



中国南方航空
CHINA SOUTHERN AIRLINES

Introduction of CSN Operations under FUA

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南方航空概况

Overview of China Southern Airlines

亚洲区域内运输飞机最多、航线网络最发达、年客运量最大的航空公司之一

One of Asia's largest airlines by fleet size, network coverage, and passenger volume.

在册飞机907架次，每天3000多个航班飞至全球44个国家和地区、243个目的地

Our 907 aircraft fly over 3,000 daily flights to 243 destinations in 44 countries and regions worldwide.

2023年旅客运输量达1.42亿人次

We carried 142 million passengers in 2023

复杂多样的运行环境：全球最长直飞航线、高海拔机场、雷雨/冰雪天气

We operate in a complex and challenging environment, with some of the world's longest non-stop routes, high-altitude airports, and frequent thunderstorms and icy conditions.



Regions of Flexible Route Operations

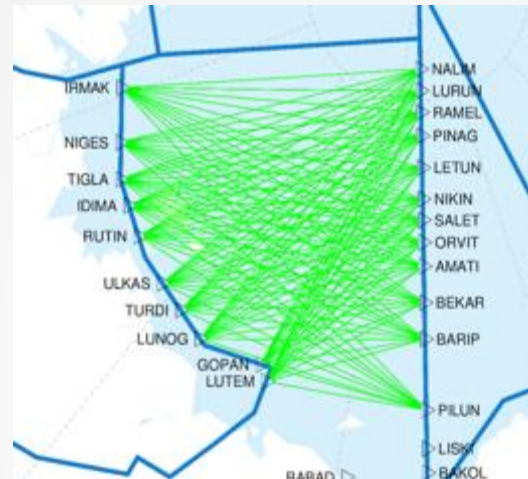
Europe FRA

(Free Route Airspace)



Russia UPR

(User Prefer Route)



North Pacific NOPAC



Canada RADOM and USA



China === America

- Use flexible route from 2015
- TRACK / PACOTS / LIDO MFT

Route	Typical Type	Annual Flights
ZSPD-KSEA	B777	5
ZGGG-KSFO	B777	72
ZSPD-MMTJ	B777	105
ZHHH-KSFO	B777	105
ZGGG-KLAX	B777	246
ZSPD-KLAX	B777	529
ZSQD-CYVR	B777	171
MMTJ-ZGSZ	A350	60



Flight Plan: CAN---LAX

ROUTE	LAX01SF	LAX01YF	LAX02YF	LAX03YF	LAX04YF	LAX02NF
OFF NO	1/0/1	2/0/1	3/0/1	4/0/1	5/0/1	6
REG	B20EM	B20EM	B20EM	B20EM	B20EM	B20EM
CRUISE	050/083	050/082	050/082	050/082	050/082	050/083
TRIP	93653	91031	91496	92063	93030	106057
TTIME	1047	1034	1037	1040	1045	1243
ETA	0812	0759	0802	0805	0810	1008
COSTS	78533	76385	76766	77231	78023	96952

Route	Flight Time	Flight Cost
01SF	10H 47MIN	78533 \$
01YF	10H 34MIN	76385 \$
Save	13MIN	2148 \$

