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Agenda Item 4: ATS route realignment COORDINATION OF PROPOSALS OF ATS ROUTES IN THE INTERFACE AREA BETWEEN THE ICAO EUR AND APAC REGIONS EUROCONTROL Modelling Tool Evaluations

EUROPE - ASIA TRANS-REGIONAL SPECIAL COORDINATION MEETING

23rd - 25th September 2013

Beijing, China

Mr. Tihomir Todorov

Head of Section Airspace Design
Operations Planning
Network Operations Management Division
Network Manager Directorate
EUROCONTROL



Presentation Objectives



- ❖ To present a modelling tool theoretical findings on potential daily distance and environmental savings/losses, if any new ATS route at Europe - Asia interface will be implemented.
- ❖ To further facilitate proper decisions to be taken by the States concerned.



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ATS route proposals source



ERNIP Database

Far East ATS route Catalogue



- ❖ The EUROCONTROL/ICAO RNDSG/RDGE On-line Route Planning Database developed by EUROCONTROL is a central, interactive database accessible via a standard web browser, integrating short, medium and long-term improvement projects planned for implementation or under development to improve the European ATS route network and airspace structure.
- ❖ Project initiatives come from the States, airspace users, EUROCONTROL and ICAO in form of requirements or concrete proposals for airspace changes. To manage this process, the short, medium and long term projects are maintained in the database allowing all RNDSG / RDGE members to share a common picture of recorded proposals and their evolution, to provide transparency and to facilitate the collaborative planning process.
- ❖ Far East ATS route catalogue currently contains 34 proposals. 16 were implemented and other 18 are still under consideration by the States concerned.
- ❖ More information for ERNIP Database might be found on EUROCONTROL web site using the following link: <http://www.eurocontrol.int/nm-services/european-route-network-improvement-plan-ernip-database>.



ERNIP Database

Far East ATS route Catalogue



European Route Network Improvement Plan Database

Proposals

You are reminded to consider the data in this EUROCONTROL/ICAO European Route Network Improvement Plan database purely as advanced information and not act thereupon until proper verification is received through the associated AIRAC amendments and/or other official State AIP publications.

Search Criteria

Proposal

Proposal Number (e.g. 68.24 10.2a 999.86)

RNDSG

Project Group Number (e.g. BM3 CE0123)

RDGE

Project Name (Use * for any project name not empty)

Words in Description, Objective & Comments

Pending <Any>

Use AND (instead of OR) to search for words

Project Group

- FAB Denmark/Sweden
- FAB EC
- FAB NEFAB
- FAB SW
- FAB UK/Ireland
- RFG 6S
- RFG NW
- RFG SE
- RFG SW
- SG BALTIC
- SG BLACK
- SG FAR EAST**
- SG FAR EAST CP**
- SG MIDASIA
- 50 MPCPEs

Project Category

- <Any>
- Airspace Structure
- ATC Sectors
- ATS Routes
- CDRs
- Civil/Military Airspace
- DCTs
- Free Route Airspace
- Night Routes
- PBN
- RAD
- Route Redesignation
- TMA
- Vertical FE
- 50 MPCPEs

Impacted States & Org.

- <Any>
- AFG
- ALB
- AOs
- ARE
- ARM
- AUT
- AZE
- BEL
- BGR
- BIH
- BLR
- CHE
- CHN
- CYP

Originators

- <Any>
- AFG
- ALB
- AOs
- ARE
- ARM
- AUT
- AZE
- BEL
- BGR
- BIH
- BLR
- CHE
- CHN
- CYP

Impl. Status

- Proposed
- Planned
- Confirmed
- Implemented

Implementation Date

- Without implementation date
- With implementation date

from ... X

to ... X

Proposal ID : 16.027 / FE0034

Description:

To implement ATS route **RITEK - 495025N 1182854E - HLD.**

Objective:

To reduce route distance of 159 NM as compared to current routing PTG-RITEK-HLD-DIKUT-KANSU.

Impl. Status:

Proposed

Project Group:

SG FAR EAST

Project Category:

ATS Routes

States & Org.:

CHN

RUS

Originator(s):

RUS

IATA

Comments:

- RUS: Further studies/discussion required. No reaction so far from China, discussion with China required for proposal development
- CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office)

Modify... >

SAAM Status:

Not inserted

History:

Patricia Cuff
APR 2012

[View history](#)



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Modelling tool used

SAAM - System for Assignment and Analysis at a Macroscopic level

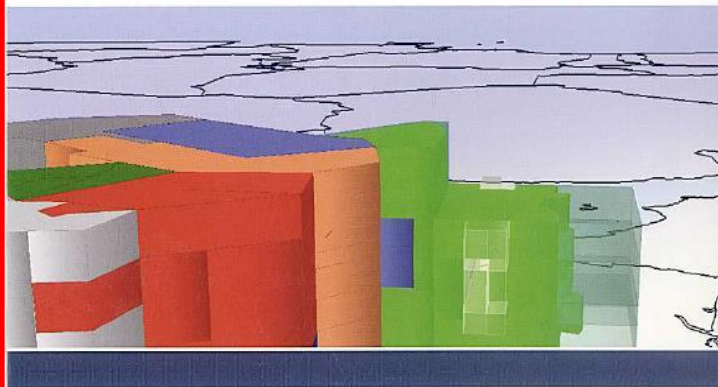


Airspace Design and Development Tool SAAM



SAAM System for traffic Assignment and Analysis at a Macroscopic level

Airspace Network Design and Development



- ❑ The System for Assignment and Analysis at a Macroscopic level (SAAM) is an airspace modelling tool designed by EUROCONTROL to assess quantitative information in support of the development of the airspace structure, route network and sectorisation.
- ❑ The SAAM tool can assess current and future traffic demand at ECAC, ACC, route segment or sector level. It can evaluate proposals for changes to the route network and sectorisation and support the formulation of new proposals.
- ❑ 4D trajectories can be generated (based on traffic demand, route network and aircraft performance) and assessed against traffic volumes. SAAM will by default select the best trajectory option (shortest route, optimum flight profile) but operational rules can be applied such as flight level constraints or restricted route segments.
- ❑ In the context of airspace design activities, SAAM is used extensively to perform strategic traffic flow organization, and analyze proposals for route network and airspace optimization.
- ❑ Results from SAAM can refine the requirement for fast-time or real-time simulations.



- ❖ **Traffic data** - Include all flights through the European airspace for **28 JUN 2013, Friday** with total **33721 flights**. It is the most loaded day for Europe for year 2013 as well as for Europe - Asia (Z / R areas and VHHH) axis with **334 flights**.
- ❖ **ATS route network** - European ATS route network model VST_1310. The model includes current ATS route network/sectorisation and all airspace changes confirmed for implementation until 19 SEP 2013. The model also includes the ATS route network in North and Central Africa and part of Asia including required connections in People's Republic of China and Japan.
- ❖ **TMA airspace** - Current airspace organisation and changes until 19 SEP 2013 are considered (arrival/departure ATS routes).
- ❖ **Airspace penalisation** - The airspace over Kosovo within Beograd FIR/UIR is not available.
- ❖ **Assignment method** - **Aircraft are assigned on the shortest available ATS routes**. The existing strategic and structural traffic rules in Europe contained within the Route Availability Document (RAD) are taken into account. The things such as route charges values, meteorological conditions over Europe and the High Seas areas and others are not taken into account.
- ❖ **Flight Economy Indicators** - The FEI values - **distance** (NM), **fuel** (kg), **time** (min), **CO₂** (carbon dioxide) **emissions** (kg) and **fuel NO_x** (mono-nitrogen oxides NO/NO₂) (kg) are calculated by using EUROCONTROL **Advanced Emission Model**.



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Evaluated ATS route Proposals



Evaluated proposals (1)



Based on FE East ATS route Catalogue the following interface ATS route proposals are evaluated:

1. RITEK - 495025N 1182854E - HLD no direction specified (16.027 / FE0034)
2. UGABI - 493236N 1281936E - AMERA - WZ westbound (18.030 / FE0035)
3. HRB - 493236N 1281936E - AMERA - WZ westbound (15.035 / FE0017)
4. SIMLI - 4920N 12706E - DIKUT eastbound (16.005 / FE0031)
5. SIMLI - 4920N 12706E - UGABI eastbound (18.031 / FE0029)
6. GM - DBL no direction specified (13.037 / FE0023)

Important Notes:

1. For the purpose of this meeting all ATS route segments were simulated as bi-bidirectional.
2. Some "W" ATS route in China were also used as short-cuts.
3. None of the possible existing ATS route restrictions in APAC Region were considered.



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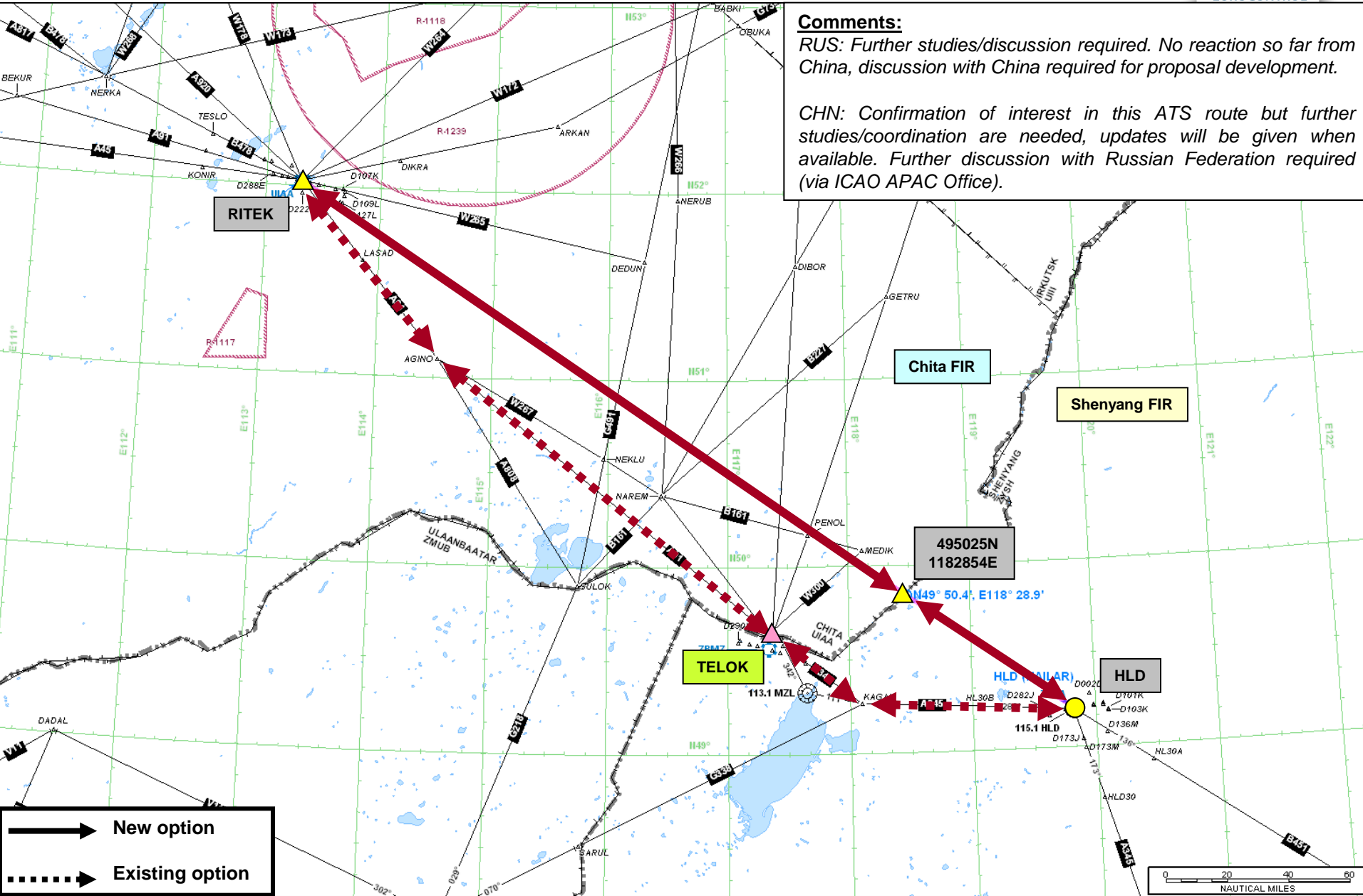
Proposal 16.027 / FE0034
New ATS route RITEK - HLD
Originator: RUS / IATA
States concerned: CHN / RUS



Comments:

RUS: Further studies/discussion required. No reaction so far from China, discussion with China required for proposal development.

CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office).



	New option
	Existing option

Chita FIR

Shenyang FIR

495025N
1182854E

TELOK

HLD

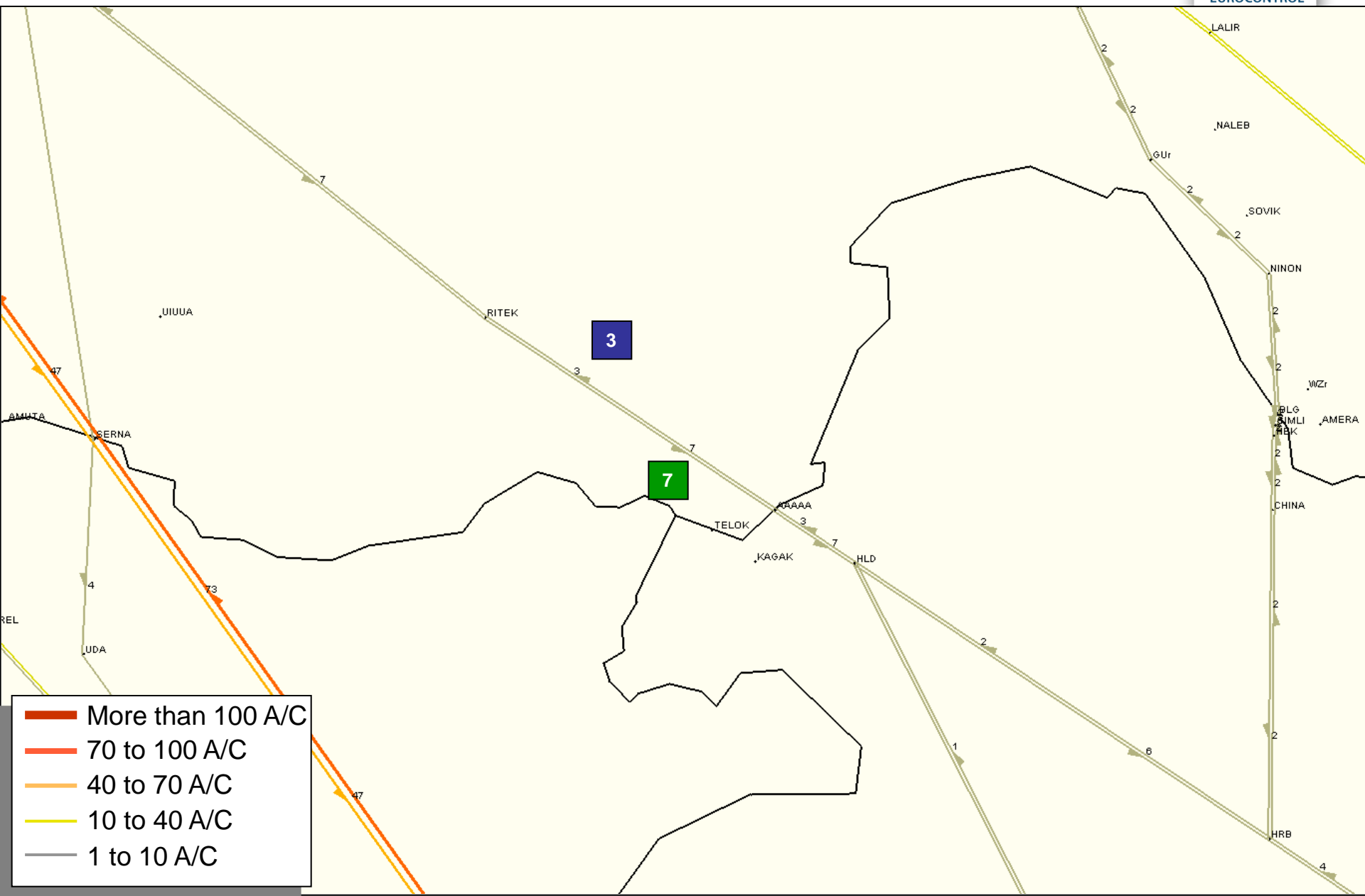
N49° 50.4', E118° 28.9'





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SAAM SR Assignment
Proposal 16.027 / FE0034
28 JUN 2013 FRI

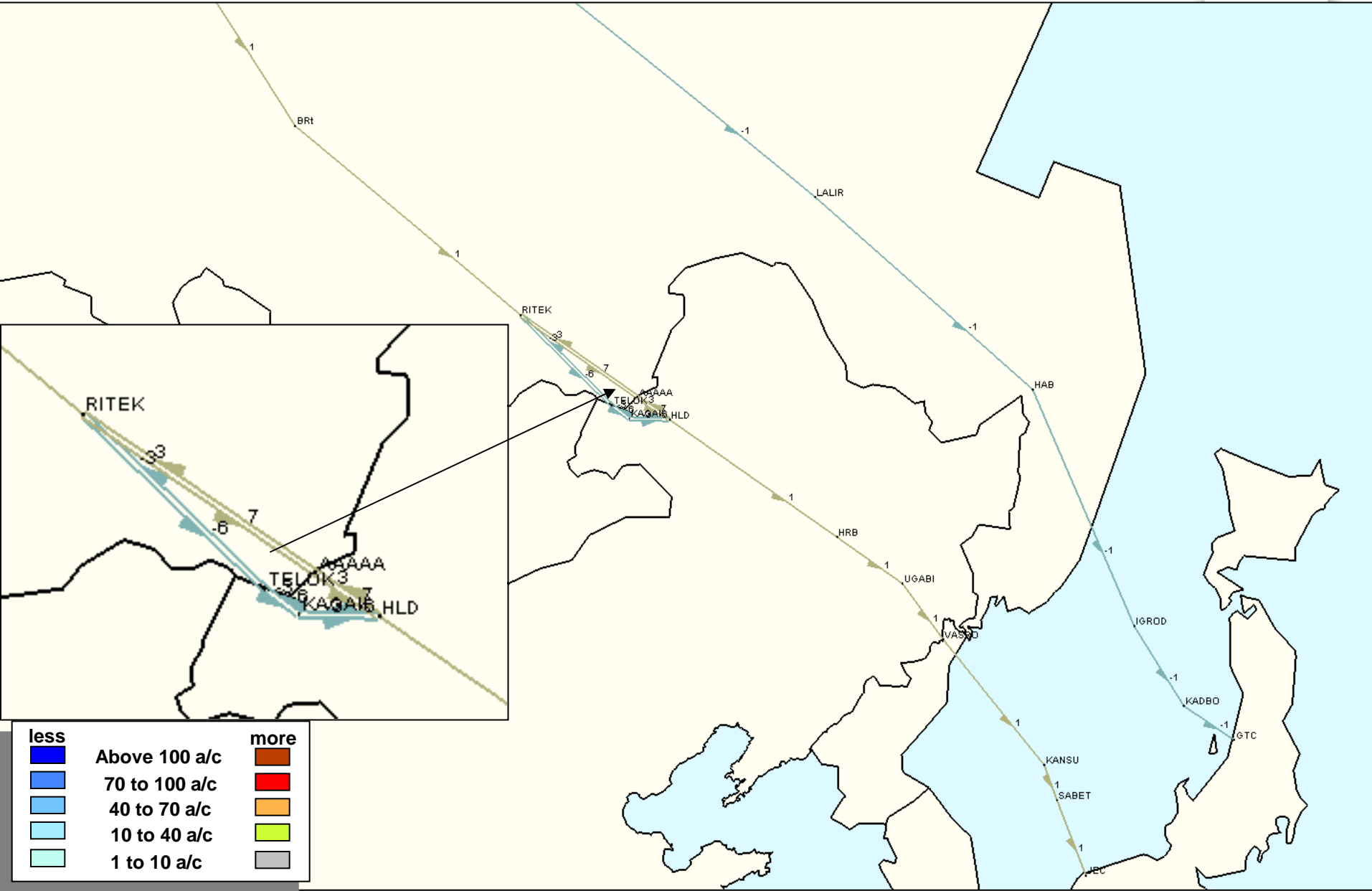


More than 100 A/C
70 to 100 A/C
40 to 70 A/C
10 to 40 A/C
1 to 10 A/C



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**SAAM SR Assignment
Proposal 16.027 / FE0034
Comparison Current / New
28 JUN 2013 FRI**





