600	2340	
47	MT	326	39184	2580	
48	MT	329	40113	2640	
49	MT	342	15222	2360	
50	MT	345	38387	2501	
51	MT	352	27939	2678	
52	MT	353	30980	2780	
53	MT	356	28815	2821	
54	MT	358	116187	4345	
55	MT	359	28918	2821	
56	MT	360	30627	2670	

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
57	MT	360	32749	2773	
Remark: Nil					

ZPPP AD 2.11 提供的气象信息、机场观测与报告

Meteorological information provided & aerodrome observations and reports

1	相关气象室的名称 Associated MET Office	Yunnan MET center Office of CAAC
2	气象服务时间、服务时间以外的责任气象室 Hours of service, MET Office outside hours	H24 --
3	负责编发 TAF 的办公室；有效期 Office responsible for TAF preparation,Periods of validity	Yunnan MET center Office of CAAC 9 HR, 24 HR
4	着陆预报类型、发布间隔 Type of landing forecast, Interval of issuance	Trend 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 Service Terminal
9	接收气象信息的空中交通服务单位 ATS units provided with information	ACC, APP, TWR
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, TEND

12	观测系统及位置 Observation System & Site(s)	RVR EQPT: A: 115m W of RWY03/21 CL,890m N of THR03; B: 115m W of RWY03/21 CL, 2000m S of THR21; C: 115m W of RWY03/21 CL,330m S of THR21;D: 115m E of RWY04/22 CL,350m N of THR04; E: 115m E of RWY04/22 CL, 2250m N of THR04; F: 115m E of RWY04/22 CL,830m S of THR22. SFC Wind sensors: RWY03: 120m W of RWY03/21 CL, 880m N of THR03; RWY03/21 center1: 120m W of RWY03/21 CL, 1730m N of THR03; RWY03/21 center2: 120m W of RWY03/21 CL, 2000m S of THR21; RWY21: 120m W of RWY03/21 CL; 350m S of THR21; RWY04: 120m E of RWY04/22 CL, 340m N of THR04; RWY04/22 center: 120m E of RWY04/22 CL, 2250m N of THR04; RWY22: 120m E of RWY04/22 CL, 850m S of THR22. Ceilometer:A:120m W of RWY03/21 CL,330m S of THR21; B:120m W of RWY03/21 CL,860m N of THR03; C:60m W of RWY04/22 CL,310m N of THR22; D:120m E of RWY04/22 CL,320m N of THR04
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	MET office TEL: 86-871-67110667

ZPPP 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	跑道着陆入口标高，精密进近跑道接地地带最高标高 THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
03	038° GEO 039° MAG	4000 × 45	See remarks *	Nil	DTHR 2102.6m TDZ 2103.5m
21	218° GEO 219° MAG	4000 × 45	See remarks *	Nil	THR 2098.3m TDZ 2099.7m
04	038° GEO 039° MAG	4500 × 60	See remarks **	Nil	THR 2098.7m TDZ 2101.7m
22	218° GEO 219° MAG	4500 × 60	See remarks **	Nil	DTHR 2096.7m TDZ 2098.3m
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)	无障碍物地带 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	4120 × 300	Nil	240 × 150
See AOC	Nil	Nil	4120 × 300	Nil	240 × 150

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)	无障碍物地带 OFZ	跑道端安全区长宽 RWY end safety area dimensions (m)
RWY04-22: -0.4% (695m); +0.16% (160m); -0.1% (700m); -0.174% (90m); -0.26% (355m); -0.15% (2115m); -0.24% (385m)	Nil	Nil	4620 × 300	Nil	240 × 150
RWY04-22: -0.4% (695m); +0.16% (160m); -0.1% (700m); -0.174% (90m); -0.26% (355m); -0.15% (2115m); -0.24% (385m)	Nil	Nil	4620 × 300	Nil	240 × 150

Remarks:

1.RWY shoulder: 7.5m on each side.

2.THR03 displaced 540m inwards. THR22 displaced 500m inwards.

3.Distance between RCLs of RWY03/21 and RWY04/22 is 1950m; RWY03 THR is 230m north of RWY04 THR.

*PCN 114/F/B/W/T: RWY03/21 (from THR21 to THR03: 295-3705m), ASPH.

*PCN 110/R/B/W/T: RWY03/21 (from THR21 to THR03: 0-295m, 3705-4000m), CONC.

**PCN 114/F/B/W/T: RWY04/22 (from THR04 to THR22: 295-3705m), ASPH.

**PCN 110/R/B/W/T: RWY04/22 (from THR04 to THR22: 0-295m, 3705-4500m), CONC.

ZPPP AD 2.13 公布距离 Declared distances

跑道代号 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
03	4000	4000	4000	3460	THR displaced 540m
03	3780	3780	3780	3460	THR displaced 540m FM F9
21	4000	4000	4000	4000	Nil
21	3780	3780	3780	4000	FM F2
04	4500	4500	4500	4500	Nil
04	4280	4280	4280	4500	FM C9
22	4500	4500	4500	4000	THR displaced 500m
22	4000	4000	4000	4000	THR displaced 500m FM J
22	3780	3780	3780	4000	THR displaced 500m FM C2
Remarks: Full-length RWY take-off shall apply for ATC clearance in advance.					

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

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	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
03	CAT II 900m* VRB LIH	Green Yes	PAPI Left/3°	900m	3460m** spacing 15m	4000m***** spacing 60m	Red	Nil
21	CAT I 900m* VRB LIH	Green Yes	PAPI Left/3°	Nil	4000m*** spacing 15m	4000m****** 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	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
04	CAT I 900m* VRB LIH	Green Yes	PAPI Left/3°	Nil	4500m**** spacing 15m	4500m****** * spacing 60m	Red	Nil
22	CAT II 900m* VRB LIH	Green Yes	PAPI Left/3°	900m	4500m**** spacing 15m	4500m****** * spacing 60m	Red	Nil

Remarks:
* SFL
** up to 2560m White VRB LIH,2560-3160m Red/White VRB LIH,3160-3460m Red VRB LIH
*** up to 3100m White VRB LIH,3100-3700m Red/White VRB LIH,3700-4000m Red VRB LIH
**** up to 3600m White VRB LIH,3600-4200m Red/White VRB LIH,4200-4500m Red VRB LIH
***** up to 540m Red VRB LIH, 540-3400m White VRB LIH,3400-4000m Yellow VRB LIH
****** up to 3360m White VRB LIH,3360-3960m Yellow VRB LIH
******* up to 3900m White VRB LIH,3900-4500m Yellow VRB LIH