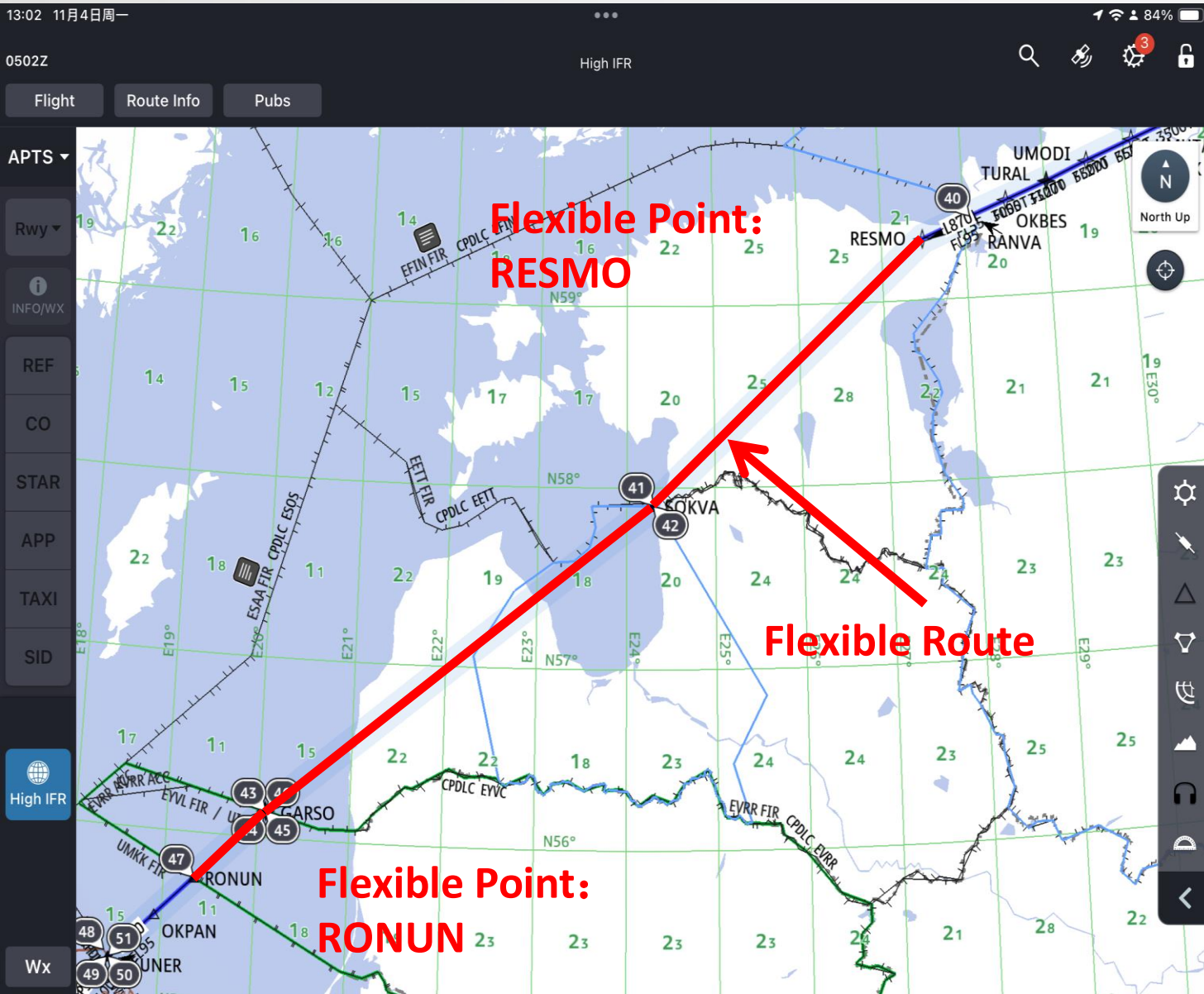
Factors affecting route selection:

- Route Fees
- Wind
- Jet Stream
- Typhoon
- Volcano

China === Europe

- Use flexible route from 2019
- Combine FIXED route with DCT Sectors, taking advantage of FRA rules

Route	Typical Type	Annual Flights
ZGGG-EHAM	B777/A350	492
ZBAD-EHAM	A330	292
ZGGG-LFPG	A350	280
ZGGG-LIRF	B787	231
ZGGG-EDDF	B777/A350	266
ZUCK-EDDF	B777	27
ZGGG-EGLL	B787	358
ZHHH-EGLL	B787	105