Flight Economy Indicators calculation

16.027 / FE0034



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	10
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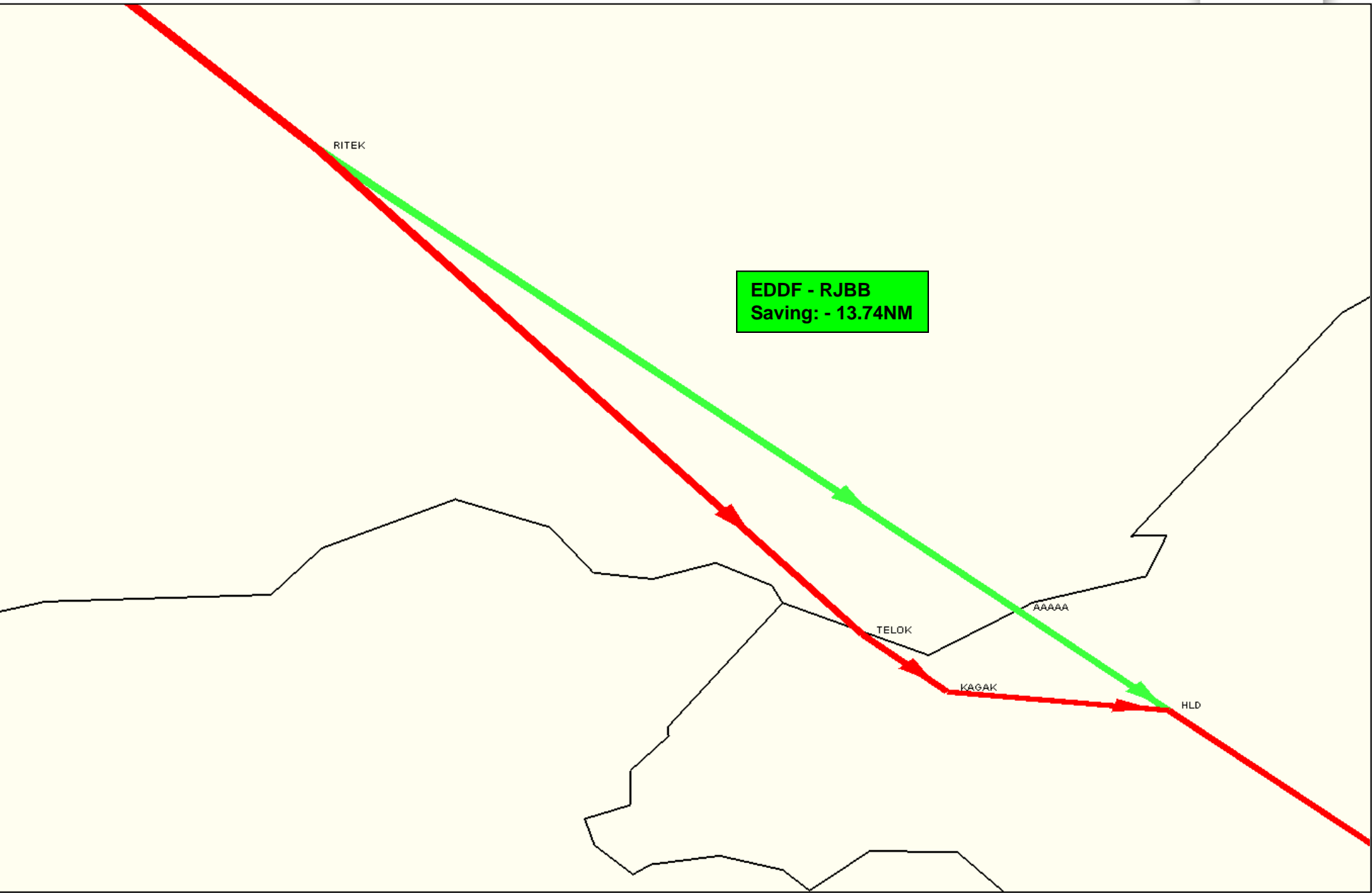
Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	10		
	Daily <u>distance</u> (NM)	- 132.80		- 13.28
	Daily <u>time</u> (min)	- 16.98		- 1.70
	Daily <u>fuel</u> (kg)	- 1612.50		- 161.25
	Daily <u>CO₂</u> (kg)	- 5093.00		- 509.30
	Daily <u>NOx</u> (kg)	- 24.01		- 2.40

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
EFHK	RJBB	A343	-13.74	-1.80	-179.0	-565	-2.81
EDDF	RJGG	A343	-13.74	-1.80	-175.0	-553	-2.8
EDDF	ZYTX	A343	-13.74	-1.77	-190.4	-602	-3.12
EDDF	RJBB	B744	-13.74	-1.71	-263.3	-831	-3.41
LIMC	RJBB	B744	-13.74	-1.71	-257.0	-811	-3.24
LIRF	RJBB	A332	-13.74	-1.75	-152.4	-482	-1.91
EFHK	RJGG	A333	-9.14	-1.17	-95.5	-302	-1.28
RJBB	EFHK	A343	-13.74	-1.80	-119.1	-376	-2.58
RJGG	EFHK	A333	-13.74	-1.68	-61.0	-193	-0.27
ZYTX	EDDF	A343	-13.74	-1.79	-119.8	-378	-2.59



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SAAM SR Assignment
Proposal 16.027 / FE0034
Comparison Current / New
28 JUN 2013 FRI







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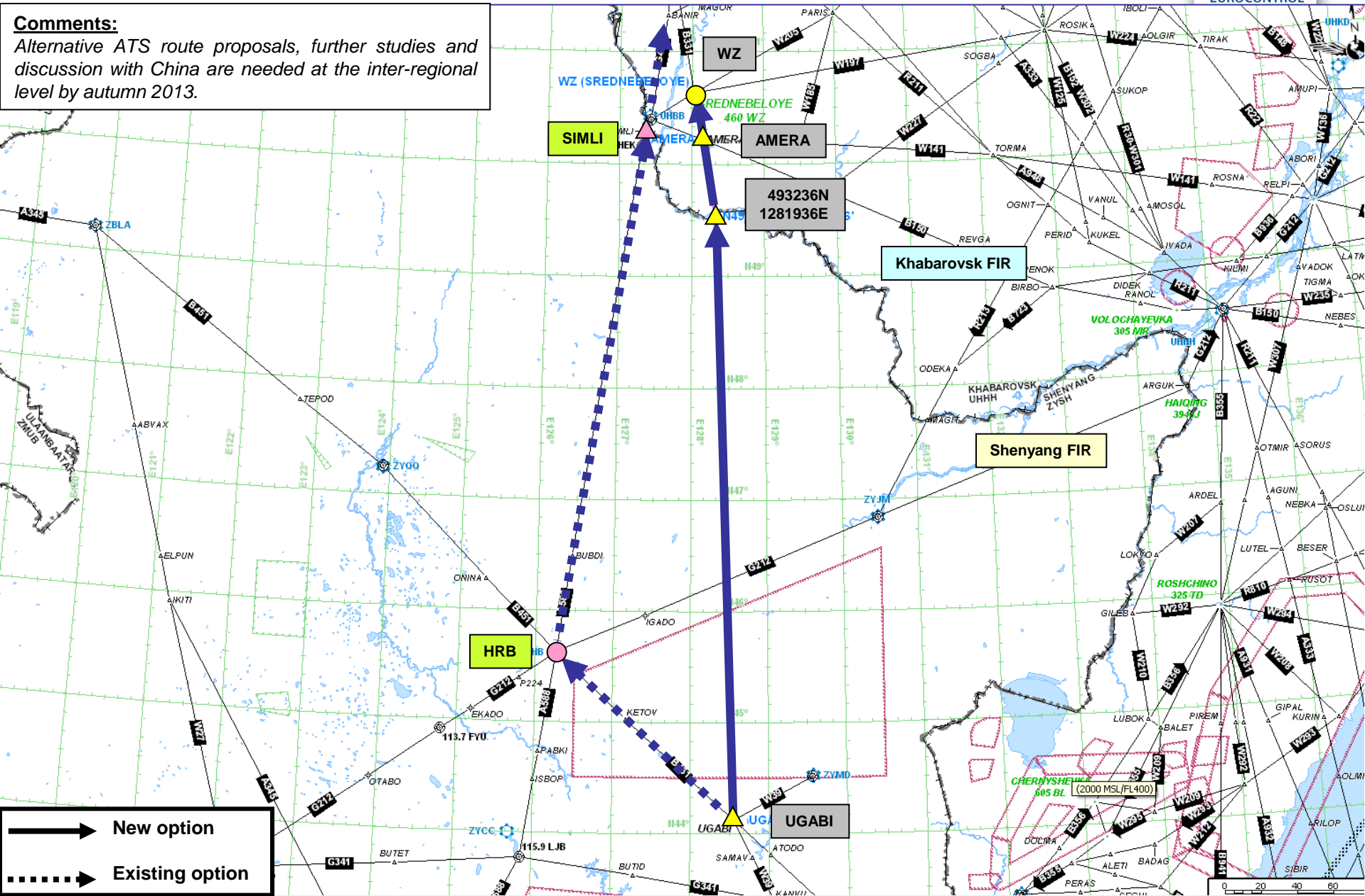


Proposal 18.030 / FE0035
New ATS route UGABI - WZ
Originator: RUS
States concerned: CHN / RUS



Comments:

Alternative ATS route proposals, further studies and discussion with China are needed at the inter-regional level by autumn 2013.





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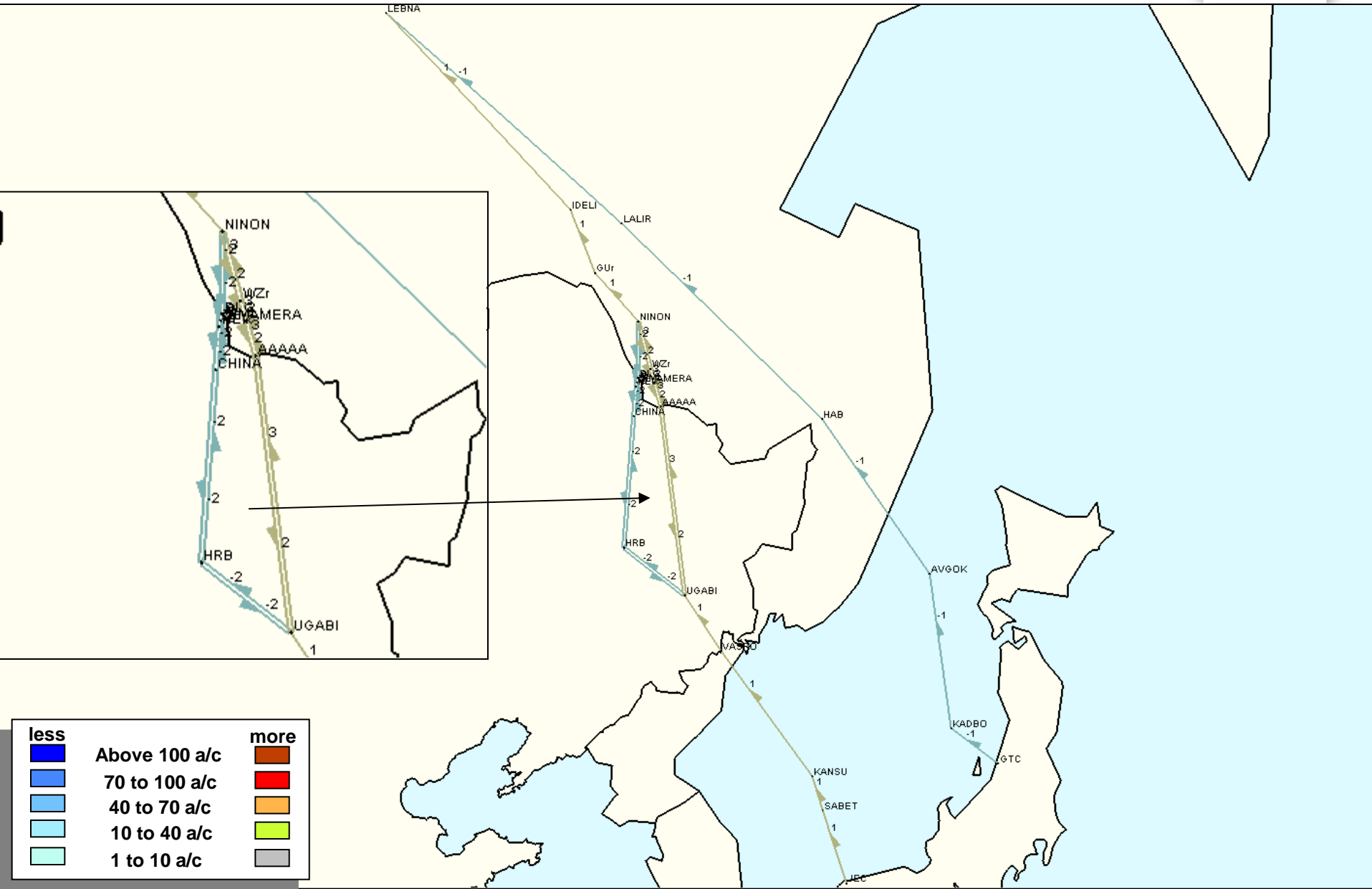
**SAAM SR Assignment
Proposal 18.030 / FE0035
28 JUN 2013 FRI**





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SAAM SR Assignment
Proposal 18.030 / FE0035
Comparison Current / New
28 JUN 2013 FRI





Flight Economy Indicators calculation

18.030 / FE0035



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	5
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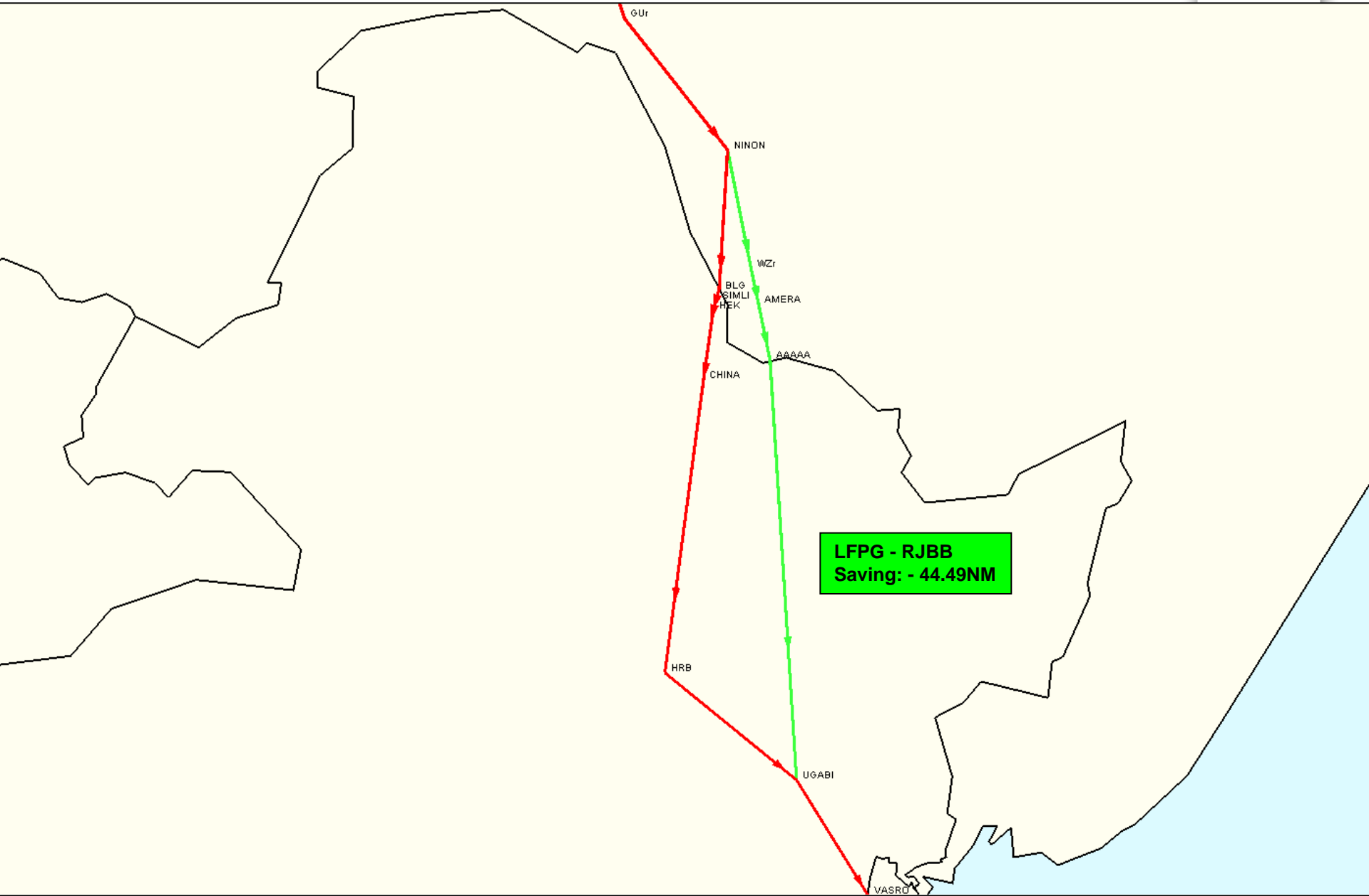
Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	5		
	Daily <u>distance</u> (NM)	- 186.43		- 37.30
	Daily <u>time</u> (min)	- 23.21		- 4.64
	Daily <u>fuel</u> (kg)	- 2890.90		- 578.18
	Daily <u>CO₂</u> (kg)	- 9135.00		- 1827
	Daily <u>NOx</u> (kg)	- 55.22		- 11.04