ZPPP AD 2.15 其它灯光 , 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	着陆方向指示器位置和灯光 ; 风速表位置和灯光 LDI location and LGT, Anemometer location and LGT	WDI: RWY03: 186m S of DTHR, 115m W of RCL; RWY04: 410m N of THR, 98m W of RCL; RWY21: 355m S of THR, 115m E of RCL; RWY22: 410m S of DTHR, 98m E of RCL.
3	滑行道边灯和中心线灯光 TWY edge and center line lighting	All TWYs TWY intermediate holding positon lights and rapid exit TWY indicator in yellow;reflect strikes in blue.
4	备份电源 / 转换时间 Secondary power supply/switch-over time	CAT I operation: Secondary power (diesel generator) available/ 15sec; CAT II operation: UPS and secondary power (diesel generator) available/ 1sec
5	备注 Remarks	Nil

ZPPP AD 2.16 直升机着陆区域 Helicopter landing area

1	TLOF 坐标或 FATO 入口坐标及高程异常 Coordinates TLOF or THR of FATO Geoid undulation	Nil
2	TLOF 和 / 或 FATO 标高 (m) TLOF and/or FATO elevation (m)	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

ZPPP AD 2.17 空中交通服务空域 ATS airspace

名称 Designation	横向界限 Lateral limits	垂直界限 Vertical limits	备注 Remarks
Kunming tower control area	A circuit, 4 arcs with radius 13km centered at centers of all RWY THRs and 4 lines tangential to the adjacent 2 arcs.	SFC-3000m	
Fuel Dumping Area	N2407E10113- N2333E10007- N2300E10007- N2338E10118- N2407E10113	Above 4000m	
Altimeter setting region and TL/TA	Same as Kunming APP area.	TL 6000m TA 5400m 5700m(QNH ⩾ 1031hPa) 5100m(QNH ⩽ 979hPa)	

ZPPP 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		126.275	H24	for Departure D-ATIS available
ATIS		128.45	H24	for Arrival D-ATIS available
APP	Kunming Approach	119.0 (125.55) AP01	BY ATC	Contact ZPPPAP03 when ZPPPAP01 U/S.
APP	Kunming Approach	123.8 (125.55) AP02	BY ATC	Contact ZPPPAP03 when ZPPPAP02 U/S.
APP	Kunming Approach	120.35 (127.9) AP03	H24	RWY03/04 in use.
APP	Kunming Approach	124.25 (127.9) AP03	H24	RWY21/22 in use.
APP	Kunming Approach	121.15 (126.55) AP04	BY ATC	Contact ZPPPAP03 when ZPPPAP04 U/S.
APP	Kunming Approach	124.25 (127.9) AP05	BY ATC	RWY03/04 in use. Contact ZPPPAP03 when ZPPPAP05 U/S.
APP	Kunming Approach	120.35 (127.9) AP05	BY ATC	RWY21/22 in use. Contact ZPPPAP03 when ZPPPAP05 U/S.

服务名称 Service Designation	呼号 Call sign	频率 Frequency (MHz)	工作时间 Hours of operation	备注 Remarks
APP	Kunming Approach	Nil (Nil) AP06	BY ATC	Nil
APP	Kunming Approach	119.225 (Nil) AP07	BY ATC	Nil
APP	Kunming Approach	Nil (Nil) AP08	BY ATC	Nil
TWR	Kunming Tower	118.1(118.85) (E)	H24	For RWY 04/22
TWR	Kunming Tower	130.6(118.85) (W)	H24	For RWY 03/21
GND	Kunming Ground	121.65 (121.85) (E)	H24	Nil
GND	Kunming Ground	121.95(121.85) (W)	HO	Nil
GND	Kunming Delivery	121.7(121.85)	HO	DCL available
APN	Changshui Apron	121.6(E)	H24	for EAST apron
APN	Changshui Apron	121.75(W)	by ATC	for WEST apron
EMG		121.5	H24	

ZPPP 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
Luxi VOR/DME	LXI	112.3MHz CH 70X	N24° 32.5′ E103° 44.6′		BTN 70.2-83NM on R105 ° U/S.
Malong VOR/DME	DJT	114.6MHz CH 93X	N25° 31.9′ E103° 36.3′ 047° MAG/ 81800m FM ARP	2 314m	

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
Jinning VOR/DME	XSJ	108.2MHz CH 19X	N24° 41.0′ E102° 48.0′ 198° MAG/ 48800m FM ARP	2 383m	
Xishan VOR/DME	SGM	110.6MHz CH 43X	N25° 04.9′ E102° 31.2′ 260° MAG/ 42800m FM ARP	2 312m	
Panlong VOR/DME	XFA	110.8MHz CH 45X	N25° 24.1′ E102° 56.0′ 359° MAG/ 33200m FM ARP	2 788m	
LOC 03 ILS CAT II	IZL	111.3MHz	039° MAG/ 285m FM RWY 21 end		
GP 03		332.3MHz	130m W of RCL,316m FM DTHR03		Angle 3° RDH 16m
DME 03	IZL	CH 50X (111.3MHz)		2 102m	Co-located with GP03
LOC 04 ILS CAT I	IFY	109.3MHz	039° MAG/ 300m FM RWY 22 end		
GP 04		332.0MHz	130m E of RCL,310m FM THR04		Angle 3° RDH 16m
DME 04	IFY	CH 30X (109.3MHz)		2 109m	Co-located with GP04
LOC 21 ILS CAT I	IBH	110.1MHz	219° MAG/ 285m FM RWY 03 end		
GP 21		334.4MHz	130m W of RCL,320m FM THR21		Angle 3° RDH 16m
DME 21	IBH	CH 38X (110.1MHz)		2 109m	Co-located with GP21

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
LOC 22 ILS CAT II	IKM	108.5MHz	219° MAG/ 285m FM RWY 04 end		Beyond 25° rightside of front course U/S; Beyond 31° leftside of front course U/S
GP 22		329.9MHz	130m E of RCL,320m FM DTHR22		Angle 3° RDH 16m
DME 22	IKM	CH 22X (108.5MHz)		2 106m	Co-located with GP22
Remarks:					

ZPPP AD 2.20 本场飞行规定

1. 机场使用规定

1.1 除经空中交通管制部门许可外，禁止未安装二次雷达应答机的航空器起降;

1.2 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。

1.3 昆明长水机场提供数字化放行系统（DCL）服务。

1.3.1预计撤轮档时间（EOBT）前30min至10min，航空器驾驶员应当优先使用数字化放行系统（DCL
）向空中交通管制部门（ATC）申请放行许可。

1.3.2首次联系ATC时，完成DCL服务的机组如果未在机载设备完成确认，初始联系时需要向ATC复诵放行。

1.3.3当DCL无法完成放行许可的申请或发布时，将转为语音方式申请或发布放行许可。

1.4 进/出港航空器在本场地面滑行时，应保持开启ADS-B相关机载设备。

ZPPP AD 2.20 Local traffic regulations

1. Airport operations regulations

1.1 Take-off/landing of aircraft without SSR transponder are forbidden without ATC clearance;

1.2 Each and every technical test flight or exhibition flight shall be filed in advance and conducted only after clearance has been obtained from ATC.