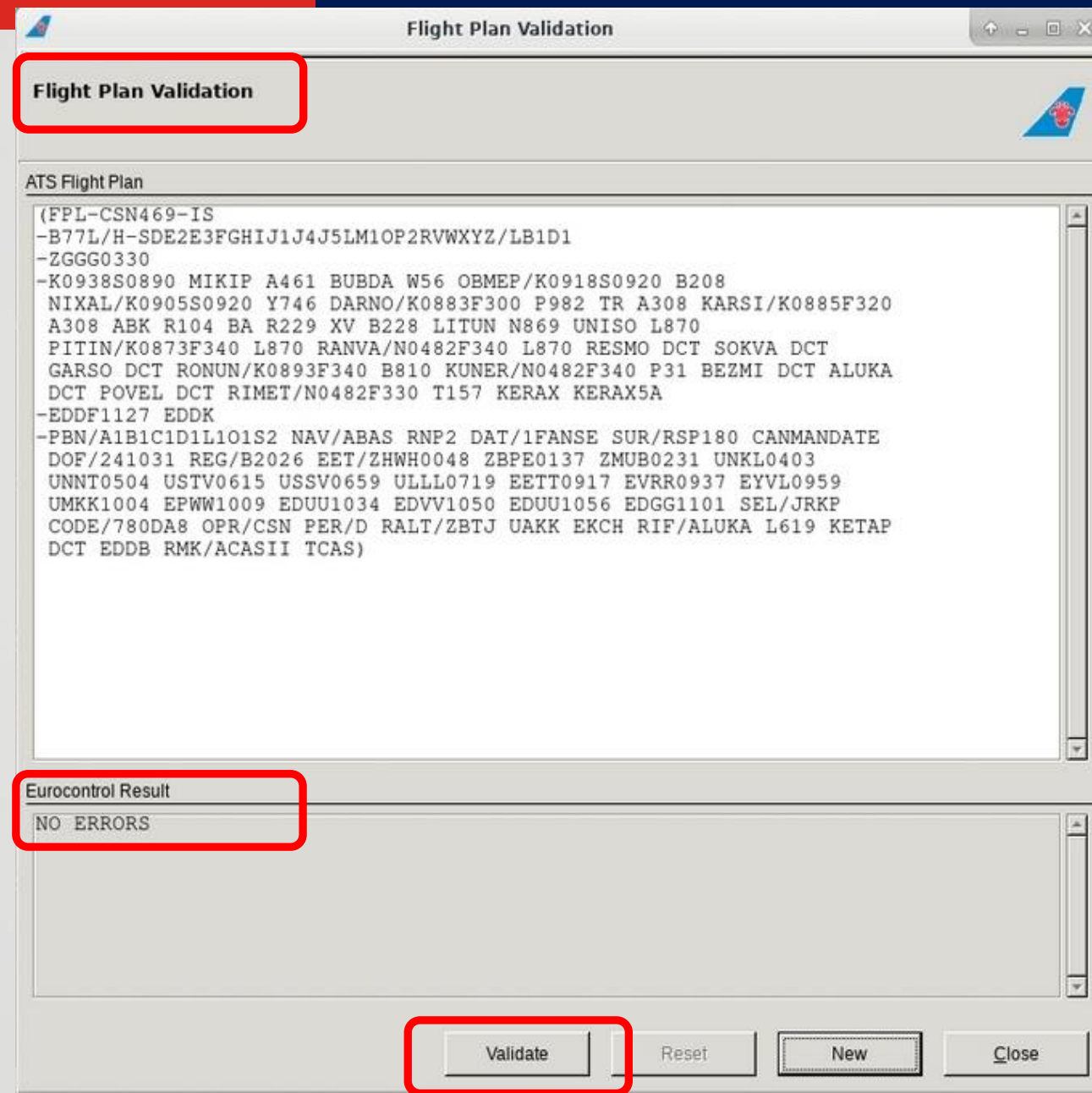
Flight Plan: CAN---FRA

Company Route No. 03NF (active)

RESMO to RONUN TALLINN FIR

Company Flight Plan Rules:

- MFT (Minimum Fuel Track)
- Preserved DCT route sector



The screenshot shows a 'Flight Plan Validation' window. At the top, the title bar says 'Flight Plan Validation'. Below it, a red box highlights the 'Flight Plan Validation' label. The main area is titled 'ATS Flight Plan' and contains a text box with the following text:

```
(FPL-CSN469-IS  
-B77L/H-SDE2E3FGHIJ1J4J5LM1OP2RVWXYZ/LB1D1  
-ZGGG0330  
-K0938S0890 MIKIP A461 BUBDA W56 OBMEP/K0918S0920 B208  
NIXAL/K0905S0920 Y746 DARNO/K0883F300 P982 TR A308 KARSII/K0885F320  
A308 ABK R104 BA R229 XV B228 LITUN N869 UNISO L870  
PITIN/K0873F340 L870 RANVA/N0482F340 L870 RESMO DCT SOKVA DCT  
GARSO DCT RONUN/K0893F340 B810 KUNER/N0482F340 P31 BEZMI DCT ALUKA  
DCT POVEL DCT RIMET/N0482F330 T157 KERAX KERAX5A  
-EDDF1127 EDDK  
-PBN/A1B1C1D1L1O1S2 NAV/ABAS RNP2 DAT/1FANSE SUR/RSP180 CANMANDATE  
DOF/241031 REG/B2026 EET/ZHWH0048 ZBPE0137 ZMUB0231 UNKL0403  
UNNT0504 USTV0615 USSV0659 ULLL0719 EETT0917 EVRR0937 EYVL0959  
UMKK1004 EPWW1009 EDUU1034 EDVV1050 EDUU1056 EDGG1101 SEL/JRKP  
CODE/780DA8 OPR/CSN PER/D RALT/ZBTJ UAKK EKCH RIF/ALUKA L619 KETAP  
DCT EDDB RMK/ACASII TCAS)
```

Below the text box, a red box highlights the 'Eurocontrol Result' label, which shows 'NO ERRORS'. At the bottom, a red box highlights the 'Validate' button, along with 'Reset', 'New', and 'Close' buttons.

1. Verify the company routes against RAD,
5 days prior to an AIRAC cycle

2. Comply with restrictions (AUP/UUP)

3. FPL Validation

- Use the Lido System to test the FPL
- Use the Web to test the FPL

<https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/>

ZCZC SOE1319 141601

QU CANUDCZ

.SHAFP8X 141601

141555 EUCHZMFP

YOUR FPL CSN403 2155 231114 ZUCK EDDF HAS FAILED IFPS
REVALIDATION, IF NO REROUTE IS FILED EXPECT A SIGNIFICANT OPERATIONAL PENALTY

(FPL-CSN403-IS

-B77L/H-SDE2E3FGHIJ1J4J5LM1OP2RVWY/LB1D1

-ZUCK2155

-K0885S0720 PINAB W80 BEVNU/K0918S0780 W80 WFX/K0933S0840 W179

OMBON B330 SUNUV W197 ANDIM B215 NIXUK/K0898S0920 B215 IBANO G470

AKLAS W192 FKG A368 SARIN/K0895F300 M166 KRG T523 ATBAN/K0892F320

L994 TITUR N985 NOGBA N984 UDREM L93 SONAT M60 ANDAT/K0880F340

P157 OKDON N87 ROGID/N0470F340 M854 KETOL/N0470F340 DCT ALAMI DCT SALLO

DCT POVEL DCT RIMET/N0473F330 T157 KOKEB/N0421F230 T157 KERAX

KERAX4A

-EDDF1047 EDDK

- CZ403, FPL was sent normally and passed through the EUROCONTROL web test early at previous night.
- Hours later, a rejection report was received from EUCHZMFP due to revalidation, and suggested alternative route was included at the same time.
- After redispach and FPL refiling, take-off punctuality was not affected eventually.

Thanks !

---2024.11.21---

南航运行指挥中心

CHINA SOUTHERN AIRLINES

SYSTEM OPERATIONS CONTROL CENTER

2024年07月18日

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