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
EHAM	RJBB	B77W	-44.49	-5.48	-836.2	-2642	-17.62
LFPG	RJBB	B772	-44.49	-5.54	-565.5	-1788	-12.45
RJBB	LFPG	B772	-44.49	-5.54	-677.9	-2142	-14.73
RJBB	EDDF	B744	-44.49	-5.54	-771.0	-2435	-8.95
RJGG	EDDF	A343	-8.47	-1.11	-40.3	-128	-1.47



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SAAM SR Assignment
Proposal 18.030 / FE0035
Comparison Current / New
28 JUN 2013 FRI

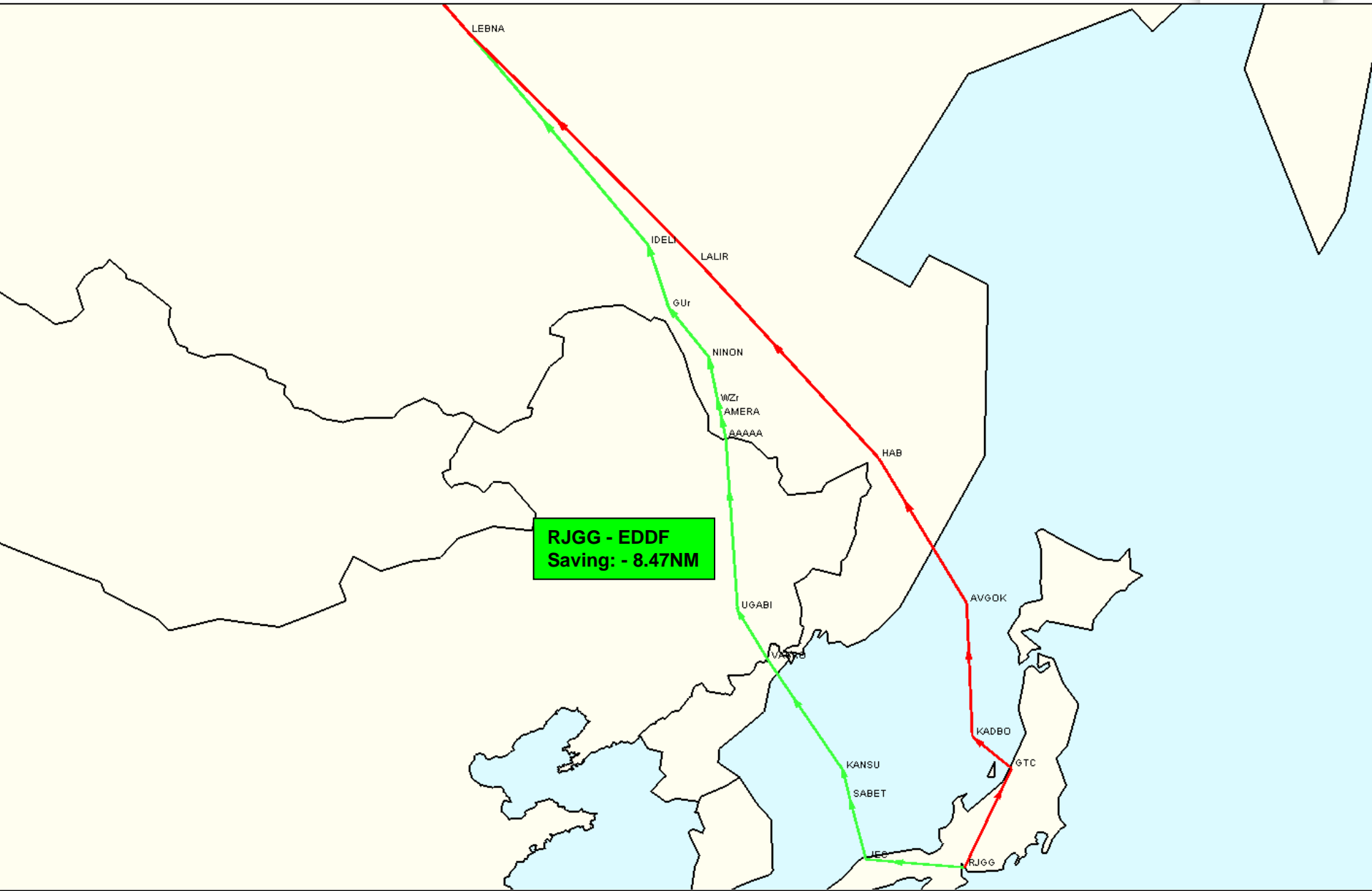


LFPG - RJBB
Saving: - 44.49NM



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SAAM SR Assignment
Proposal 18.030 / FE0035
Comparison Current / New
28 JUN 2013 FRI





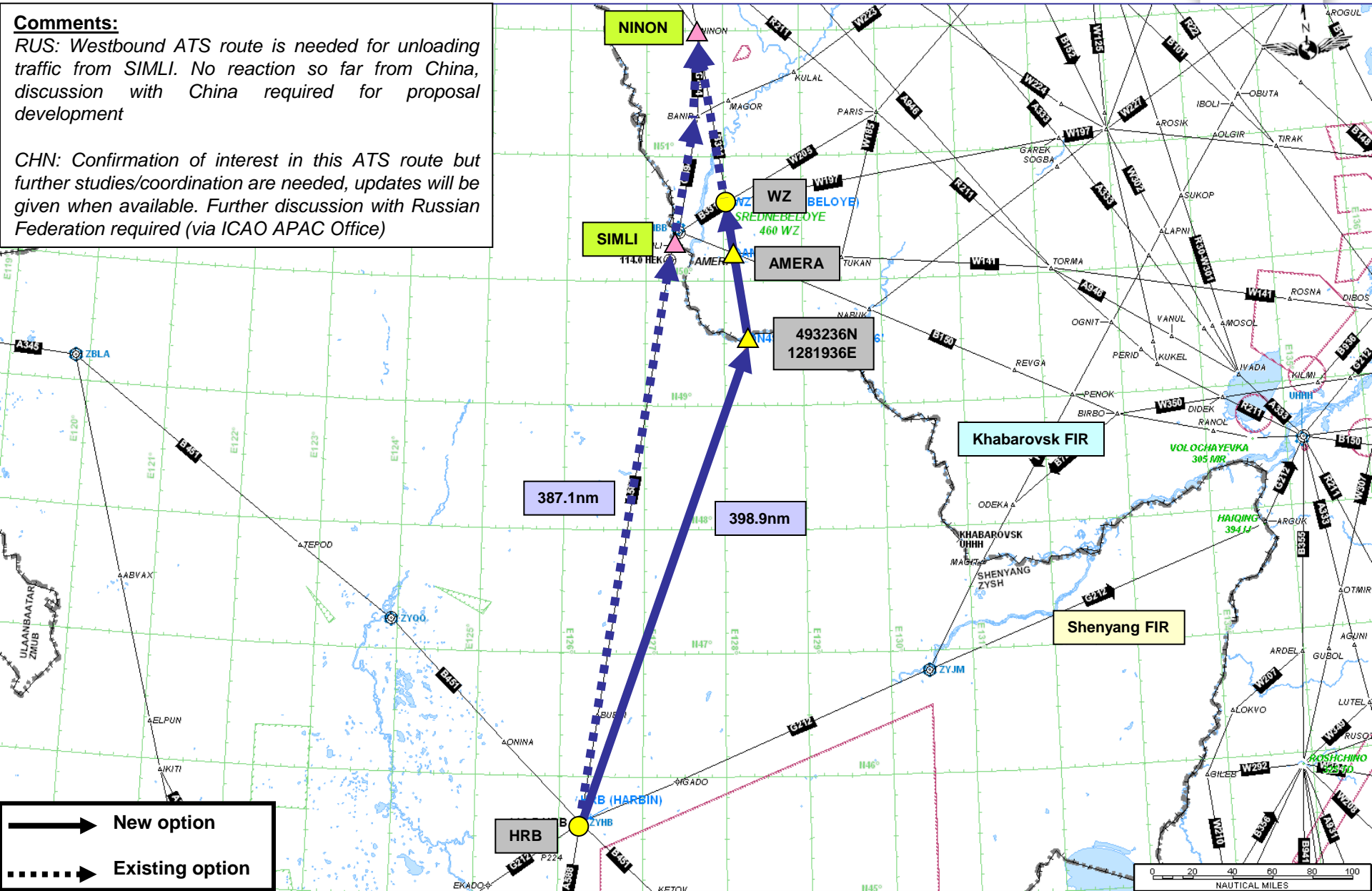
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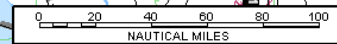
Proposal 15.035 / FE0017
New ATS route HRB - WZ
Originator: IATA
States concerned: CHN / RUS



Comments:
 RUS: Westbound ATS route is needed for unloading traffic from SIMLI. No reaction so far from China, discussion with China required for proposal development
 CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office)



New option
 Existing option





Observations - 15.035 / FE0017



- ❖ Initial aim of this proposal and proposal 18.030 / FE0035 is to dualise and off-load common boundary point SIMLI between Russian Federation and China.
- ❖ Option proposed might not be considered as feasible as penalisation in distance is 11.8NM.
- ❖ Further discussions should consider the flights direction before and after HRB / UGABI to propose an acceptable dualization.
- ❖ Some of existing proposals might be more feasible than that one but further discussions required to find the most appropriate compromised option for the States and the AOs.



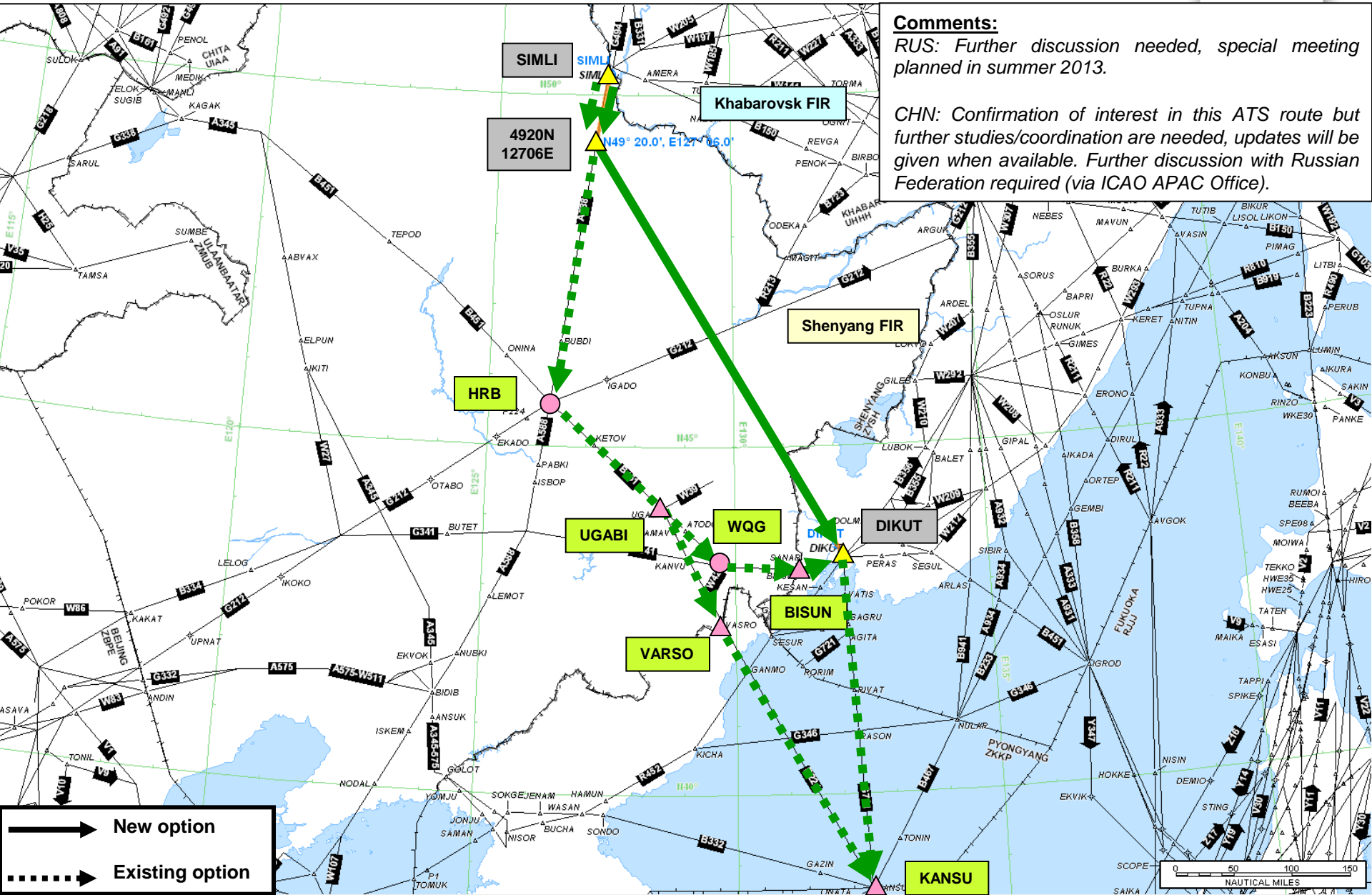
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Proposal 16.005 / FE0031
New ATS route SIMLI - DIKUT
Originator: RUS / IATA
States concerned: CHN / RUS



16.005 / FE0031



Comments:

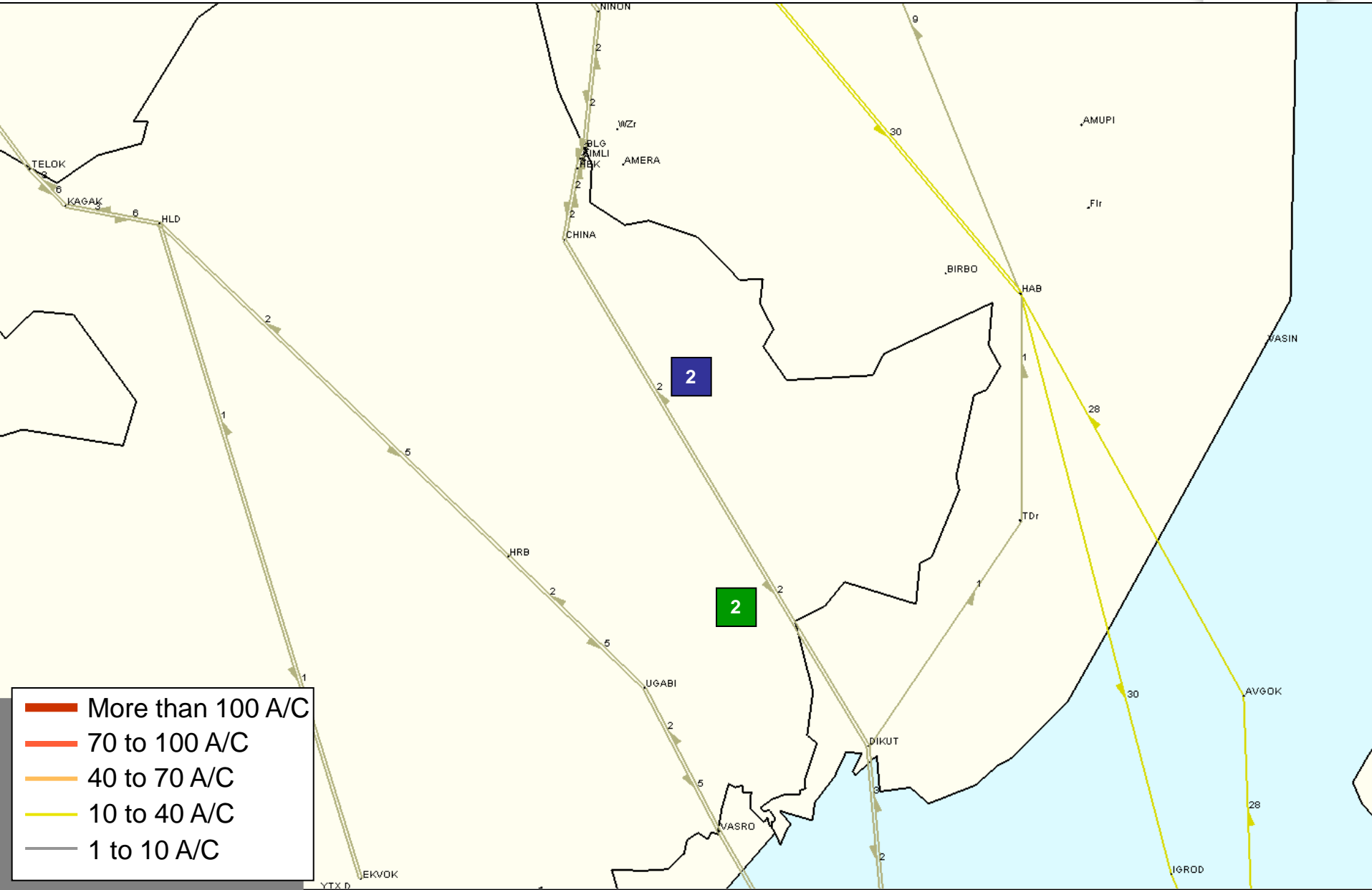
RUS: Further discussion needed, special meeting planned in summer 2013.

CHN: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available. Further discussion with Russian Federation required (via ICAO APAC Office).