1.3 DCL trial services implemented at KUNMING/ Changshui airport.

1.3.1 Flight crew shall give preference to use DCL apply for ATC clearance 10 minutes to 30 minutes before EOBT.

1.3.2 Flight crew shall repeat clearance at the first contact with ATC controller if the DCL service didn't complete the confirmation.

1.3.3 Flight crew shall contact controller through appropriate ATC frequency for verbal ATC clearance immediately if the DCL service is not available.

1.4 Take-off/landing aircraft shall keep ADS-B equipment on while taxiing.

2. 跑道和滑行道的使用

2.1 禁止航空器在滑行道上做 180° 转弯，未经 ATC 许可，禁止航空器在跑道上自行做 180° 转弯;

2.2 落地的航空器应使用快滑脱离跑道后尽早联系地面管制索取滑行指令，否则使用21号、22号跑道落地的航空器应在F滑行道或C滑行道上机头向南等待管制指令,使用03号、 04号跑道落地的航空器应在F滑行道或C滑行道上机头向北等待管制指令;

2.3 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):

2.3.1 起飞航空器从收到进入跑道指令到对正跑道应不超过 60s。航空器在运行中不能满足以上要求的,应在到达等待位置前通知塔台;

2.3.2 落地航空器从接地到完全脱离跑道应不超过50s。如航空器无法在上述时间内完成,须通知进近管制员 （最晚不迟于三转弯或建立航道之前）;

2.3.3 出港航空器需要使用全跑道起飞时,需要申请放行许可时提出申请。

2.4 转换跑道运行方向要求：当跑道顺风分量达到 3.5m/s，且有继续增大趋势时，管制员将启动跑道转换工作。在转换使用跑道方向过程中，使用跑道的顺风分量大于3.5m/s但不大于5m/s时，管制员通知机组地面风向、风速后，如果因航空器性能限制等原因无法接受时，机组应立即告知管制员，并听从其进一步指令。当跑道顺风分量大于5m/s，应停止顺风起降。

2.5 双跑道同时仪表运行规定

2. Use of runways and taxiways

2.1 180° turnaround on TWY is strictly forbidden for all aircraft, 180° turnaround on RWY is strictly forbidden for all aircraft without ATC permission;

2.2 Arrival aircraft vacating runway via rapid exit taxiway shall contact the GND control ASAP, hold on TWY F or TWY C nose to south before obtaining taxiing instructions from GND control when RWY21 and RWY22 in use, hold on TWY F or TWY C nose to north before obtaining taxiing instructions from GND control when RWY03 and RWY04 in use;

2.3 Except for wet RWY or contaminated RWY,

requirement as follows to increase RWY operation capacity:

2.3.1 Departure aircraft shall finish RWY alignment within 60 seconds after receiving ATC instructions of entering RWY. If aircraft can not execute such operation requirement, flight crew shall inform ATC before reaching the holding positions;

2.3.2 Landing aircraft shall fully vacate RWY within 50 seconds after touch down.If aircraft can not fulfill the process within the required time, flight crew shall inform APP(No later than base turn or the localizer is established);

2.3.3 Full-runway Take-off shall be applied at the same time as applying for delivery clearance.

2.4 Requirements on runway conversion procedure:

If downwind speed is more than 3.5m/s and has a tendency to increase, the RWY in use shall be converted. In the process of converting direction of RWY in use, if 3.5m/s<downwind speed ⩽ 5m/s, ATC shall inform flight crew about wind direction and wind speed. If runway conversion can't be executed due to aircraft's performance limits, flight crew shall report to ATC immediately and follow the next instruction. When downwind speed is more than 5m/s, stop taking off or landing.

2.5 Simultaneous operations on two runways

2.5.1 四种运行模式：独立平行离场、相关平行仪表进近、隔离平行运行、独立平行仪表进近。模式的选择及使用跑道听从管制员指令，运行时间为24h。

2.5.1 Four operation modes can be implemented:

independent parallel departures, dependent parallel ILS approaches, segregated parallel approaches/ departures, and independent parallel ILS approaches.

Follow ATC instructions for the specific operation mode and the runway in use, operation time is 24h.

2.5.2 间隔标准：按《平行跑道同时仪表运行管理规定》执行。

2.5.2 The standard separation is according to the Regulations of Simultaneous Operations on Parallel Runways.

2.5.3 当出现风切变、颠簸、下降气流或强侧风等可能加大航空器偏离仪表着陆系统航向道的程度时，航空器驾驶员应立即向管制员报告，根据收到的机组报告和气象信息，空中交通管制部门可根据平行跑道实施方案中的有关程序，及时终止相关平行仪表进近模式或完全终止平行跑道同时仪表运行。

2.5.3 Under certain adverse weather conditions(e.g. wind shear, turbulence, down drafts or crosswind) which might increase ILS localizer course deviations to the extent that safety may be impaired and/or an unacceptable number of deviation alerts would be generated, pilot must report the situation to controller immediately. According to the reports and weather information, ATC unit shall decide the necessity to terminate the dependent parallel approaches or independent parallel ILS operations completely.

2.5.4 为了防止误认跑道，请机组在复诵管制指令时务必包含跑道号。

2.5.4 The flight crew should repeat RWY number when they repeat control instructions to prevent runway misidentification.

2.6 在滑行等待位置前设置有等待线标志，未经ATC许可，禁止航空器通过。

2.6 Without ATC clearance, the aircraft is prohibited to go across the holding position markings before the designated holding position.

2.7 滑行道使用限制 /TWYs limits:

滑行道 /TWYs	航空器翼展限制 / Wing span limits for aircraft
C, C1-C4, C7-C10, D, D3, D4(east of D), D5(BTN C&D), D6(east of D), D7-D9, H1(BTN S&Q), J, L(east of H1), P(east of H2), Q(east of H1), R(east of H1), S, U(east of D)	<80m
F2(east of E)	<36m
Others	<65m

2.8 对机组的要求

2.8 Requirements for pilots:

a. 机组应听清并复诵地面管制员和机坪管制员的滑行指令，尤其是界限性指令，发现疑问及时证实。

a. Repeat GND and APN Control's taxiing instructions,especialy the limitations, and verify any questions immediately.

b. 从停机位推出时，向地面管制员证实使用跑道、推出方向。

b. While pushed back from parking stand, verify the pushing direction and the approved RWY designation to GND Control.

c. 在脱离跑道首次与地面管制联系时，尤其在低能见度情况下，必须向地面管制报告脱离的跑道和所使用的滑行道。

c. After vacating RWY, especially under conditions of low visibility, report the RWY designation and TWY designation on initial contact with GND.

d. 如在管制扇区移交时联系不畅，应在交接点停止滑行，并向原先联系的扇区报告。

d. Stop at the designated holding position if communication failures occurred, and report to the lastATC Control.

e. 机组初始联系塔台管制时须报告收到的离港方式。

e. Report about the received departure procedure to TWR Control on the first contact.

f. 当机坪管制员发布“可以推出开车”的指令后，要求航空器在5min之内执行指令，否则，航空器需要重新申请。

f. Departing aircraft shall contact APN Control for push-back and start-up clearance and conduct within 5 minutes, otherwise, reapply the clearance.

g. 快速脱离道使用要求 (全跑道落地除外)/Rapid exit TWYs Rules(except full RWY landing)

Landing RWY in use	Rapid exit TWYs to use	Rapid exit TWYs prohibited to use
RWY04	C3/C4/C5	C6/C7/C8
RWY22	C6/C7/C8	C3/C4/C5
RWY03	F3/F4/F5	F6/F7/F8
RWY21	F6/F7/F8	F3/F4/F5

2.9 机场冲突多发地带运行要求

2.9 Hot spot procedure

HS1: 由Q滑行道上F滑行道的航空器应严格执行ATC指令在相应道口前等待，发现冲突应及时避让，并报告ATC。

HS1: Aircraft taxiing from TWY Q to TWY F shall implemented ATC instruction strictly at the hold position to avoid conflict and report it.

HS2: 途经此区域的航空器应严格执行ATC指令在相应道口前等待，发现冲突应及时避让，并报告ATC。

HS2: Aircraft shall implemented ATC instruction strictly at the hold position to avoid conflict and report it.

HS3: 自西向东沿 S 滑离港的航空器，应避免误入跑道。

HS3: Departure aircraft taxiing on TWY S from west to east shall avoid to enter RWY.

HS4: 自西向东沿 U 滑离港的航空器，应避免误入跑道。

HS4: Departure aircraft taxiing on TWY U from west to east shall avoid to enter RWY.

HS5: 此区域为管制盲区，航空器需严格执行ATC指令。

HS5: Control blind zone, aircraft shall implemented ATC instruction strictly.

HS6: 此区域为管制盲区，航空器需严格执行ATC指令。

HS6: Control blind zone, aircraft shall implemented ATC instruction strictly.

HS7: 由H2滑行道向Q或R滑行道滑行的航空器应注意Q、R滑行道的单向运行限制，严格执行ATC指令在相应道口前等待。

HS7: Aircraft taxiing from TWY H2 to TWY Q or TWY R shall pay attention to one-way restrictions of TWY Q & R, implement ATC instruction strictly at the hold position.

HS8: 由H3滑行道向Q或R滑行道滑行的航空器应注意Q、R滑行道的单向运行限制，严格执行ATC指令在相应道口前等待。

HS8: Aircraft taxiing from TWY H3 to TWY Q or TWY R shall pay attention to one-way restrictions of TWY Q & R, implement ATC instruction strictly at the hold position.

HS9: 501-516停机位为自滑出停机位，在此区域运行的航空器应严格执行ATC指令，按照ATC安排的顺序滑行，对滑行有疑问时原地等待并向ATC证实。

HS9: When use stands Nr.501-516, aircraft shall taxi out on own power, implement ATC instruction strictly and taxi in sequence according to ATC instructions. Pilots should hold position and contact ATC to verify when in doubt.

HS10: 531-554停机位为自滑出停机位，在此区域运行的航空器应严格执行ATC指令，按照ATC安排的顺序滑行，对滑行有疑问时原地等待并向ATC证实。

HS10: When use stands Nr.531-554, aircraft shall taxi out on own power, implement ATC instruction strictly and taxi in sequence according to ATC instructions. Pilots should hold position and contact ATC to verify when in doubt.

3. 机坪和机位的使用

3. Use of aprons and parking stands

3.1 机场机坪管制由昆明机场地面管制指挥室负责，长水机坪管制（APN）范围：机坪及机场机动区内除跑道、C、D、E、F、Q、R滑行道、D与04/22跑道之间的所有联络道、E与03/21跑道之间的所有联络道、Q与R之间的所有联络道以外的区域（如机场图所示）。具体管制移交点及移交方式听从管制员指令执行。

3.1 Apron Control service is provided in aprons and parts of airport maneuvering area(shown in Areodrome Charts), The flight crew shall follow APN/GND's instructions.

3.2 离港航空器应向塔台管制室申请放行许可，取得放行许可后，须继续在该管制频率守听。当机组完全准备好申请推出开车时，应告知塔台放行管制席已完全准备就绪，并按照塔台放行管制席发布的指令转频到长水机坪管制，由长水机坪管制负责发布所有航空器的推出、开车许可。在长水机坪范围内，由长水机坪管制发布滑行指令，在空管塔台管制范围内，由空管塔台管制发布滑行指令。

3.2 Departure flight shall obtain delivery clearence from TWR Control, and keep listening on the frequency. When ready for push-back, the flight shall contact Delivery to change frequency to APN Control, then follow the instructions about push-back and start-up.

3.3 停机位对停放航空器的限制 / limits for aircraft parking on the following stands:

停机位 /Stands	航空器翼展限制 / Wing span limits for aircraft (m)	滑出方式 /Exit by
Nr. 105, 129, 140	<80	Taxi-in and push-out
Nr. 518	<80	Push-in and taxi-out
Nr. 106-107, 134-135, 163-164, 312-313, 322-323, 519-526, 709, 720-721	<65	Taxi-in and push-out
Nr. 708	<65	Push-in and push-out
Nr. 705, 722, 723	<61	Taxi-in and push-out
Nr. 103, 108-110, 112-113, 115-116, 126, 128, 130-133, 136-139, 141-142, 153, 155-156, 158-162, 166-167, 311, 314, 321	<52	Taxi-in and push-out
Nr. 101, 104, 114, 154, 157, 165, 318, 330	<48	Taxi-in and push-out
Nr. 102, 111, 117-125, 127, 143-152, 168, 315-317, 324-329, 519L/R,521L/R, 522L/R, 523L/R, 524L/R, 525L/R, 526L/R, 592-593, 701-704, 706, 707, 710-719, 722A, 722B, 724	<36	Taxi-in and push-out
Nr. 501-516,531-554	<36	Taxi-in and taxi-out
Nr. 517, 591	<36	Push-in and taxi-out
Nr. 708L, 708R	<36	Push-in and push-out

3.4 可以通过机场运行管理中心（133.3 MHz），申请引导车和拖车服务。

3.4 Follow-me vehicle service and towing service are available via Operation Control Center of Aerodrome on 133.3MHz.

3.5 不能同时使用的机位 /Stands forbidden to be used simultaneously

The stands in use	The stands forbidden to be used	The stands in use	The stands forbidden to be used
519	519L, 519R	521	521L, 521R
522	522L, 522R	523	523L, 523R
524	524L, 524R	525	525L, 525R
526	526L, 526R	722	722A, 722B
519L/519R	519	521L/521R	521
522L/522R	522	523L/523R	523
524L/524R	524	525L/525R	525