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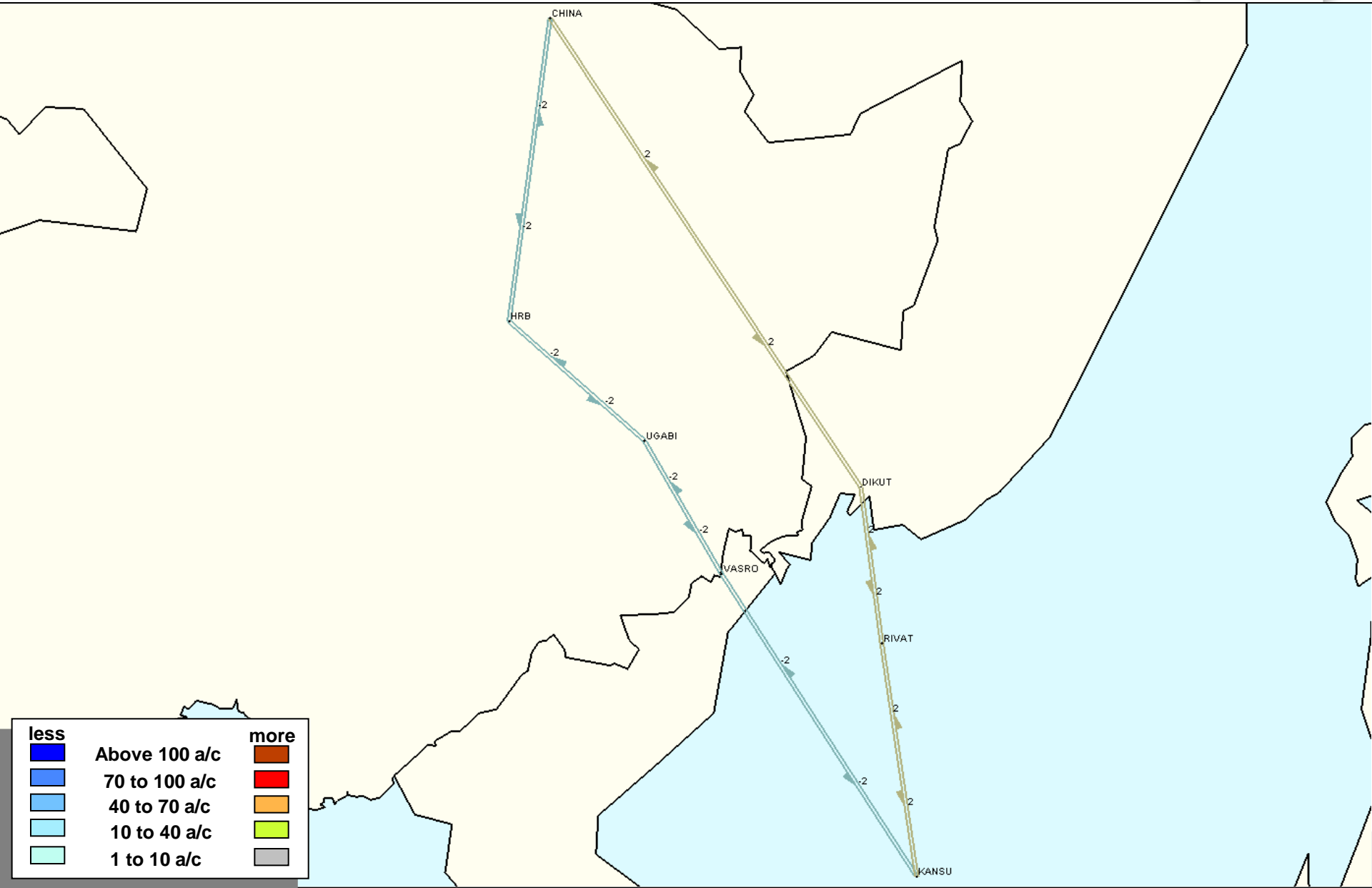
SAAM SR Assignment
Proposal 16.005 / FE0031
28 JUN 2013 FRI





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**SAAM SR Assignment
Proposal 16.005 / FE0031
Comparison Current / New
28 JUN 2013 FRI**



less		more
	Above 100 a/c	
	70 to 100 a/c	
	40 to 70 a/c	
	10 to 40 a/c	
	1 to 10 a/c	



Flight Economy Indicators calculation

16.005 / FE0031



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	4
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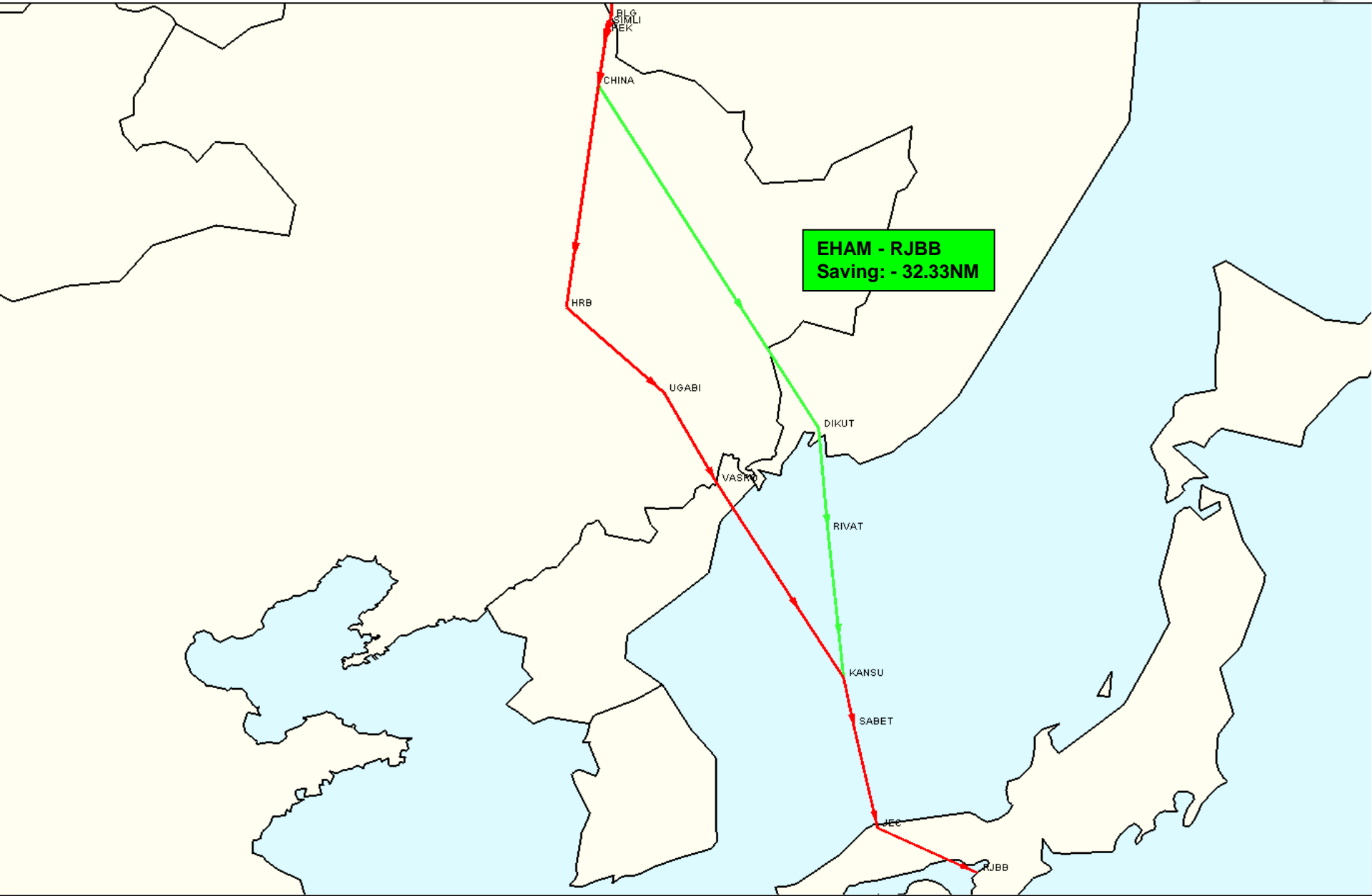
Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	4		
	Daily <u>distance</u> (NM)	- 129.32		- 32.33
	Daily <u>time</u> (min)	- 16.05		- 4.01
	Daily <u>fuel</u> (kg)	- 2062.50		- 515.63
	Daily <u>CO₂</u> (kg)	- 6518.00		- 1629.5
	Daily <u>NOx</u> (kg)	- 39.04		- 7.81

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LFPG	RJBB	B772	-32.33	-4.02	-411.0	-1299	-9.05
EHAM	RJBB	B77W	-32.33	-3.98	-607.6	-1920	-12.8
RJBB	EDDF	B744	-32.33	-4.03	-596.0	-1884	-7.43
RJBB	LFPG	B772	-32.33	-4.02	-447.9	-1415	-9.76



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SAAM SR Assignment
Proposal 16.005 / FE0031
Comparison Current / New
28 JUN 2013 FRI





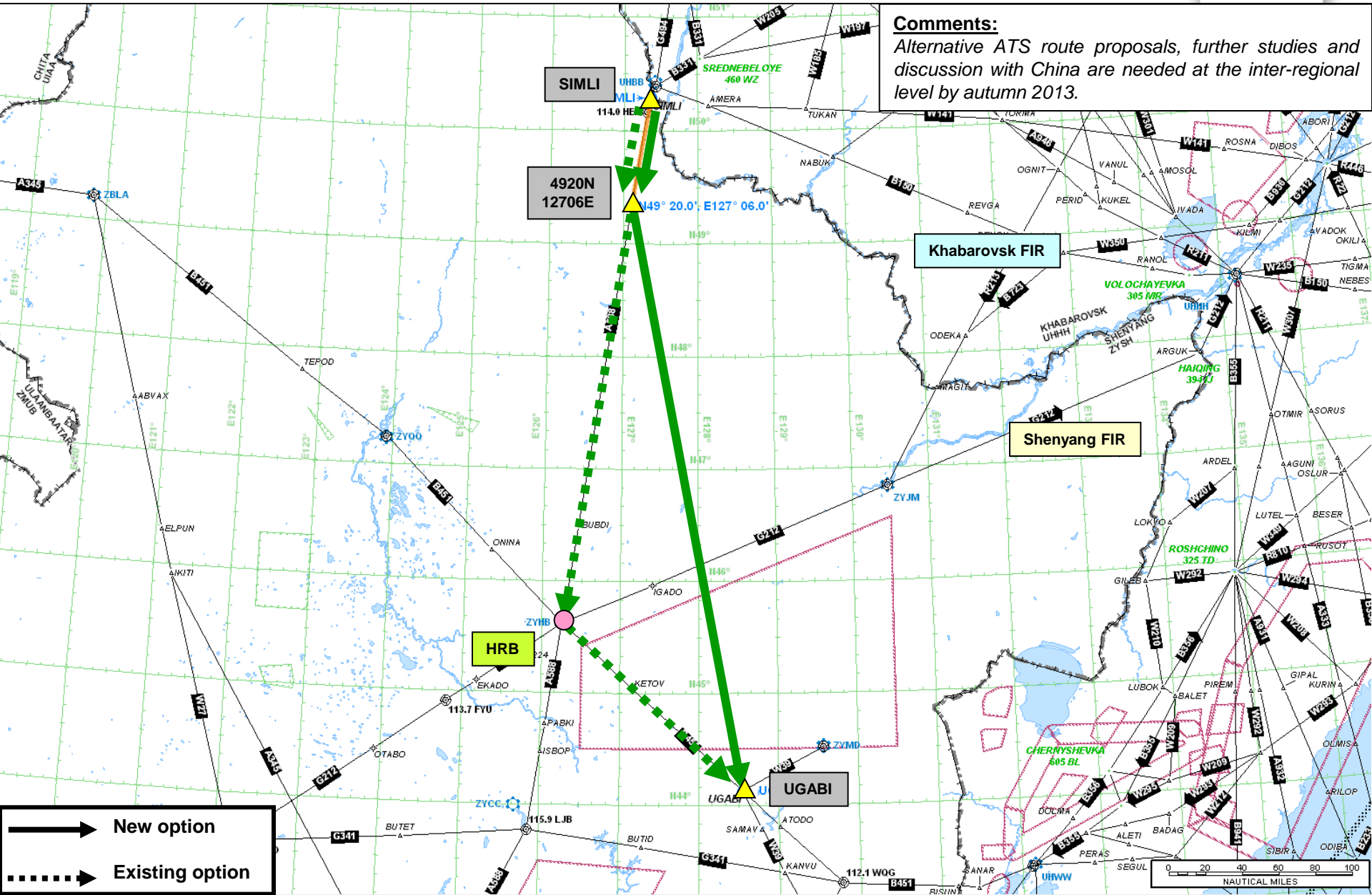
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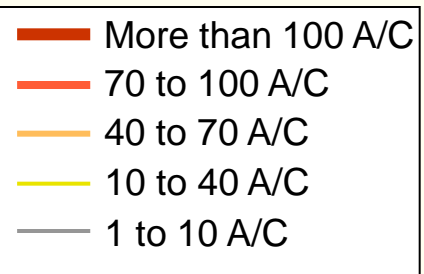
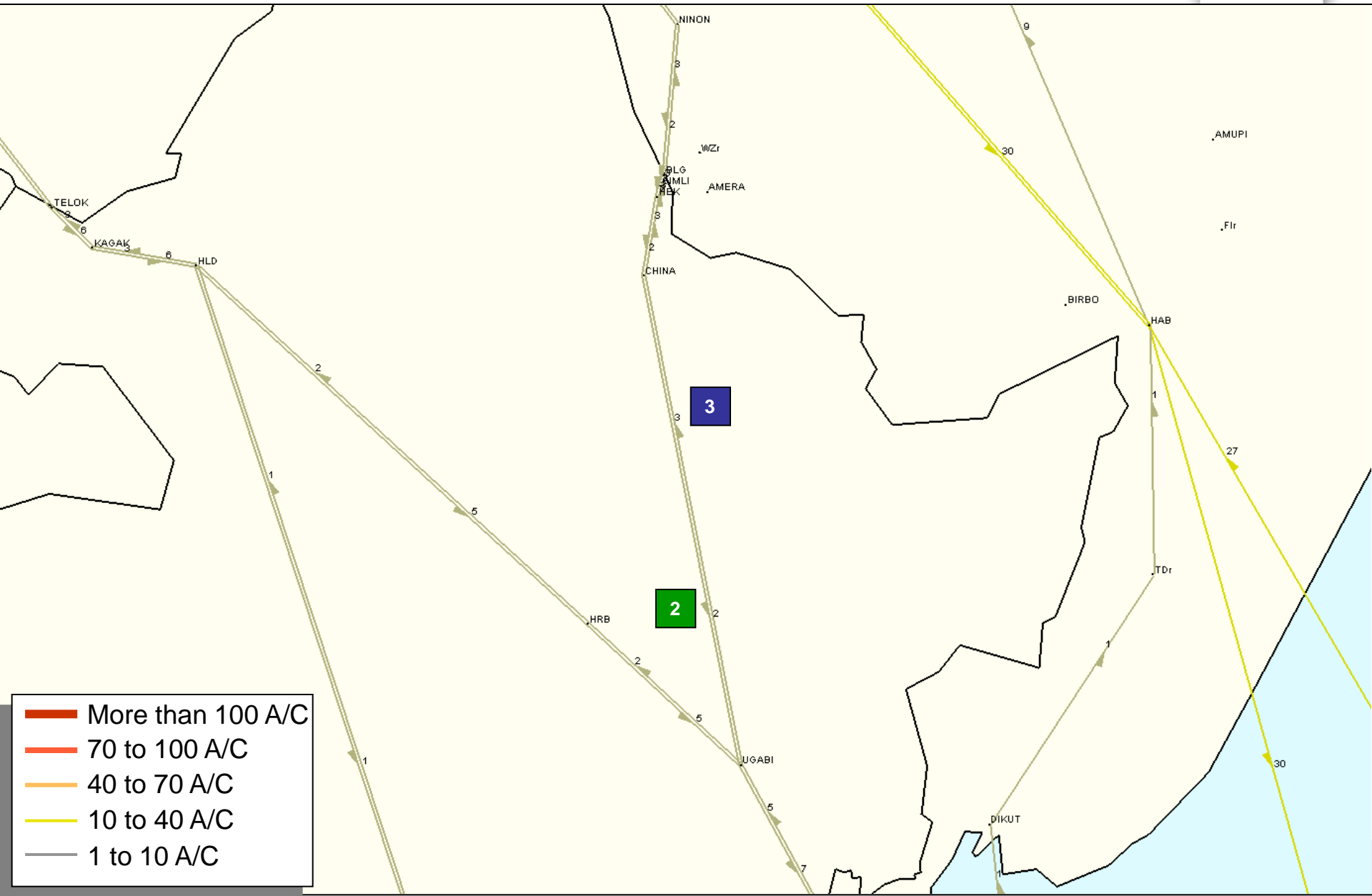
Proposal 18.031 / FE0029
New ATS route SIMLI - UGABI
Originator: RUS
States concerned: CHN / RUS



Comments:
Alternative ATS route proposals, further studies and discussion with China are needed at the inter-regional level by autumn 2013.