526L/526R	526	722A722B	722
708	708L, 708R	708L/708R	708

3.6 桥载设备参数 / Equipment parameters of the boarding bridge

Stands	Power of 400Hz Ground Power Unit (kW)	Quantity of 400Hz Ground Power Unit	Power of Air conditioning system(kW)	Quantity of Air conditioning system
102、111、117-125、127、 143-152、 168	90	23	106	23
101、 103-110、 112-116、126、128-142、153-167	90	54	127.5	45

4. 进、离场管制规定

无

4. Air traffic control regulations

Nil

5. 机场的 II/III 类运行

5.1 低能见度运行（II类）

5.1.1 达到以下条件时，本场将启动低能见度运行程序:

5.1.1.1 在机场天气条件变坏的情况下，机场主导能见度≤ 1000m，或云底高、垂直能见度任一值≤90m，且有下降趋势时;

5.1.1.2 在机场天气条件由差转好的情况下，预计跑道视程≥ 150m，或云底高、垂直能见度任一值≥ 30m时;

5.1.1.3 当机组目视观察并报告能见度较差，认为有必要启动低能见度运行程序时。

5.1.2 当天气条件满足相应的低能见度运行标准时，航空器起降标准和使用跑道情况见机场图和仪表进近图。

5. CAT II/III operations at AD

5.1 Low Visibility Operation Procedures (II)

5.1.1 Low Visibility Operation Procedures will be implemented with following conditions:

5.1.1.1 Under the condition of bad weather, airport prevailing visibility ≤ 1000m, height of cloud base or vertical visibility ≤ 90m, and have a tendency to be worse;

5.1.1.2 Under the condition of weather from bad to good, estimated RVR ≥ 150m, height of cloud base or vertical visibility ≥ 30m;

5.1.1.3 Low Visibility Operation Procedures will be implemented while flight crew report visibility is worse based on visual observation.

5.1.2 When it is available to implement Low Visibility Opetation Procedures, see more details about Take-off/ Landing MINIMA in areodrome charts and instrument approach charts.

5.2 航空器引导

5.2.1 低能见度程序运行中，对提出引导需求的航空器实施引导,引导服务仅限于机坪内。

5.2.2 引导车在引导航空器时，车辆行驶速度不得超过20km/h,距被引导的航空器不得小于60m。

5.2.3 航空器在推出停机位时，航空器的营运人或代理人应派专人负责观察过往航空器并按规定避让。

5.2.4 当引导路线上局部能见度低于 100m 或者在视线不清、难以保证安全的情况下，不得进行引导工作，并将情况通报机坪管制室。

5.2.5 注意事项

a) 引导车灯开启表示开始引导，引导车灯关闭表示终止引导;

b) 引导工作分离点为机坪与滑行道的连接处。

5.2.6 II类运行时，离场航空器应在指定滑行道的等待位置进行等待（A380 离场时，未经塔台管制员许可不得进入 C 滑行道），避免进入仪表着陆系统敏感区；进场航空器应在确认已完全离开仪表着陆系统敏感区后，再向塔台管制员报告“航空器已脱离跑道”。

5.2 Follow-me vehicle service

5.2.1 When Low Visibility Procedure in force, follow-me vehicle can provide service for aircrafts on request within apron.

5.2.2 The speed of follow-me vehicle shall less than 20km/h in service, the distance from guided aircraft is no less than 60m.

5.2.3 The operator or agent of the aircraft shall assign a person to observe passing aircrafts and conduct avoidance in accordance with regulations when the aircraft is being pushed back.

5.2.4 Along guiding route, if partial visibility is less than 100m or it is in unclear sight or unsafe condition, stop guidance service, pilots shall report APN Control.

5.2.5 Notice

a) The follow-me vehicle lights on means start guiding, the follow-me vehicle lights off means end guiding;

b) Separation point of guide service is connection with apron and taxiway.

5.2.6 When ILS CAT II is implemented, departing aircraft shall hold at appointed TWY hold position(departing aircraft A380 can not enter TWY C without ATC permission), avoid to enter ILS sensitive area; arrival aircraft shall report to ATC "aircraft has vacated the RWY" after confirming the aircraft has left ILS sensitive area.

6. 除冰规则

6.1 两种除冰模式：定点除冰和机位除冰。

6.2 关车定点除冰过程

6. Rules for deicing

6.1 Two ways for de-icing: de-icing at fixed point and de-icing at local stands.

6.2 Process of deicing at deicing positions with engine off

a. 推出滑行：需除冰的航空器在推出前向机坪管制申请，若除冰位置在机坪管制范围内，由昆明机场地面管制指挥室指挥航空器滑行至除冰位置；若除冰位置在空管塔台地面管制范围内，由昆明机场地面管制指挥室指挥航空器滑行至移交点，交由空管地面管制指挥航空器滑行至除冰位置。
b. 滑入除冰位：当引导车位于航空器正前方开始行驶时，航空器应跟随引导车进入除冰位或按机坪或塔台管制指令滑入除冰位。
c. 除冰开始：根据入位引导员手势停稳航空器，关闭发动机，直至接到机务轮档档好的通知后，松开刹车，开始除冰。
d. 除冰结束：除冰完毕，机组在记录本上签字，向机坪或塔台管制申请开车滑出。

a. Push-back and taxiing: Contact APN Control before push-back. If the deicing position is within the scope of APN Control, APN Control provide taxiing service to the deicing position. If the deicing position is within the scope of GND Control, APN Control provide taxiing service at first, then turn over to GND Control at the holding position.

b. Taxiing to deicing position: Aircraft shall follow the follow-me vehicle to the decing position, or taxi to the position designated by APN or TWR Control instructions.

c. Before deicing: Stop aircraft following marshalman's instructions, shut down engines, then loosen brake upon maintenance person's notification.

d. After deicing: Contact APN or TWR Control to apply start-up clearance.

7. 平行跑道同时仪表运行

无

7. Simultaneous operations on parallel runways

Nil

8. 警告

无

8. Warning

Nil

9. 直升机飞行限制，直升机停靠区

无

9. Helicopter operation restrictions and helicopter parking/docking area

Nil

ZPPP AD 2.21 噪音限制规定及减噪程序

无

ZPPP AD 2.21 Noise restrictions and Noise abatement procedures

Nil

ZPPP AD 2.22 飞行程序

1. 总则

ZPPP AD 2.22 Flight procedures

1. General

无

Nil

2. 起落航线

2. Traffic circuits

无

Nil

3. 仪表飞行程序

3. IFR flight procedures

严格按照航图中公布的进、离场程序飞行。

Strict adherence is required to the relevant arrival/departure procedures published in the aeronautical charts.

4. 雷达程序和 / 或 ADS-B 程序

4. Radar procedures and/or ADS-B procedures

4.1 昆明进近、塔台管制区域内实施雷达管制。航空器最小水平间隔为 6km，最小垂直间隔为 300m。

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

4.2 雷达引导

4.2 Radar vectoring

根据航空器性能或管制规定，发布雷达引导、上升或下降高度及速度调整的指令，使航空器之间保持规定的雷达间隔或尾流间隔；

Instructions about radar vectors, ascent/descent altitudes or speed adjustment will be issued for spacing and separating the aircraft so that stipulated radar intervals and wake intervals are maintained, taking into account aircraft characteristics or control regulations;

4.3 最低监视引导高度扇区

4.3 Surveillance Minimum Altitude Sectors

Sector 1	ALT limit: 2850m or above
N250538E1023946-N251024E1025735-N251338E1025907-N251949E1030423-N251218E1031446-N250833E1031059-N251319E1030424-N250906E1025848-N250713E1025617-N250515E1025415-N244421E1024727-N244006E1024412-N245113E1022504-N245715E1023017-N245113E1023840-N245515E1024210-N250538E1023946	
Sector 2	ALT limit: 3300m or above
N250515E1025415-N250713E1025617-N250906E1025848-N250201E1030836-N243718E1025938-N244421E1024727-N250515E1025415	
Sector 3	ALT limit: 3000m or above
N250906E1025848-N251319E1030424-N250833E1031059-N251218E1031446-N251949E1030423-N252311E1030716-N253258E1031341-DJT-N243953E1032726-N242906E1030258-N243808E1024733-N244006E1024412-N244421E1024727-N243718E1025938-N250201E1030836-N250906E1025848	
Sector 4	ALT limit: 3200m or above
N243953E1032726-DJT-N253258E1031341-N253737E1031645-N261049E1033859-N255829E1035357-N255104E1040049-N254816E1040354-N243224E1034430-N240630E1024530-N235913E1014722-N242515E1013810-N242811E1015114-N241250E1021910-N242952E1024044-N243808E1024733-N242906E1030258- N243953E1032726	

Sector 5	ALT limit: 3000m or above
N242515E1013810-N243724E1013351-N250140E1013147-N251937E1015029-N250532E1022655-N251904E1024246-N251338E1025907-N251024E1025735-N250538E1023946-N245515E1024210-N245113E1023840-N245715E1023017-N245113E1022504-N244006E1024412-N243808E1024733-N242952E1024044-N241250E1021910-N242811E1015114-N242515E1013810	
Sector 6	ALT limit: 3300m or above
N251937E1015029-N253052E1020143-N254640E1021812-N252927E1030059-N253033E1030535-N253944E1031160-N253737E1031645-N253258E1031341-N252311E1030716-N251949E1030423-N251338E1025907-N251904E1024246-N250532E1022655-N251937E1015029	
Sector 7	ALT limit: 3500m or above
N254640E1021812-N255818E1023002-N253944E1031160-N253033E1030535-N252927E1030059-N254640E1021812	
Sector 8	ALT limit: 3600m or above
N253944E1031160-N254657E1031702-N260025E1032042-N261532E1033344-N261049E1033859-N253737E1031645-N253944E1031160	
Sector9	ALT limit: 3800m or above
N255818E1023002-N260129E1023317-N255728E1024914-N255512E1025805-N260025E1032042-N254657E1031702-N253944E1031160-N255818E1023002	
Sector10	ALT limit: 4500m or above
N255728E1024914-N260333E1030119-N260760E1030345-N260025E1032042-N255512E1025805-N255728E1024914	
Sector11	ALT limit: 4900m or above
N260129E1023317-N260925E1024125-N263003E1031739-N261532E1033344-N260025E1032042-N260760E1030345-N260333E1030119-N255728E1024914-N260129E1023317	

5. 无线电通信失效程序

5.1 航空器在确定机载设备通信失效后，将二次应答机编码设置为7600。

5.2 区域、进近管制范围的机组按照管制员给定的最后一个指令高度，MEBNA、XISLI、DADOL、KIBES、方向的进、离场航空器直飞盘龙（XFA）导航台；芦西(LXI)、ELASU、GULOT方向的进、离场航空器直飞晋宁（XSJ）导航台。

5. Radio communication failure procedures

5.1 Set the SSR transponder code 7600 if radio receiver not available.

5.2 In APP and ACC area, flight crew shall keep the last altitude assigned by ATC, arrival/departure aircraft from MEBNA, XISLI, DADOL, KIBES shall fly to XFA directly; arrival/departure aircraft from LXI, ELASU, GULO Tshall fly to XSJ directly.

5.3 过盘龙（XFA）导航台后加入右盘旋等待程序，出航航迹040°，出航时间2MIN，入航航迹220°，下降高度至修正海压高度3600m保持（如需耗油应保持修正海压高度4200m盘旋），机组根据通播或风向风速自行选择03/21号或04/22号跑道，再次过台后飞向起始进近定位点（IAF），按相应跑道的标准仪表进近程序自主领航进近着陆。

5.3 Turn right and join the circling holding procedure after XFA , outbound track 040, outbound time 2 min, inbound track 220, descend to altitude 3600m and maintain the height(maintain altitude 4200m circling if consume oil), flight crew shall choose to land via RWY 03/21 or 04/22 according to the ATIS information about wind speed and wind direction, then fly to IAF, strictly follow the relative RWY IAP to land.

5.4 过晋宁（XSJ）导航台后加入公布等待程序，下降高度至修正海压高度3600m保持（如需耗油应保持修正海压高度4200m盘旋），机组根据通播或风向风速自行选择03/21号或04/22号跑道，再次过台后飞向起始进近定位点（IAF），按相应跑道的标准仪表进近程序自主领航进近着陆。

5.4 Join the holding procedure after XSJ, descend to altitude 3600m and maintain(maintain altitude 4200m circling if consume oil), flight crew shall choose to land via RWY 03/21 or 04/22 according to the ATIS information about wind speed and wind direction, then fly to IAF, strictly follow the relative RWY IAP to land.

5.5 已飞越起始进近定位点的航空器，按标准进近程序自主领航着陆。

5.5 Aircraft which has already flown over IAF shall continue landing according to the standard IAP.

6. 目视飞行程序

6. Procedures for VFR flights

6.1 昆明管制区航路、进近和塔台管制范围（高度6000m及以下）内实施目视间隔和目视进近运行，

6.1 Visual separation is implemented within enroute of KUNMING area control(at and blow 6000m). Visual separation and visual approach are put into use within KUNMING approach control area and tower control area(at and below 6000m) .

6.2 实施中机组应注意：

6.2 The important instructions and advisory information for flight crew are as follows:

a) 进近管制员在首次联系时，将向机组通报预计目视进近和跑道，机组无异议即认为该机组接受目视进近。

a) The approach controller shall give estimated visual approach implementation and assigned RWY to the flight crew on the initial contact. No objection from flight crew is deemed acceptable.

b) 目视着陆跑道或目视前机后，应尽早报告管制员。

b) Flight crew shall report the preceding aircraft and/or the landing RWY to the controller as soon as thay are/that is in sight.

c) 实施目视间隔时不得超越相邻跑道前机。

c) Under visual separation, the aircraft shall not overtake the preceding one which is using the adjacent RWY.