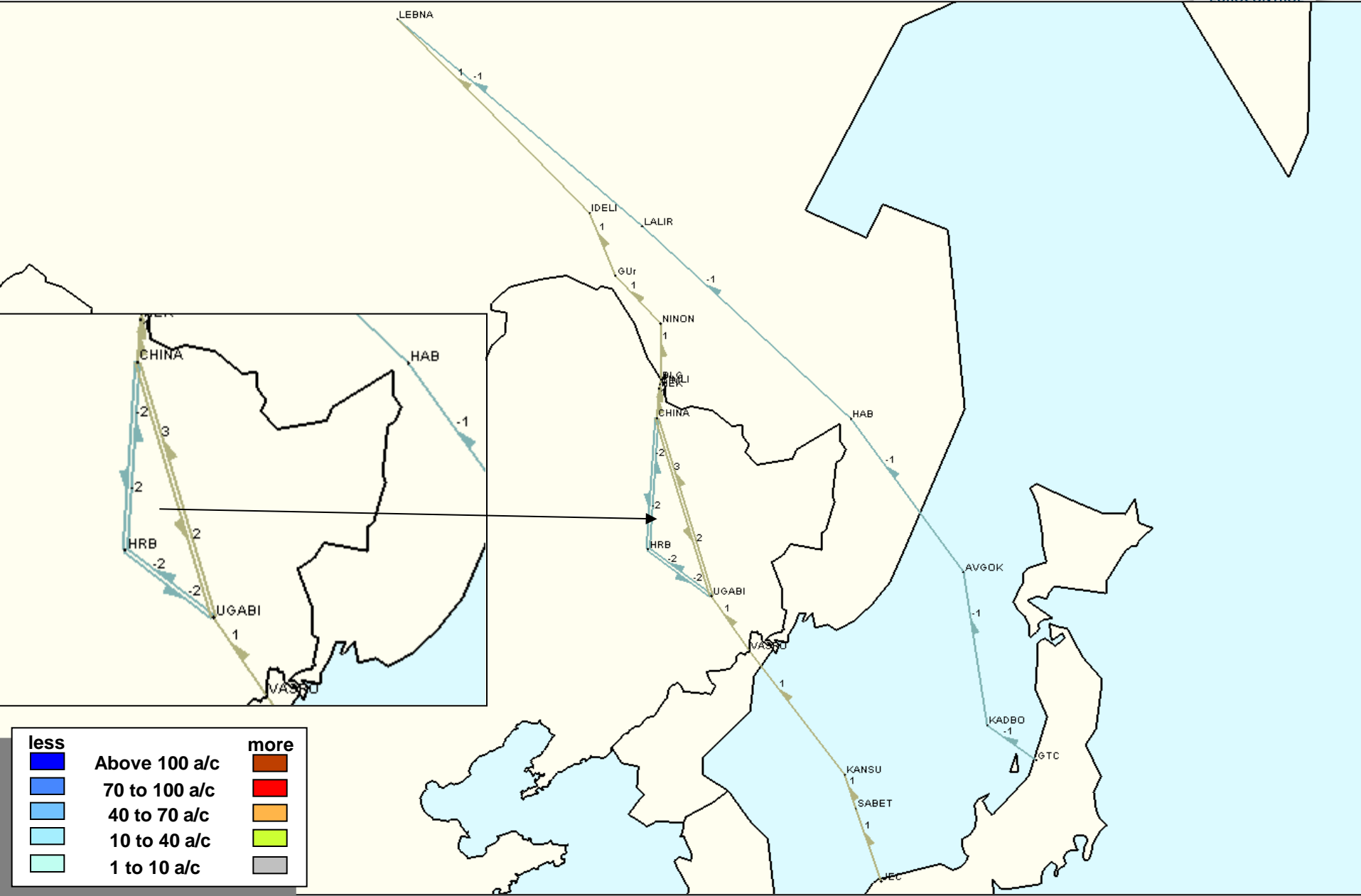
	New option
	Existing option





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SAAM SR Assignment
Proposal 18.031 / FE0029
Comparison Current / New
28 JUN 2013 FRI





Flight Economy Indicators calculation

18.031 / FE0029



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	5
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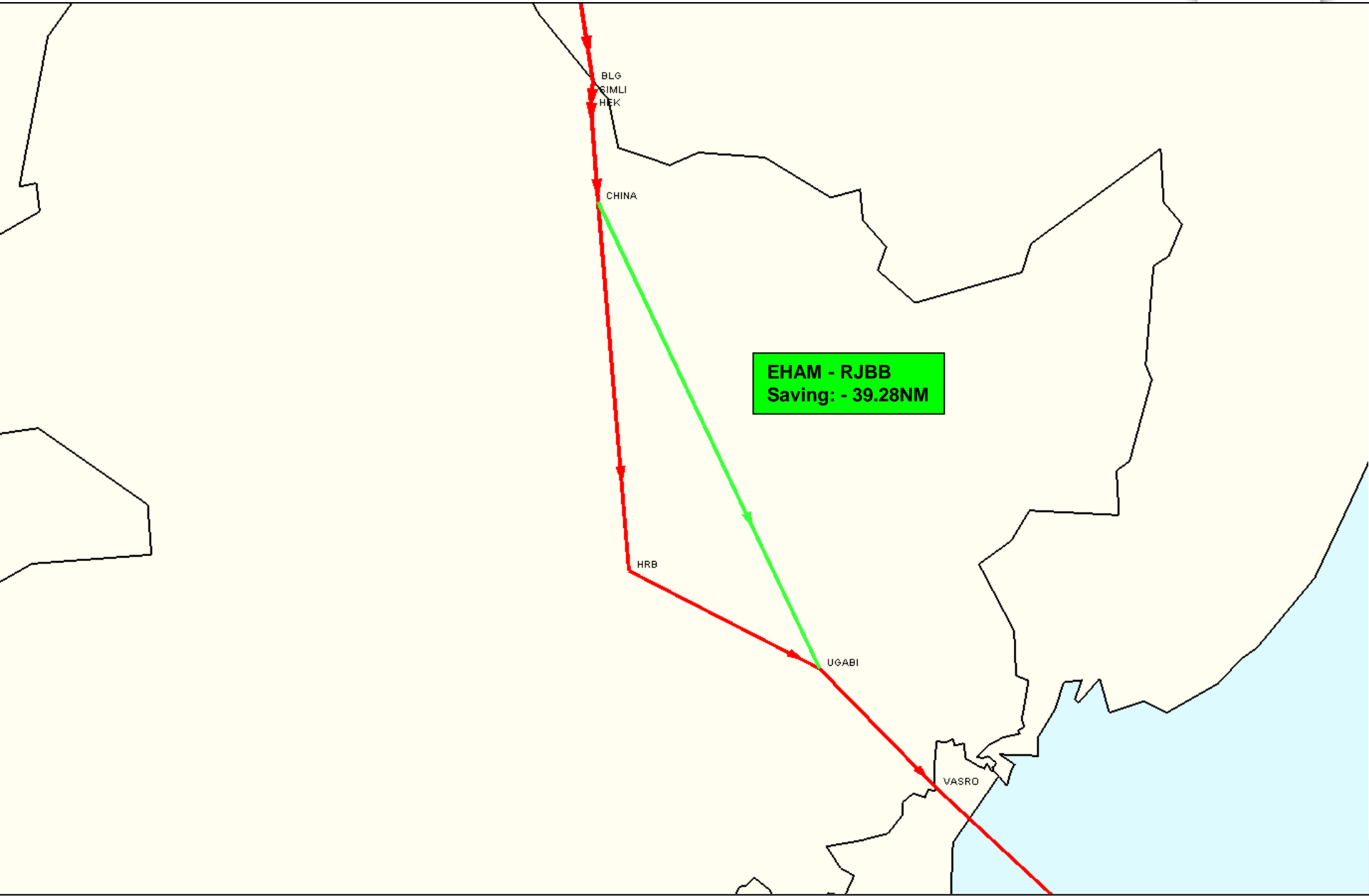
Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	5		
	Daily <u>distance</u> (NM)	- 160.38		- 32.08
	Daily <u>time</u> (min)	- 19.94		- 3.99
	Daily <u>fuel</u> (kg)	- 2531.30		- 506.26
	Daily <u>CO₂</u> (kg)	- 7998.00		- 1599.6
	Daily <u>NOx</u> (kg)	- 48.03		- 9.61

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
EHAM	RJBB	B77W	-39.28	-4.84	-738.3	-2332	-15.55
LFPG	RJBB	B772	-39.28	-4.89	-499.3	-1578	-10.99
RJBB	LFPG	B772	-39.28	-4.89	-538.9	-1703	-11.74
RJBB	EDDF	B744	-39.28	-4.89	-729.0	-2303	-9.14
RJGG	EDDF	A343	-3.26	-0.43	-25.8	-82	-0.61



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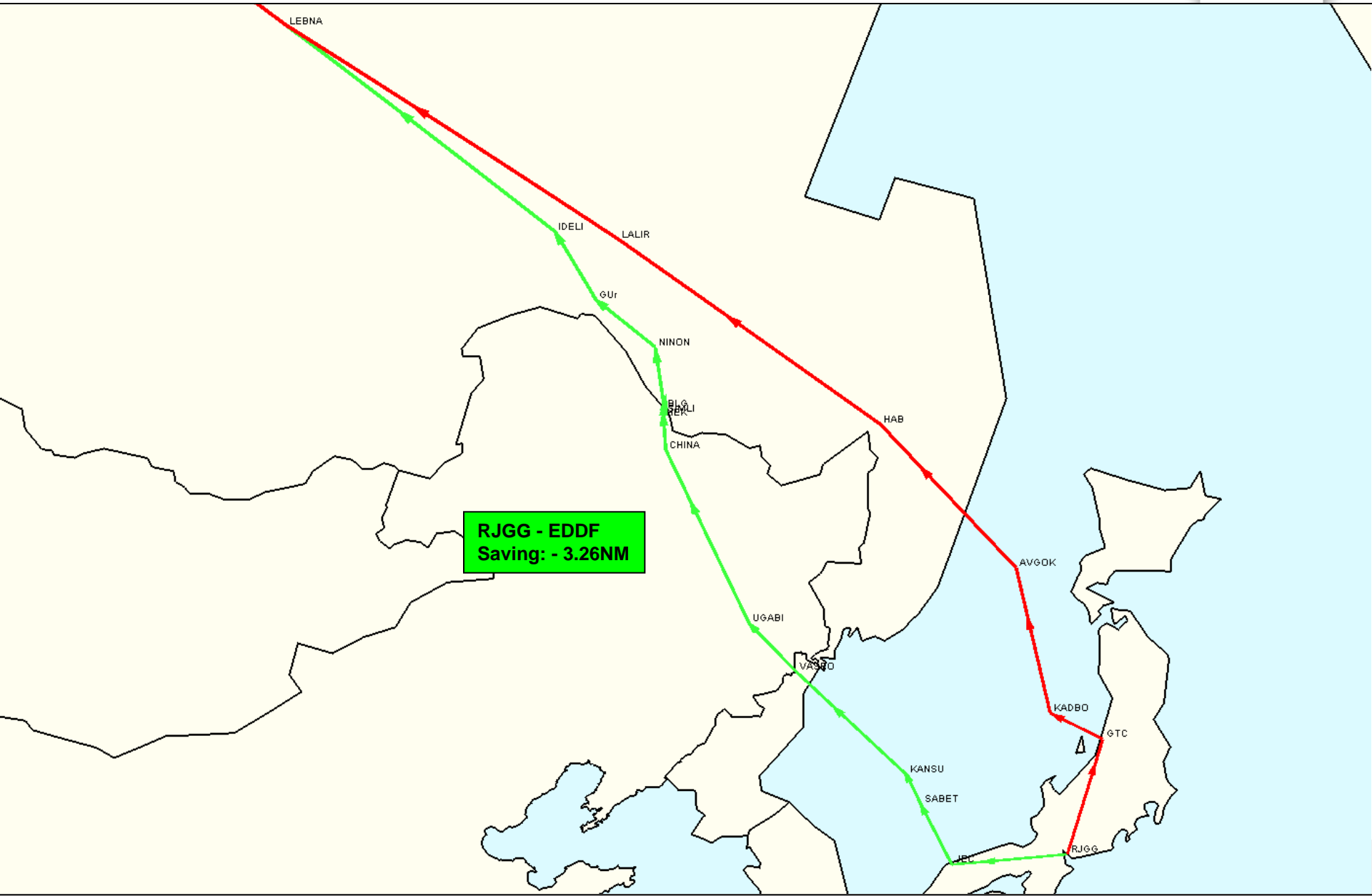
SAAM SR Assignment
Proposal 18.031 / FE0029
Comparison Current / New
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Proposal 18.031 / FE0029
Comparison Current / New
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Proposal 13.037 / FE0023
New ATS route GM - DBL
Originator: IATA
States concerned: CHN

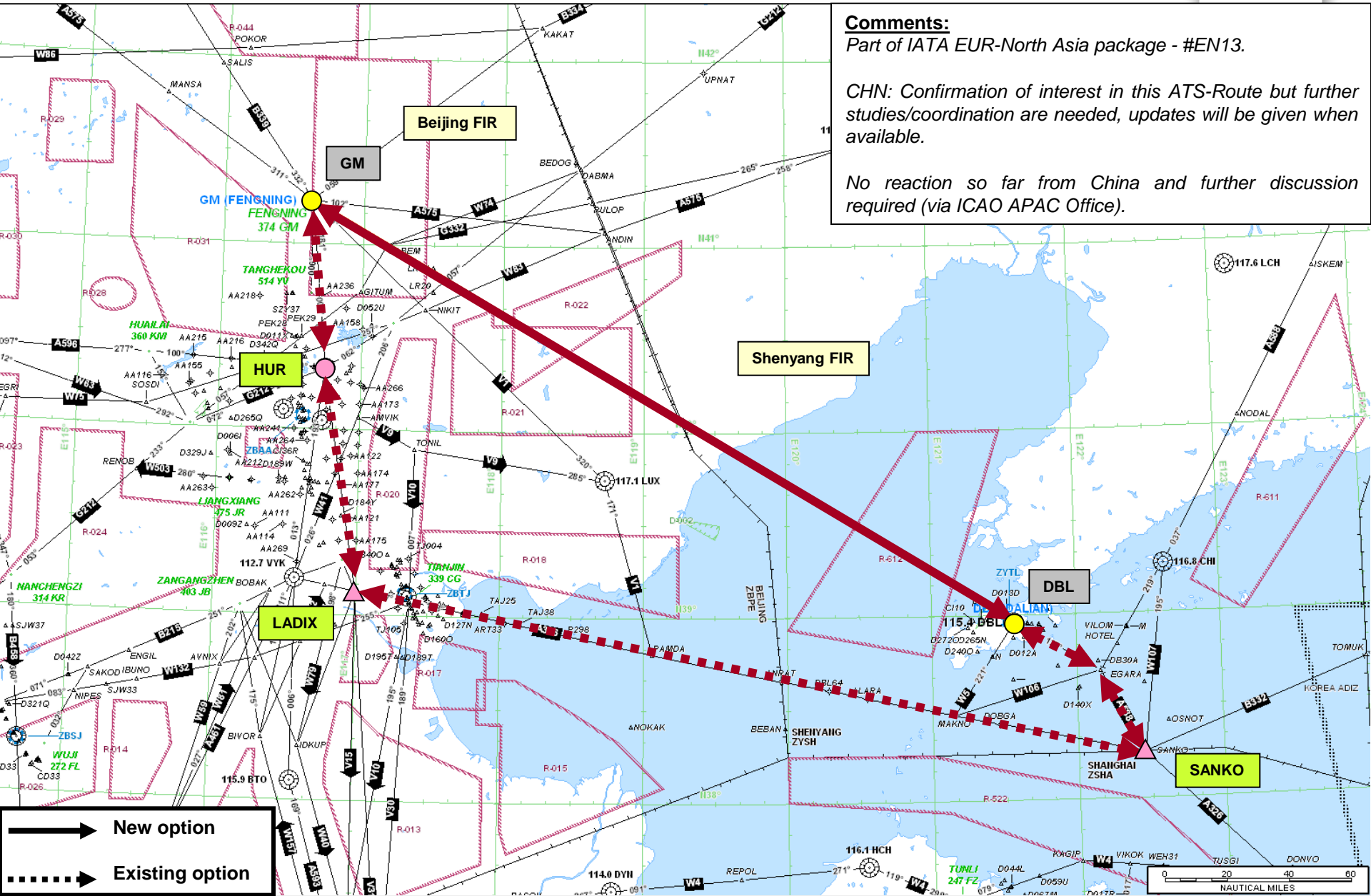


Comments:

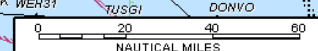
Part of IATA EUR-North Asia package - #EN13.

CHN: Confirmation of interest in this ATS-Route but further studies/coordination are needed, updates will be given when available.

No reaction so far from China and further discussion required (via ICAO APAC Office).



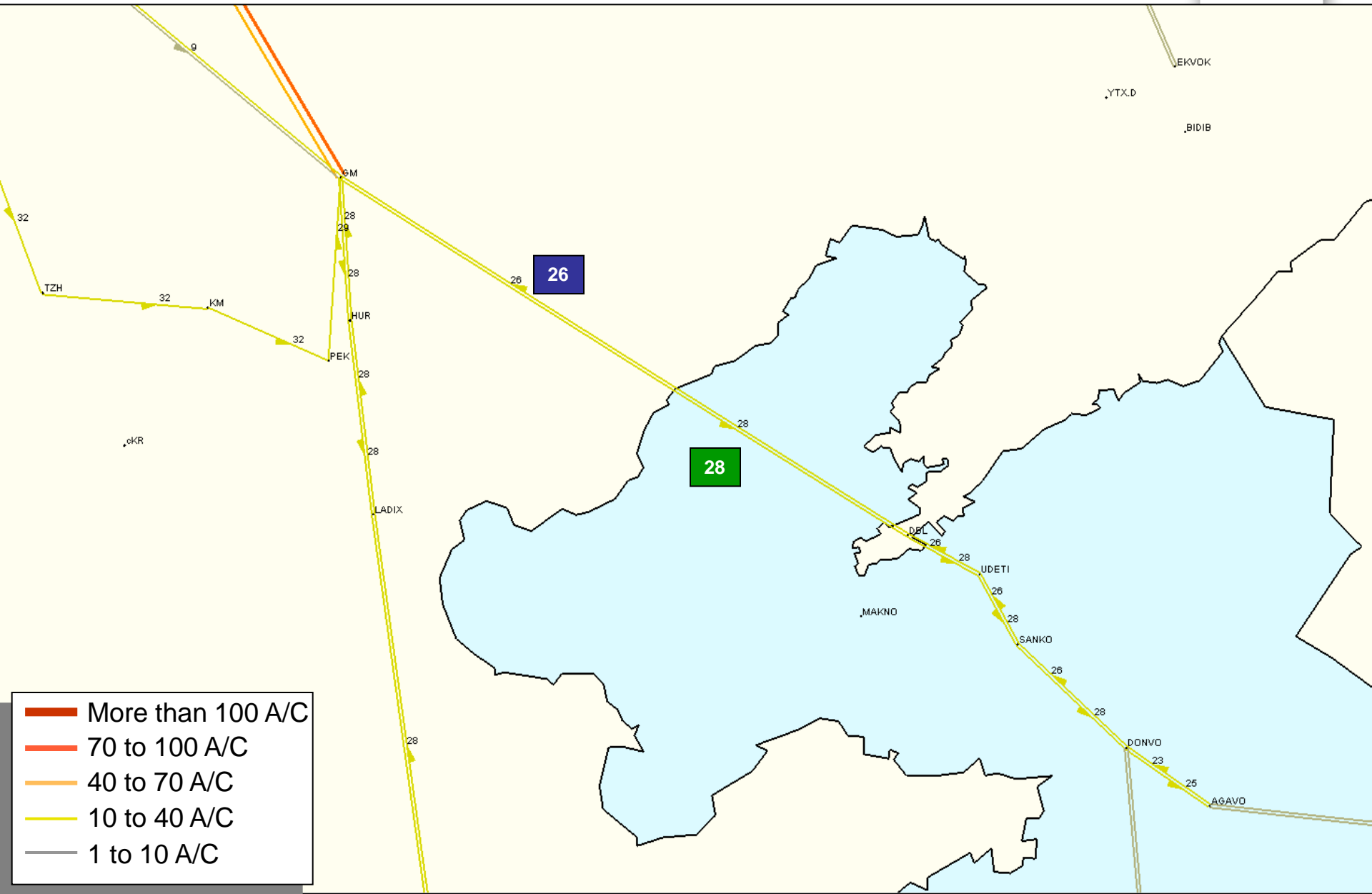
New option
 Existing option





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SAAM SR Assignment
Proposal 13.037 / FE0023
28 JUN 2013 FRI