7. 目视飞行航线

7. VFR route

无

Nil

8. 目视参考点

无

8. Visual reference point

Nil

9. 其它规定

无

9. Other regulations

Nil

10. 区域导航飞行程序相关数据

10. Data for RNAV flight procedures

Waypoint list

ID	COORDINATES	ID	COORDINATES
CI 03	N245354 E1024424	PP516	N253631 E1032308
CI 04	N245258 E1024459	PP517	N254322 E1031335
CI 21	N252014 E1030722	PP518	N250205 E1030445
CI 22	N251929 E1030812	PP519	N253710 E1032214
PP401	N245830 E1031036	PP521	N252428 E1031105
PP402	N252946 E1024700	PP522	N252349 E1031200
PP403	N254714 E1024834	PP523	N251154 E1024632
PP404	N244942 E1015930	ATOLO	N2447.4 E10302.0
PP406	N251342 E1032222	DADOL	N2630.1 E10317.7
PP407	N245804 E1024301	ELASU	N2359.2 El0147.4
PP408	N245538 E1024719	GULOT	N2437.4 El0133.9
PP409	N251944 E1023333	IGRID	N2433.2 E10311.1
PP411	N252552 E1030506	IDPUG	N2440.1 E10234.1
PP501	N255503 E1032412	KIBES	N2551.1 E10400.8
PP502	N255242 E1034435	MEBNA	N2610.8 E10339.0
PP503	N244740 E1023853	XISLI	N2558.5 E10354.0
PP504	N244701 E1023947	DJT	N2531.9 E10336.3
PP506	N243936 E1022136	LXI	N2432.5 E10344.6
PP507	N245250 E1023141	SGM	N2504.9 E10231.2
PP512	N251917 E1031819	XFA	N2524.1 E10256.0
PP513	N253050 E1030212	XSJ	N2441.0 E10248.0
PP514	N253228 E1032846		

Coding table

Path Terminator	Waypoint ID	Fly over	Magnetic Course (°)	Turn Direction	Altitude (m)	IAS (km/h)	VPA/ TCH	Navigation Specification
RWY03 Departure KIB-7W(BY ATC)								
CF	PP411		024			MAX425		RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY03 Departure KIB-8W								
VA			024		3000	MAX425		RNP1
DF	DJT			R				RNP1
TF	KIBES							RNP1
RWY03 Departure KIB-9W								
VA			024		3000	MAX425		RNP1
DF	PP406			R				RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY03 Departure LXI-8W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	ATOLO							RNP1
TF	LXI							RNP1
RWY03 Departure LXI-9W								
VA			024		3000	MAX425		RNP1
DF	PP401			R				RNP1
TF	ATOLO							RNP1
TF	LXI							RNP1
RWY03 Departure ELA-8W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	PP404							RNP1

TF	ELASU							RNP1
RWY03 Departure ELA-9W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	ELASU							RNP1
RWY03 Departure GUL-9W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	GULOT							RNP1
RWY03 Departure DAD-8W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP403							RNP1
TF	DADOL							RNP1
RWY03 Departure DAD-9W								
VA			024		3000	MAX425		RNP1
DF	XFA			L				RNP1
TF	DADOL							RNP1
RWY04 Departure KIB-7X(BY ATC)								
VA			054		2700	MAX425		RNP1
DF	PP401			R				RNP1
TF	ATOLO							RNP1
TF	SGM							RNP1
TF	XFA							RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY04 Departure KIB-8X								
CF	DJT		054			MAX425		RNP1
TF	KIBES							RNP1
RWY04 Departure KIB-9X								
VA			054		2700	MAX425		RNP1
DF	PP406			R				RNP1

TF	DJT							RNP1
TF	KIBES							RNP1
RWY04 Departure LXI-9X								
VA			054		2700	MAX425		RNP1
DF	PP401			R				RNP1
TF	ATOLO							RNP1
TF	LXI							RNP1
RWY04 Departure ELA-6X								
VA			054		2700	MAX425		RNP1
DF	PP401			R				RNP1
TF	ATOLO							RNP1
TF	SGM							RNP1
TF	PP404							RNP1
TF	ELASU							RNP1
RWY04 Departure ELA-7X								
VA			054		2700	MAX425		RNP1
DF	PP401			R				RNP1
TF	ATOLO							RNP1
TF	SGM							RNP1
TF	ELASU							RNP1
RWY04 Departure ELA-8X								
VA			054		2700	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	PP404							RNP1
TF	ELASU							RNP1
RWY04 Departure ELA-9X								
VA			054		2700	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	ELASU							RNP1
RWY04 Departure GUL-8X								
VA			054		2700	MAX425		RNP1
DF	PP401			R				RNP1

TF	ATOLO							RNP1
TF	SGM							RNP1
TF	GULOT							RNP1
RWY04 Departure GUL-9X								
VA			054		2700	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP402				↑ 3600			RNP1
TF	SGM							RNP1
TF	GULOT							RNP1
RWY04 Departure DAD-8X								
VA			054		2700	MAX425		RNP1
DF	XFA			L				RNP1
TF	PP403							RNP1
TF	DADOL							RNP1
RWY04 Departure DAD-9X								
VA			054		2700	MAX425		RNP1
DF	XFA			L				RNP1
TF	DADOL							RNP1
RWY21 Departure KIB-8Y(BY ATC)								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	SGM							RNP1
TF	PP409							RNP1
TF	XFA							RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY21 Departure KIB-9Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	ATOLO							RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY21 Departure LXI-9Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	ATOLO							RNP1

TF	LXI							RNP1
RWY21 Departure ELA-8Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	SGM							RNP1
TF	PP404							RNP1
TF	ELASU							RNP1
RWY21 Departure ELA-9Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	SGM							RNP1
TF	ELASU							RNP1
RWY21 Departure GUL-9Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	SGM							RNP1
TF	GULOT							RNP1
RWY21 Departure DAD-9Y								
VA			219		2250			RNP1
CF	PP407		234			MAX425		RNP1
TF	SGM							RNP1
TF	PP409							RNP1
TF	PP403							RNP1
TF	DADOL							RNP1
RWY21 Departure DAD-1Y(BY ATC)								
VA			234		2600			RNP1
DF	DADOL			R				RNP1
RWY22 Departure KIB-8Z(BY ATC)								
CF	PP408		219			MAX425		RNP1
TF	SGM							RNP1
TF	PP409							RNP1
TF	XFA							RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY22 Departure KIB-9Z								
CF	PP408		219			MAX425		RNP1