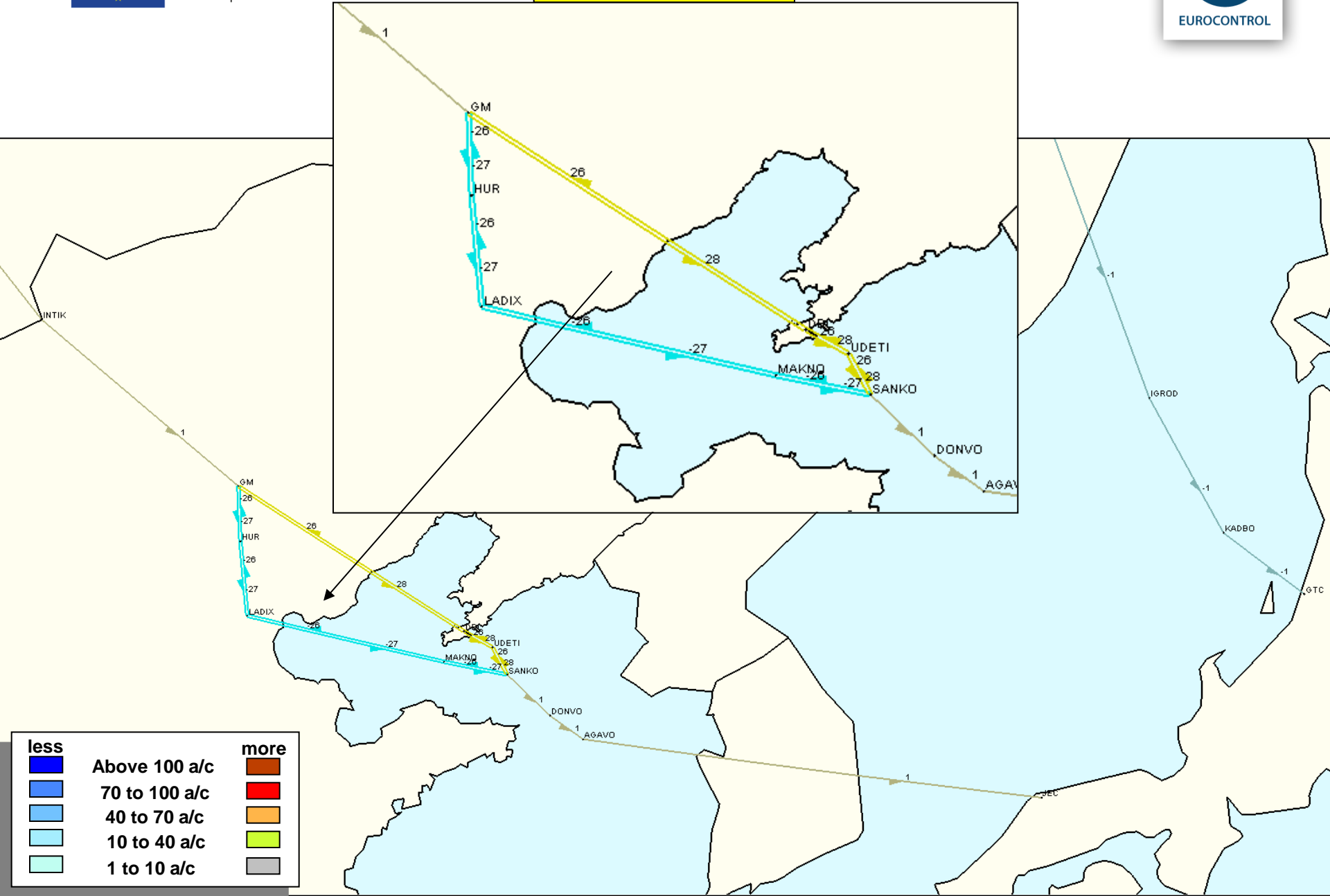


- More than 100 A/C
- 70 to 100 A/C
- 40 to 70 A/C
- 10 to 40 A/C
- 1 to 10 A/C



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**SAAM SR Assignment
Proposal 13.037 / FE0023
Comparison Current / New
28 JUN 2013 FRI**





Flight Economy Indicators calculation

13.037 / FE0023



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	54
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Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	54		
	Daily <u>distance</u> (NM)	- 3354.84		- 52.13
	Daily <u>time</u> (min)	- 420.19		- 7.78
	Daily <u>fuel</u> (kg)	- 53502.00		- 990.78
	Daily <u>CO₂</u> (kg)	- 169 062.00		- 3130.78
	Daily <u>NOx</u> (kg)	- 909.42		- 16.84



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Flight Economy Indicators calculation

13.037 / FE0023



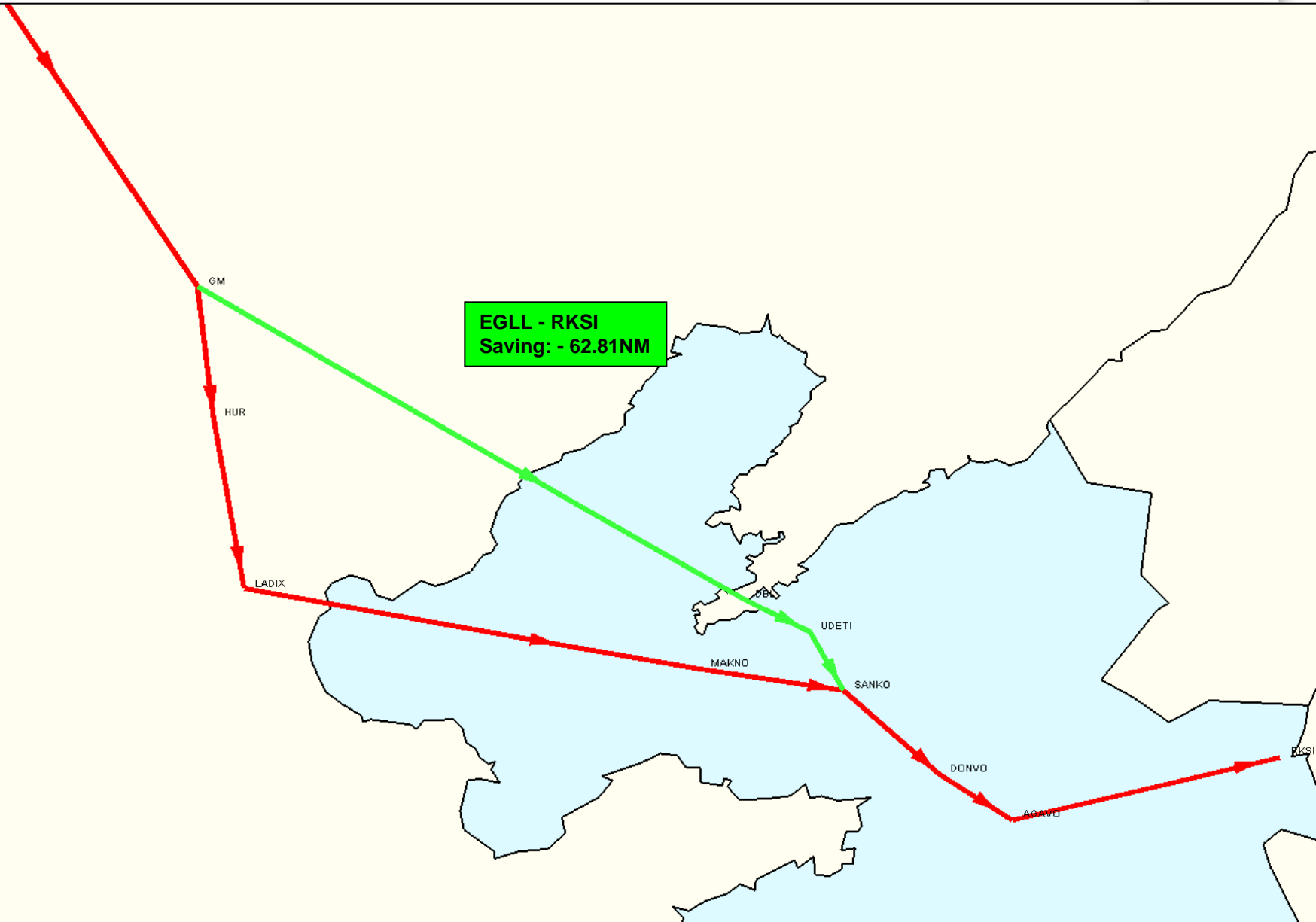
ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
RCTP	LFPG	B77W	-62.81	-7.8	-1106	-3495	-22.13
RCTP	EDDF	B744	-62.81	-7.82	-1188	-3754	-15.2
RCTP	EHAM	B772	-62.81	-7.82	-820.8	-2593	-17.92
RKSI	LKPR	B744	-62.81	-7.82	-1187.9	-3754	-15.2
RKSI	EGLL	B772	-62.81	-7.82	-802.4	-2536	-17.62
RKSI	LIMC	B744	-62.81	-7.82	-1187.8	-3753	-15.19
RKSI	LFPG	B744	-62.81	-7.82	-1187.9	-3753	-15.19
RKSI	EHAM	B744	-62.81	-7.82	-1187.9	-3753	-15.2
RKSI	EDDF	A346	-62.81	-7.91	-1059.2	-3347	-16.7
RKSI	LFPG	B77W	-62.81	-7.8	-1106.1	-3495	-22.14
RKSI	LTBA	A343	-62.81	-8.21	-825.1	-2607	-12.85
RKSI	EDDP	B77L	-62.81	-7.72	-1119.6	-3538	-23.25
RKSI	LTBA	B772	-62.81	-7.82	-820.7	-2593	-17.92
RKSI	LFPG	B772	-62.81	-7.82	-820.7	-2594	-17.92
RKSI	EDDF	B744	-62.81	-7.82	-1210.8	-3826	-15.76
RKSI	LOWW	B77L	-62.81	-7.8	-1061.9	-3355	-21.09
RKSI	LEMD	B772	-62.81	-7.82	-820.8	-2594	-17.92
RKSI	EGLL	B772	-62.81	-7.82	-820.7	-2594	-17.92
RKSI	EFHK	A333	-62.81	-8.02	-663.8	-2097	-8.96
RKSI	EDDM	A343	-62.81	-8.21	-825.1	-2607	-12.85
RKSI	EGLL	B77W	-62.81	-7.82	-1092.6	-3453	-22.04
RKSI	EDDF	A388	-62.81	-7.73	-1727	-5456	-33.24
RJAA	LTBA	B77W	-62.81	-7.82	-1092.6	-3453	-22.04
RJBB	LTBA	A332	-62.81	-8.02	-684.1	-2162	-8.65
RJBB	LTBA	A332	-62.81	-8.02	-684.1	-2162	-8.65
RJBB	HECA	A332	-62.81	-8.02	-684.1	-2162	-8.65

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LIRF	RKSI	B744	-62.81	-7.82	-1183.2	-3739	-15.08
LTBA	RKSI	A343	-62.81	-8.21	-800.2	-2528	-12.79
ENGM	RKSI	B744	-62.81	-7.79	-1230.5	-3889	-16.25
LFPG	RKSI	B77L	-62.81	-7.82	-1056.5	-3338	-21.03
EDDF	RKSI	A388	-62.81	-7.73	-1703	-5383	-33.18
EDDF	RKSI	A346	-62.81	-7.88	-1097.2	-3468	-16.95
EGLL	RKSI	B77W	-62.81	-7.82	-1101.8	-3482	-22.11
LTBA	RKSI	B772	-62.81	-7.82	-814.8	-2575	-17.79
LFPG	RKSI	B744	-62.81	-7.82	-1183.1	-3739	-15.07
EHAM	RKSI	B744	-62.81	-7.82	-1183.2	-3738	-15.07
EDDF	RKSI	B744	-62.81	-7.82	-1183.1	-3738	-15.08
LKPR	RKSI	B744	-62.81	-7.82	-1174.6	-3711	-14.78
EFHK	RKSI	A333	-62.81	-8.02	-656.8	-2075	-8.81
EGLL	RKSI	B772	-62.81	-7.82	-814.8	-2575	-17.79
LEZG	RKSI	B77L	-62.81	-7.82	-1056.4	-3338	-21.03
EDDF	RCTP	B744	-62.81	-7.79	-1231	-3889	-16.25
LTBA	RKSI	A343	-62.81	-8.21	-800.2	-2528	-12.79
LTBA	RJBB	A332	-62.81	-8.02	-680	-2149	-8.62
LTBA	RJBB	A332	-62.81	-8.02	-680	-2149	-8.62
EGLL	RKSI	B772	-62.81	-7.82	-814.8	-2575	-17.79
EHAM	RCTP	B772	-62.81	-7.7	-902.2	-2851	-20.75
HECA	RJBB	A332	-62.81	-8.02	-696.8	-2202	-8.73
LFPG	RKSI	B772	-62.81	-7.82	-814.8	-2575	-17.79
EDDF	RKSI	B744	-62.81	-7.79	-1230.6	-3889	-16.25
EHAM	RJFF	B772	-62.81	-7.82	-798.4	-2523	-17.57
LFPG	RKSI	B77W	-62.81	-7.79	-1122.3	-3546	-22.72
LFPG	RCTP	B77W	-62.81	-7.7	-1146	-3620	-23.7
LTBA	RJAA	B77W	-25.91	-3.12	-558	-1764	-12.83



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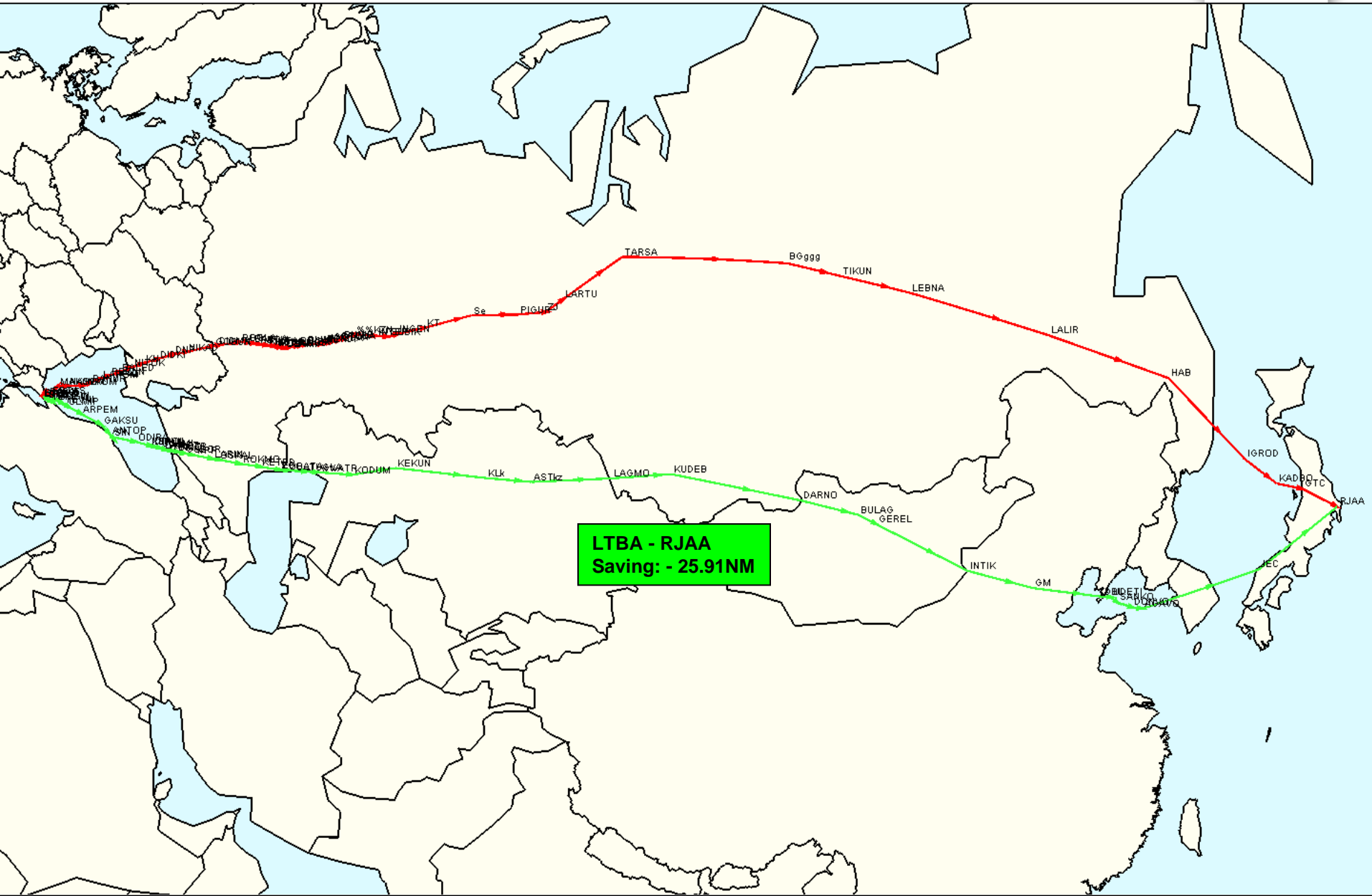
SAAM SR Assignment
Proposal 13.037 / FE0023
Comparison Current / New
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APAC ATS route catalogue



Evaluated proposals (2)



Based on APAC ATS route Catalogue the following interface ATS route proposals are evaluated:

1. CHA 12: UNWW - WXI

2. RUS 6: NALEB - SIBIR

Important Note:

- 1. For the purpose of this meeting all ATS route CHA 1 was simulated as bi-bidirectional while RUS 6 as southbound due to known ARR/DEP RJ.. organization over IGROD and AVGOK between Russian Federation and Japan.*
- 2. Some “W” ATS route in China were also used as short-cuts.*
- 3. None of the possible existing ATS route restrictions in APAC Region were considered.*



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CHA 12
New ATS route UNWW - WXI
Originator: IATA
States concerned: CHN / RUS



CHA 12 - Original proposal



ATS ROUTE NAME: CHA 12

EUR/NAT Comments:

1. UNWW to be replaced by NOSPI.
2. Description to be further considered and revised due to existence of ATS route B208 MUR - NIXAL - HET - CGO A461 ZHO.

Requested by : IATA

ENTRY/EXIT POINT

UNWW to WXI

ROUTE DESCRIPTION

Weixian (WXI) .. A (ZBPE/ZMUB) .. B (ZMUB/UNKY) .. Novokuznetsk (UNWW)

Uni-directional

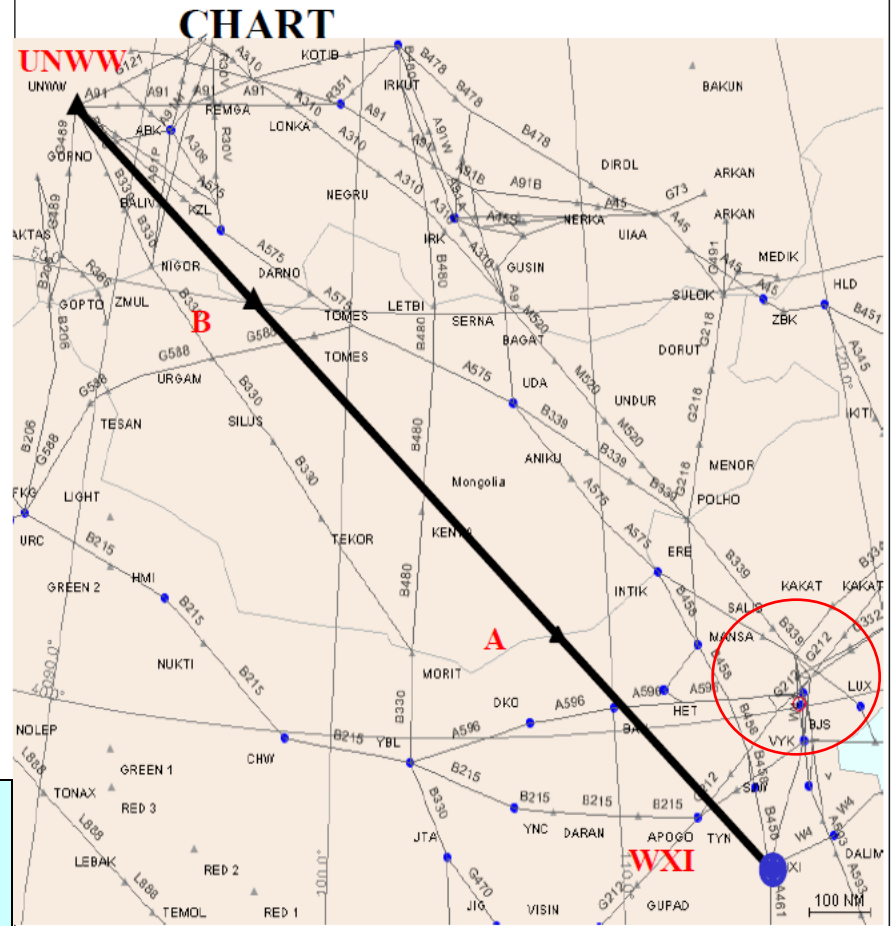
FLIGHT LEVEL BAND

28000 – 46000 feet

PRIORITY: HIGH/MED/LOW

Remarks: This would allow following city pair flights to avoid the congested airspace around the Beijing Capital Airport.

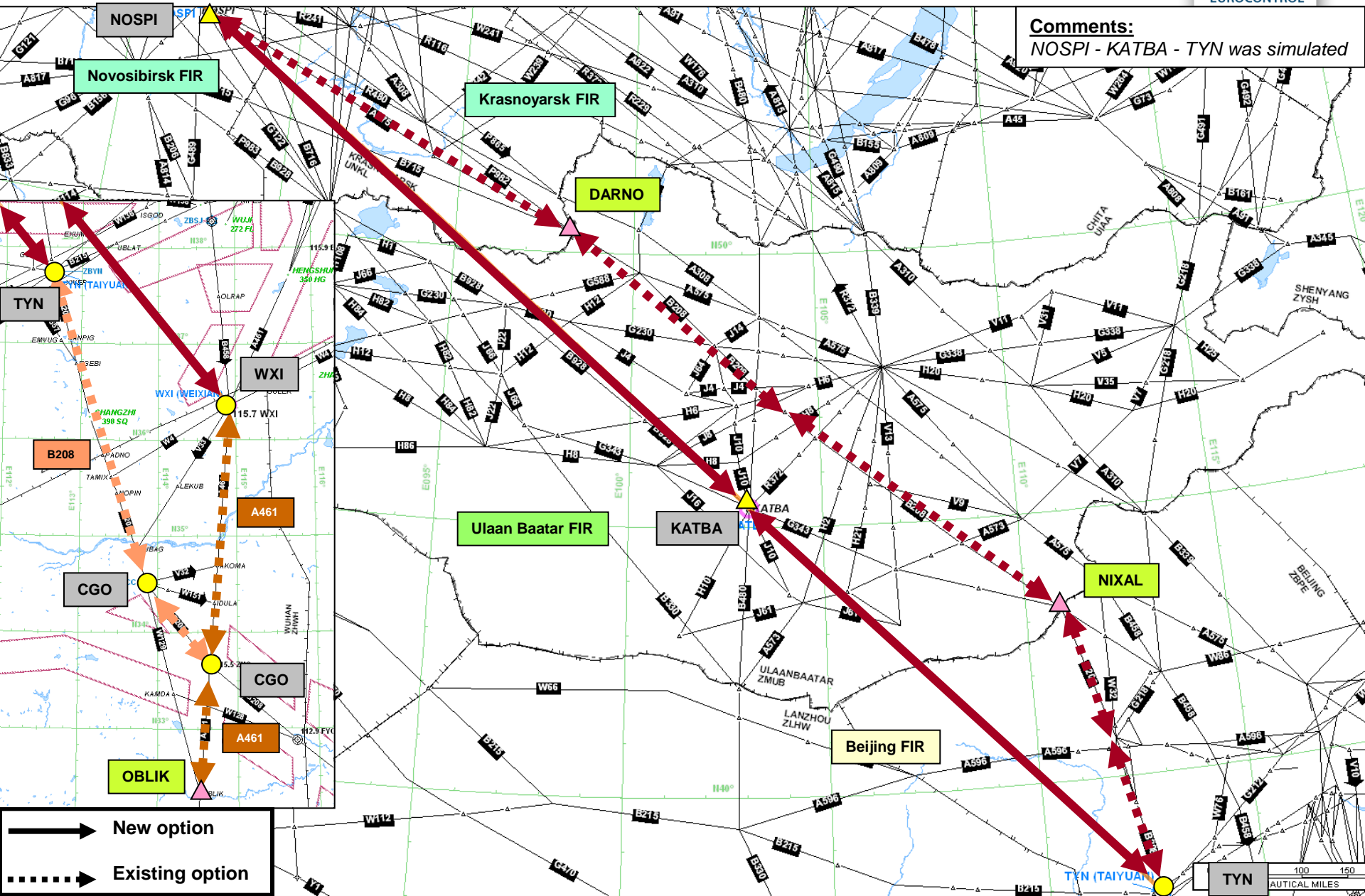
Potential City Pairs: Pearl River Delta - Europe and Shanghai - Europe





CHA 12 - Simulated proposal

Comments:
NOSPI - KATBA - TYN was simulated

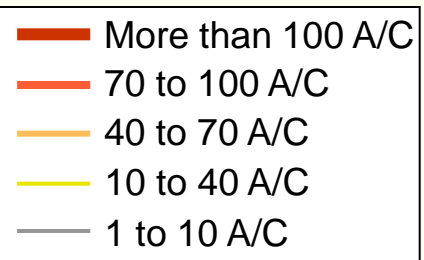


	New option
	Existing option



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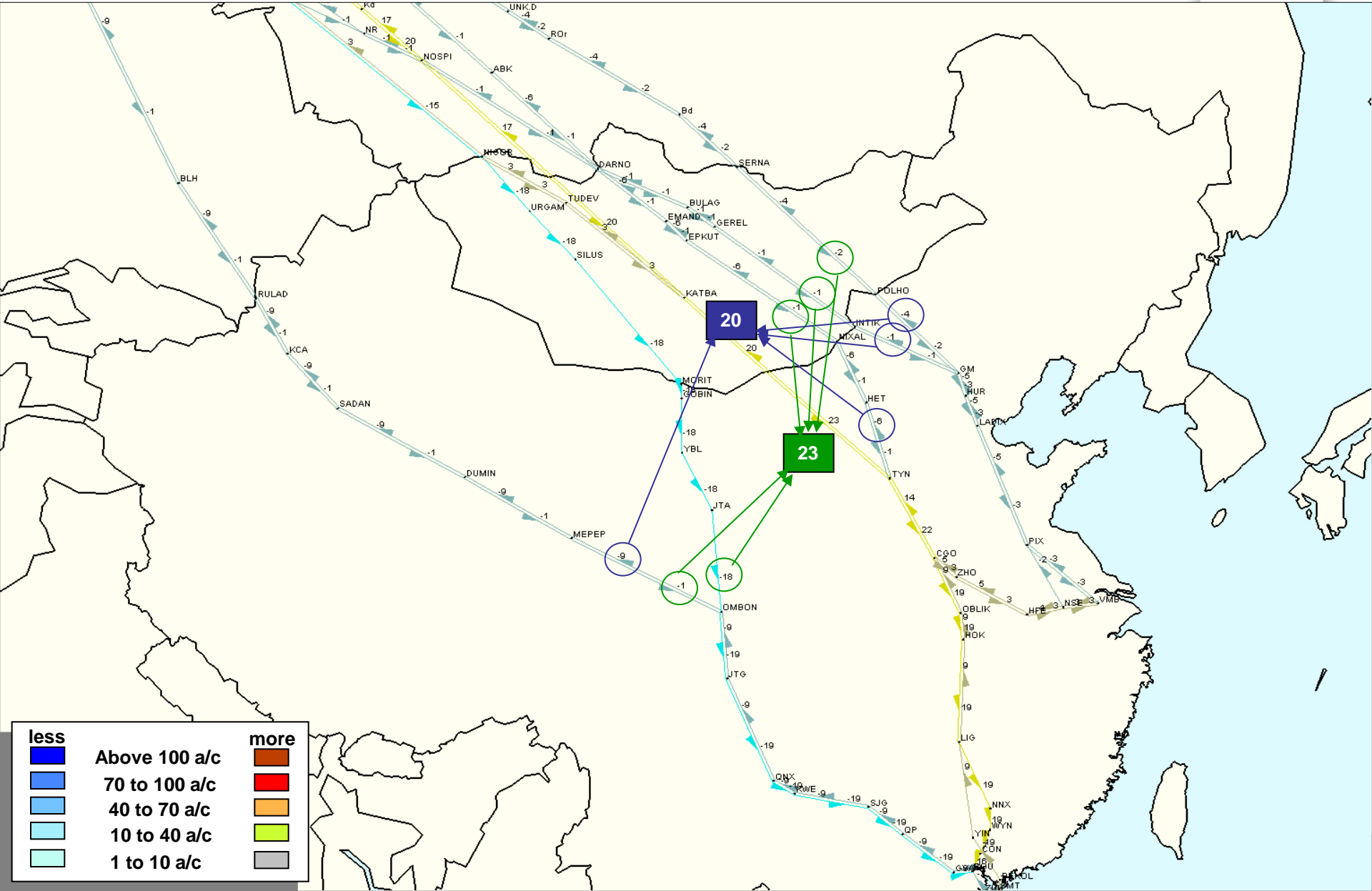
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less		more
	Above 100 a/c	
	70 to 100 a/c	
	40 to 70 a/c	
	10 to 40 a/c	
	1 to 10 a/c	



Flight Economy Indicators calculation

CHA 12



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	43
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Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	43		
	Daily <u>distance</u> (NM)	- 826.35		- 19.22
	Daily <u>time</u> (min)	- 105.01		- 2.44
	Daily <u>fuel</u> (kg)	- 10216.90		- 237.60
	Daily <u>CO₂</u> (kg)	- 32281.00		- 750.72
	Daily <u>NOx</u> (kg)	- 144.96		- 3.37



Flight Economy Indicators calculation

CHA 12



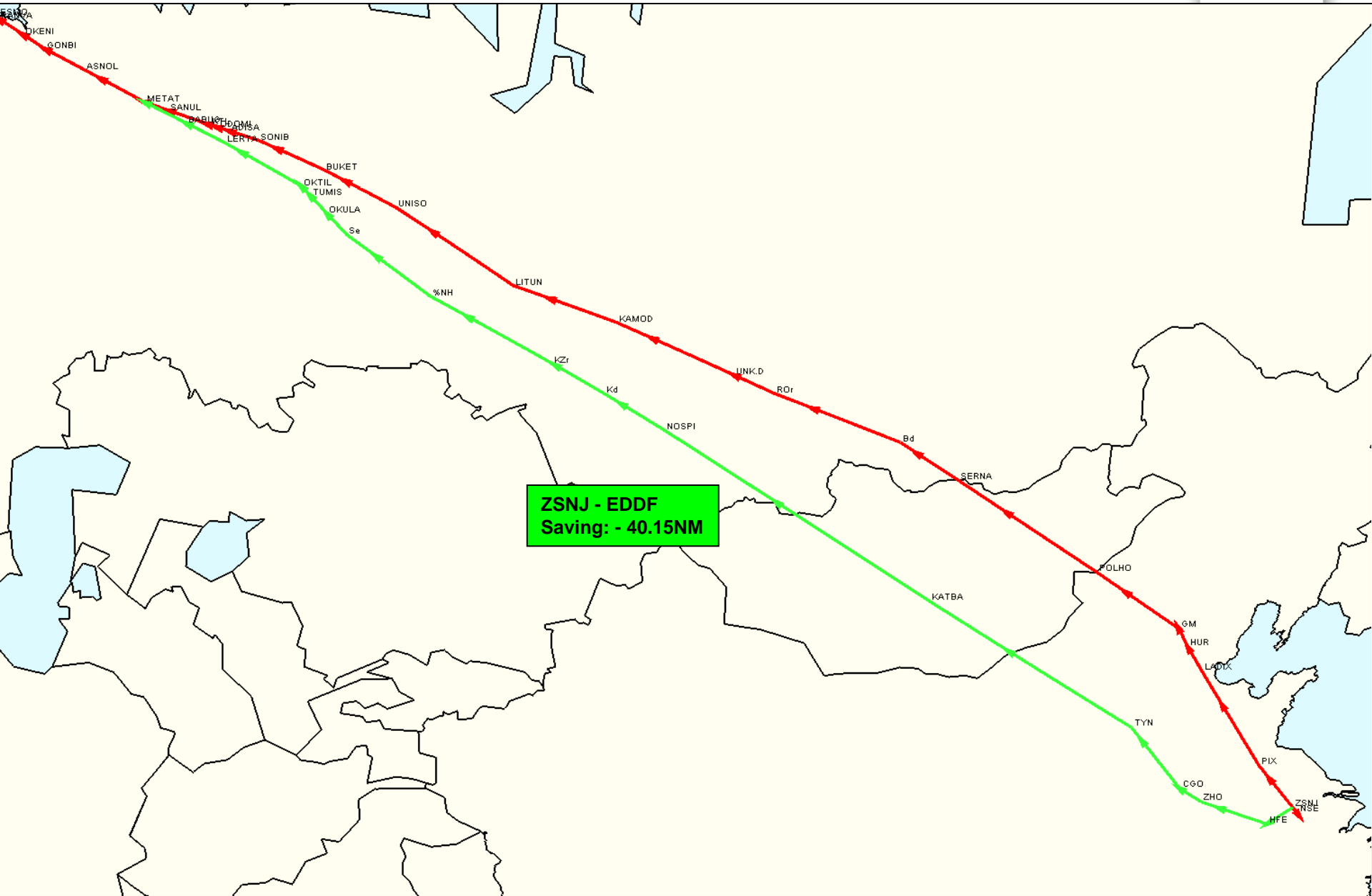
ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
ZSNJ	EDDF	A343	-40.15	-5.52	-376.7	-1190	-3.76
VHHH	EGLL	B77W	-39.34	-5.01	-560.5	-1771	-9.05
VHHH	EGLL	A346	-39.34	-4.82	-533.8	-1686	-11.49
VHHH	EGLL	B744	-39.34	-4.9	-619	-1956	-6.31
VHHH	EGLL	B744	-39.34	-4.9	-619	-1956	-6.31
VHHH	EGLL	B77W	-38.9	-4.96	-552.7	-1747	-8.89
VHHH	EGLL	B77W	-38.9	-4.96	-552.7	-1747	-8.89
VHHH	EHAM	A343	-38.9	-5.08	-382.6	-1209	-7.49
VHHH	EHAM	B744	-38.9	-4.84	-611	-1929	-6.21
VHHH	EGLL	B77W	-38.9	-4.96	-552.7	-1747	-8.89
VHHH	EGLL	B744	-38.9	-4.84	-610	-1929	-6.2
VHHH	EHAM	B744	-38.9	-4.84	-611	-1929	-6.21
VHHH	EFHK	A333	-38.59	-4.78	-232.1	-734	-1.97
VHHH	EFHK	A343	-36.73	-4.8	-354.6	-1120	-7.05
ZGGG	EHAM	A332	-32.19	-4.11	-210.4	-665	-2.94
ZGGG	EGLL	A332	-32.19	-4.11	-210.4	-665	-2.94
ZSAM	EHAM	B772	-18.94	-2.36	-90.4	-286	-2.12
ZSPD	LIRF	A332	-14.05	-1.8	-193.9	-613	-1.92
ZSPD	LIMC	A332	-5.44	-0.76	-18.9	-59	0.25
ZSPD	LSZH	A343	-5.44	-0.78	-33.5	-106	0.01

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LFPG	ZHHH	B772	-39.34	-4.9	-525.6	-1661	-11.46
EGLL	ZGGG	A332	-23.04	-2.94	-264.2	-835	-3.29
EGLL	ZGGG	A332	-23.04	-2.94	-264.2	-835	-3.29
EHAM	ZGGG	A332	-23.04	-2.94	-264.2	-835	-3.29
LIRF	ZSPD	A332	-14.93	-1.91	-171.2	-541	-2.13
LOWW	ZSPD	B772	-9.02	-1.11	-129.6	-410	-2.98
LIMC	ZSPD	A332	-9.01	-1.15	-103.2	-326	-1.29
EGLL	VHHH	B744	-1.99	-0.25	-38	-119	-0.48
EGLL	VHHH	B77W	-1.99	-0.25	-36	-112	-0.72
EGLL	VHHH	B77W	-1.99	-0.25	-34.5	-109	-0.69
EHAM	VHHH	B744	-1.99	-0.25	-38	-121	-0.49
EGLL	VHHH	B77W	-1.99	-0.25	-34.9	-111	-0.7
EGLL	VHHH	B744	-1.99	-0.25	-39	-123	-0.52
EGLL	VHHH	B77W	-1.99	-0.25	-36	-112	-0.72
EGLL	VHHH	B744	-1.99	-0.25	-38	-119	-0.48
EGLL	VHHH	B77W	-1.99	-0.25	-34.9	-111	-0.7
EGLL	VHHH	B77W	-1.99	-0.25	-34.9	-110	-0.7
EGLL	VHHH	A346	-1.99	-0.25	-35.6	-113	-0.56
EGLL	VHHH	B744	-1.99	-0.25	-38	-119	-0.48
EFHK	VHHH	A343	-1.98	-0.26	-25.2	-80	-0.41
EGLL	VHHH	A346	-1.98	-0.25	-34.6	-110	-0.54
EHAM	VHHH	A343	-1.98	-0.26	-25.2	-79	-0.4
EGSS	VHHH	GLEX	-1.73	-0.22	-46	-146	1.3