TF	ATOLO							RNP1
TF	DJT							RNP1
TF	KIBES							RNP1
RWY22 Departure LXI-9Z								
CF	PP408		219			MAX425		RNP1
TF	ATOLO							RNP1
TF	LXI							RNP1
RWY22 Departure ELA-8Z								
CF	PP408		219			MAX425		RNP1
TF	SGM							RNP1
TF	PP404							RNP1
TF	ELASU							RNP1
RWY22 Departure ELA-9Z								
CF	PP408		219			MAX425		RNP1
TF	SGM							RNP1
TF	ELASU							RNP1
RWY22 Departure GUL-9Z								
CF	PP408		219			MAX425		RNP1
TF	SGM							RNP1
TF	GULOT							RNP1
RWY22 Departure DAD-9Z								
CF	PP408		219			MAX425		RNP1
TF	SGM							RNP1
TF	PP409							RNP1
TF	PP403							RNP1
TF	DADOL							RNP1
RWY22 Departure DAD-1Z(BY ATC)								
VA			219		2600			RNP1
DF	DADOL			R				RNP1
RWY03 Arrival MEB-1W								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	XFA							RNP1
TF	PP523							RNP1
TF	PP507				↑ 3600			RNP1
TF	PP503							RNP1

TF	CI 03				3000			RNP1
RWY03 Arrival XIS-1W								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP518							RNP1
TF	XSJ				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY03 Arrival XIS-2W								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	XFA							RNP1
TF	PP523							RNP1
TF	PP507				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY03 Arrival LXI-1W								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY03 Arrival ELA-2W								
IF	ELASU					MAX380		RNP1
TF	IDPUG				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY03 Arrival GUL-1W								
IF	GULOT					MAX380		RNP1
TF	PP506							RNP1
TF	IDPUG				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY03 Arrival GUL-2W								
IF	GULOT					MAX380		RNP1
TF	PP506							RNP1

TF	PP507				↑ 3600			RNP1
TF	PP503							RNP1
TF	CI 03				3000			RNP1
RWY04 Arrival MEB-1X								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	XFA							RNP1
TF	PP523							RNP1
TF	PP507				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY04 Arrival XIS-1X								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP518							RNP1
TF	XSJ				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY04 Arrival XIS-2X								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	XFA							RNP1
TF	PP523							RNP1
TF	PP507				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY04 Arrival LXI-1X								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY04 Arrival ELA-2X								
IF	ELASU					MAX380		RNP1
TF	IDPUG				↑ 3600			RNP1
TF	PP504							RNP1

TF	CI 04				3300			RNP1
RWY04 Arrival GUL-1X								
IF	GULOT					MAX380		RNP1
TF	IDPUG				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY04 Arrival GUL-2X								
IF	GULOT					MAX380		RNP1
TF	PP506							RNP1
TF	PP507				↑ 3600			RNP1
TF	PP504							RNP1
TF	CI 04				3300			RNP1
RWY21 Arrival MEB-1Y								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival MEB-2Y								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	PP517							RNP1
TF	PP519							RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival XIS-1Y								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival XIS-2Y								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP514							RNP1
TF	PP519							RNP1

TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival LXI-1Y								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival LXI-2Y								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ							RNP1
TF	PP507							RNP1
TF	XFA							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival ELA-3Y								
IF	ELASU					MAX380		RNP1
TF	IDPUG							RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival ELA-4Y								
IF	ELASU					MAX380		RNP1
TF	IDPUG							RNP1
TF	PP507							RNP1
TF	XFA							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival GUL-1Y								

IF	GULOT					MAX380		RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival GUL-2Y								
IF	GULOT					MAX380		RNP1
TF	PP506							RNP1
TF	XFA							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP521				3600			RNP1
TF	CI 21				3300			RNP1
RWY21 Arrival MEB-1M(BY ATC)								
IF	MEBNA							RNP1
TF	PP521				3600			RNP1
RWY22 Arrival MEB-1Z								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival MEB-2Z								
IF	MEBNA					MAX380		RNP1
TF	PP501							RNP1
TF	PP517							RNP1
TF	PP516							RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival XIS-1Z								
IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival XIS-2Z								

IF	XISLI					MAX380		RNP1
TF	PP502							RNP1
TF	PP514							RNP1
TF	PP516							RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival LXI-1Z								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival LXI-2Z								
IF	LXI					MAX380		RNP1
TF	IGRID							RNP1
TF	XSJ							RNP1
TF	PP507							RNP1
TF	XFA							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival ELA-3Z								
IF	ELASU					MAX380		RNP1
TF	IDPUG							RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival ELA-4Z								
IF	ELASU					MAX380		RNP1
TF	IDPUG							RNP1
TF	PP507							RNP1
TF	XFA							RNP1

TF	PP513				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival GUL-1Z								
IF	GULOT					MAX380		RNP1
TF	XSJ							RNP1
TF	PP518							RNP1
TF	PP512				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival GUL-2Z								
IF	GULOT					MAX380		RNP1
TF	PP506							RNP1
TF	XFA							RNP1
TF	PP513				↑ 3600			RNP1
TF	PP522				3300			RNP1
TF	CI 22				3000			RNP1
RWY22 Arrival MEB-1N(BY ATC)								
IF	MEBNA							RNP1
TF	PP522				3300			RNP1
RWY03/04/21/22 Holding (outbound time: 1.5min)								
HM	PP501	Y	220	R	5100			RNP1
RWY03/04 Holding (outbound time: 1min)								
HM	XSJ	Y	291	R	3600			RNP1
RWY21/22 Holding (outbound time: 1min)								
HM	XSJ	Y	291	R	4200			RNP1

ZPPP AD 2.23 其它资料

1. 全年有鸟类活动。机场当局采取了驱赶措施，以减少鸟群活动。

ZPPP AD 2.23 Other information

1.Activities of bird flocks are found all the year round.

Aerodrome Authority resorts to dispersal methods to reduce bird activities.

Migratory Season	Area and Direction of activity	Flight height(m)	Characteristic
Spring (day)	In the airport	0-150	Group, all size

Spring (night)	Inside and outside flight area	0-150	Group, small and medium size
Summer (day)	In the airport	0-150	Group, small and medium size
Summer (night)	Inside and outside flight area	0-150	Group, small and medium size
Autumn (day)	Inside flight area	0-150	Group, small and medium size
Autumn (night)	outside flight area, migrate northwest to southeast	0-150	Group, small and medium size
Winter (day)	Inside and outside flight area	0-150	Group, all size
Winter (night)	outside flight area, migrate northwest to southeast	0-150	Group, all size

2. 机场安装了四台激光驱鸟设备，扫射过程中有绿色激光束穿过跑道，扫射植草区，对飞行无影响，请机组注意。

2. Four laser bird dispersal equipment erected, emitting green laser light, cabin crew shall pay more attention.

Number	Location	Operation time
1	186m E of RWY04 CL, 700m N of THR04	10:50-00:05 (next day)
2	186m E of RWY04 CL, 2700m N of THR04	
3	181m W of RWY03 CL, 600m N of THR03	
4	181m W of RWY03 CL, 2600m N of THR03	