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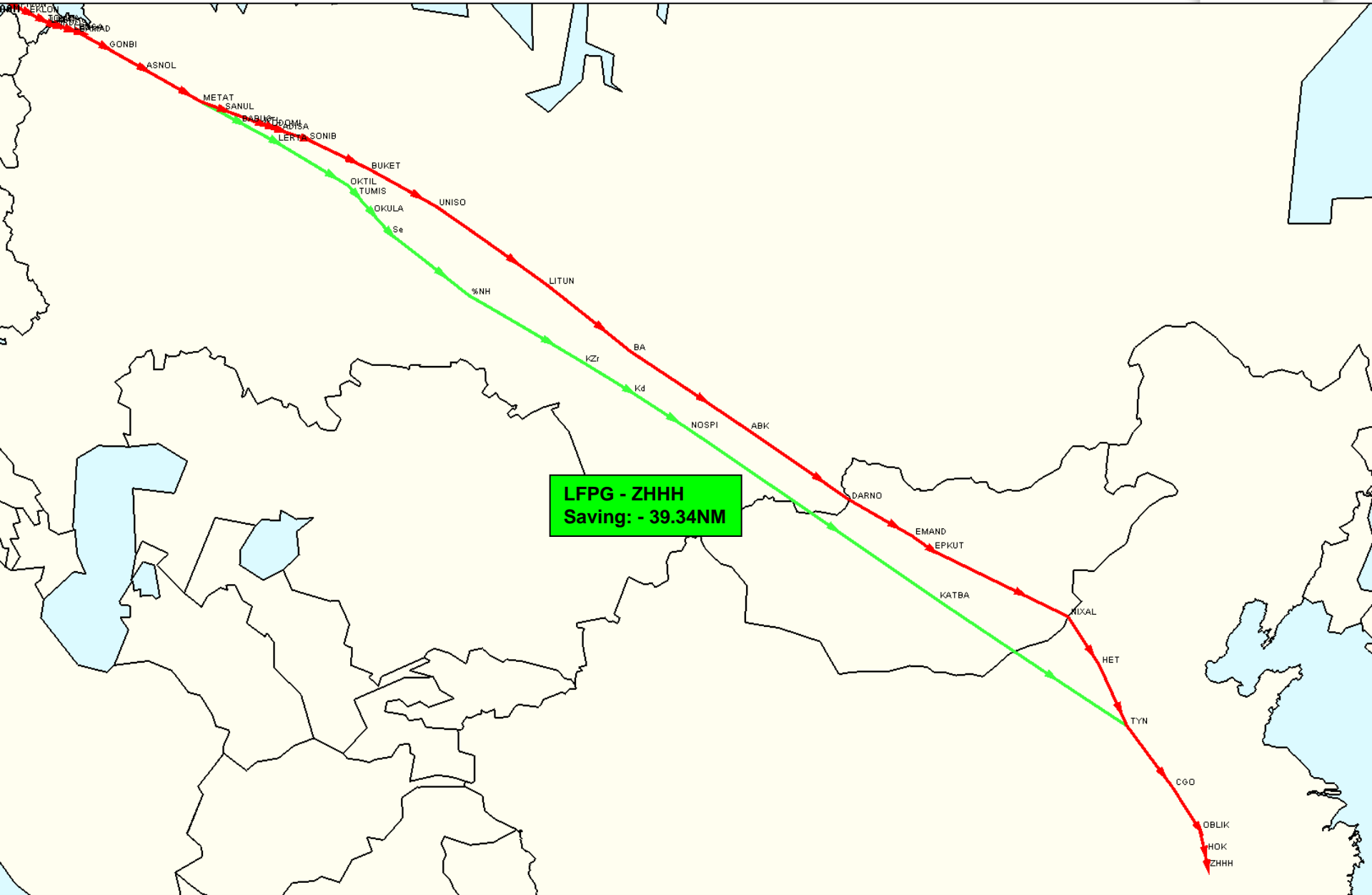
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RUS 6
New ATS route NALEB - SIBIR
Originator: IATA
States concerned: CHN / RUS



RUS 6 - Original proposal

ATS ROUTE NAME: *RUS 6*
REQUESTED BY: IATA

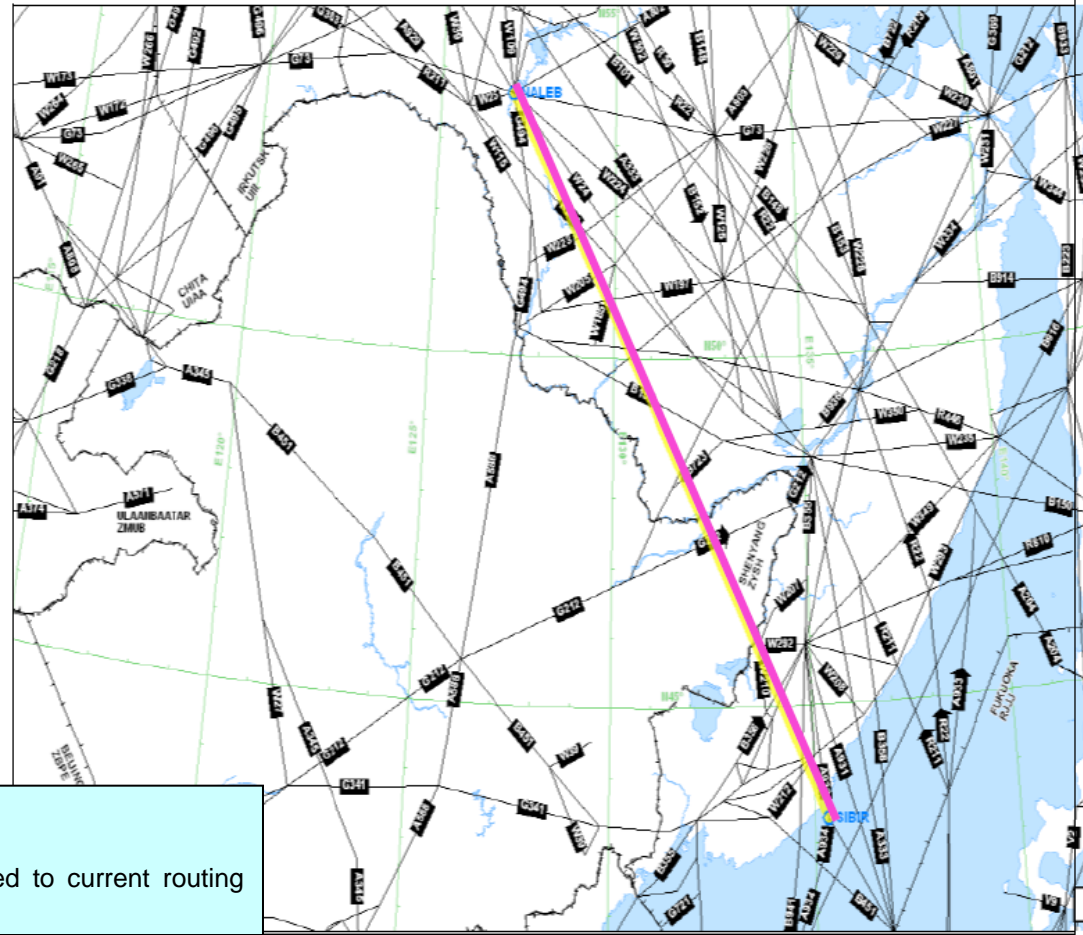
ENTRY/EXIT POINT

ROUTE DESCRIPTION
FLIGHT LEVEL BAND
NALEB - SIBIR.
PRIORITY:

States concerned

CHINA
RUSSIAN FEDERATION

CHART



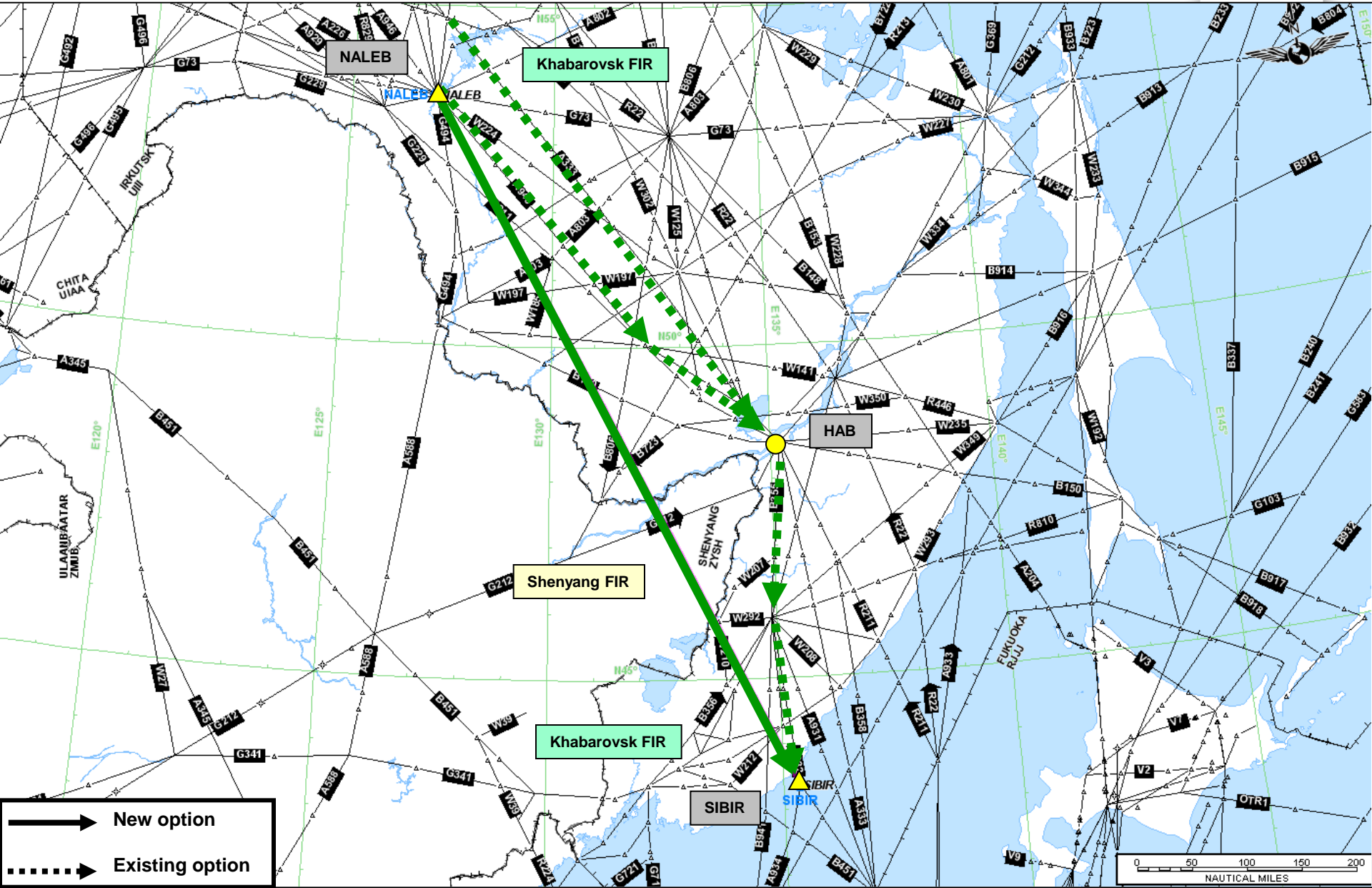
Part of IATA EUR-North Asia package - #EN6.

Objective:

To reduce route distance of 63 NM as compared to current routing LALIR-SOVIK-HAB-TD-SIBIR.



RUS 6 - Simulated proposal





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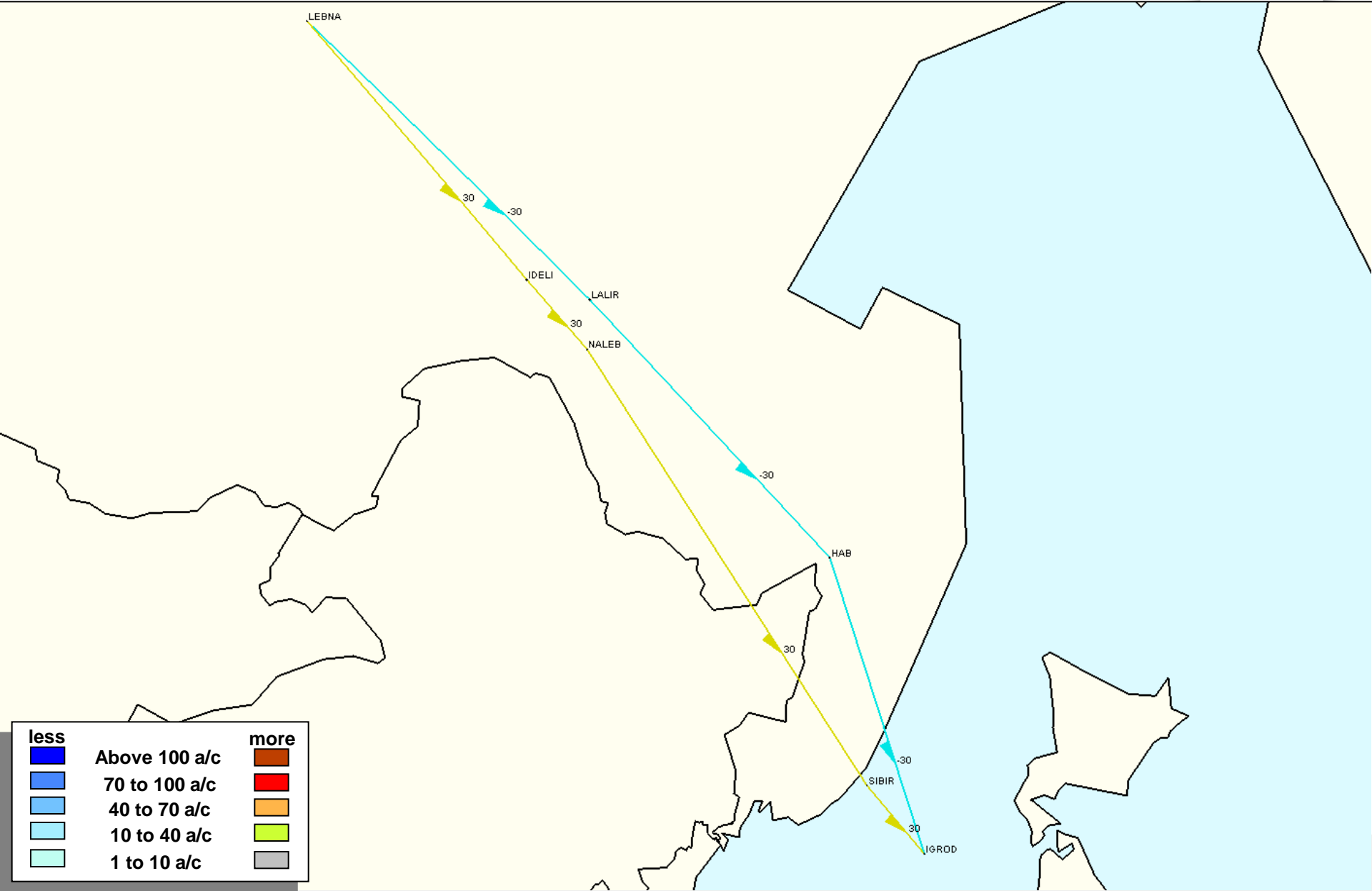
**SAAM SR Assignment
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**SAAM SR Assignment
RUS 6
Comparison Current / New
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Flight Economy Indicators calculation RUS 6



Potential flights:	SAAM shortest ATS route assignment (28 JUN 2013)	30
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Potential savings or losses: <i>(compare to VST without new ATS route/s)</i>		SAVINGS	LOSSES	AVERAGE P / F
	Flights	30		
	Daily <u>distance</u> (NM)	- 863.10		- 28.77
	Daily <u>time</u> (min)	- 107.92		- 3.60
	Daily <u>fuel</u> (kg)	- 14011.08		- 467.04
	Daily <u>CO₂</u> (kg)	- 44272.60		- 1475.75
	Daily <u>NOx</u> (kg)	- 267.86		- 8.93



Flight Economy Indicators calculation

RUS 6



ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LIMC	RJAA	B744	-28.77	-3.57	-564	-1781	-7.45
LFPG	RJAA	B77W	-28.77	-3.53	-524.8	-1659	-10.86
EDDM	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EGLL	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EHAM	RJAA	B772	-28.77	-3.57	-398.2	-1258	-8.84
LFPG	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EDDM	RJAA	A346	-28.77	-3.57	-514.8	-1627	-8.17
LIRF	RJAA	B772	-28.77	-3.58	-373.2	-1180	-8.15
EGLL	RJAA	A346	-28.77	-3.61	-502.6	-1588	-7.77
EGLL	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EHAM	RJAA	B744	-28.77	-3.58	-542	-1712	-6.9
LOWW	RJAA	B772	-28.77	-3.57	-398.1	-1258	-8.85
EDDF	RJAA	A388	-28.77	-3.53	-814	-2572	-15.74
EGLL	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EDDF	RJAA	B77W	-28.77	-3.57	-514.1	-1625	-10.41

ADEP	ADES	Acft Type	Length (NM)	Time (min)	Fuel (kg)	CO2 (kg)	NOx (kg)
LFPG	RJAA	B77W	-28.77	-3.53	-524.8	-1659	-10.86
EKCH	RJAA	A343	-28.77	-3.71	-398.6	-1259	-6.53
LIMC	RJAA	B772	-28.77	-3.57	-398.2	-1258	-8.84
LSZH	RJAA	A343	-28.77	-3.75	-386.1	-1220	-6.13
LFPG	RJAA	A388	-28.77	-3.53	-793	-2507	-15.22
EDDF	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
LFPG	RJAA	B77W	-28.77	-3.53	-524.8	-1658	-10.86
EFHK	RJAA	A343	-28.77	-3.71	-398.6	-1259	-6.53
LTBA	RJAA	B77W	-28.77	-3.57	-514.1	-1625	-10.41
LFPG	RJAA	B77L	-28.77	-3.53	-508.2	-1606	-10.5
EFHK	RJGG	A333	-28.77	-3.67	-300.8	-951	-4.04
LFPG	RJTT	B772	-28.77	-3.57	-398.1	-1258	-8.84
EGLL	RJTT	B772	-28.77	-3.57	-398.2	-1258	-8.85
EDDF	RJTT	B788	-28.77	-3.86	-140.5	-444	-1.67
LFPB	RJTT	GLF5	-28.77	-3.96	-32.48	-102.6	-0.28



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RUS 6
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Recommendation

The Meeting is invited to:

- ❖ consider the content of this presentation and discuss as appropriate;
- ❖ consider possible further actions to the acceleration of the implementation process.



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Q U E S T I O N S



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END