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**AIC**  
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# Policy and Procedures of Reduced Vertical Separation Minimum (RVSM) in the Airspace of Mongolia

## 1. Introduction

1.1 The International Civil Aviation Organization (ICAO) Third Asia/Pacific Regional Air Navigation Meeting recommended that Reduced Vertical Separation Minimum (RVSM) should be introduced in the Asia and Pacific region after successful implementation in the North Atlantic region. This is due to the significant benefits to be gained by aircraft operators and air traffic services (ATS) providers. ICAO Document 9574, Manual on Implementation of a 300m (1000 ft) Vertical Separation Minimum Between FL290 and FL410 Inclusive contains an explanation of RVSM.

1.2 The ICAO Asia/Pacific RVSM Implementation Task Force has harmonized the basic content of this document. The following policies are addressed in the paragraphs of this document:

2. *Identification of RVSM Airspace and Flight Level Allocation Scheme (FLAS)*

3. *Airworthiness and Operational Approval and Monitoring*

4. *Airspace Safety Assessment and Monitoring*

5. *ACAS II and Transponder Equipage*

6. *In-flight Procedures within RVSM Airspace*

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8. *Flight Planning Requirements*

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## 2. Identification of RVSM Airspace and Flight Level Allocation Scheme (FLAS)

2.1 Mongolia RVSM Implementation FIR

From 17 November at 0001 UTC, Metric RVSM will be implemented in the Ulaanbaatar FIR between 8900m (29100ft) and 12500m (41100ft) inclusive. The Airspace between 8900m (29100ft) and 12500m (41100ft) is defined as RVSM airspace. Mongolia RVSM airspace is exclusive RVSM airspace, aircraft that are not RVSM compliant may not operate into Mongolia RVSM airspace between 8900m (29100ft) and 12500m (41100ft) except for the following situations as detailed in 9.4.

2.2 Mongolia RVSM Flight Level Allocation Scheme (FLAS) is based on Metric Flight Level. Mongolia RVSM Flight Level Allocation Scheme (FLAS) is attached in ATTACHMENT A.

2.3 To prevent undesirable ACAS TA/RA triggering in RVSM airspace, most civil aircraft use FEET as the primary altitude reference with a minimum selectable interval of 100 feet. ATC will issue the Flight Level clearance in meters.

2.4 Pilots shall use the Mongolia RVSM FLAS Diagram (see Attachment A) to determine the corresponding flight level in feet. The aircraft shall be flown using the flight level in FEET.

2.5 Pilots should be aware that due to the rounding differences, the metric readout of the onboard avionics will not necessarily correspond

to the cleared Flight Level in meters, however the difference will never be more than 30 meters.

- 2.6 Aircraft equipped with metric and feet altimeters such as the IL-96, IL-62, Tu-214 or Tu-154 shall use the feet altimeter within RVSM flight level band. When these aircraft operating outside of RVSM flight level band, the aircraft can use metric altimeter or feet altimeter. Aircraft equipped with the altimetry system not capable of flying in feet in accordance with 2.4 should not flight plan in the RVSM airspace and shall comply with paragraph 9 as required.
- 2.7 Operator shall make available to the pilots the conversion table for meter and feet in accordance with Mongolia RVSM FLAS Diagram when operating in Mongolia RVSM airspace.

### **3. Airworthiness and Operational Approval and Monitoring**

#### **3.1 Approval date**

Operator/aircraft shall be approved by 17 November 2011 and that will enable air traffic service providers to plan for orderly RVSM implementation.

#### **3.2 Approval process**

Operators must obtain airworthiness and operational approval from the State of Registry or State of the Operator, as appropriate, to conduct RVSM operations. Relevant requirements will be contained in RVSM airworthiness and flight standards policies of Civil Aviation Authority of Mongolia.

#### **3.3 Aircraft altitude-keeping performance monitoring**

Operators are required to participate in the RVSM aircraft monitoring program. This is an essential element of the RVSM implementation program in that it confirms that the aircraft altitude-keeping performance standard is being met. Monitoring Agency for Asia Region (MAAR) will process the results of monitoring. For further information on RVSM monitoring, the MAAR website can be accessed by:

- a) Accessing the 'MAAR (Monitoring Agency for Asia Region)' section of AEROTHAI website and clicking 'Monitoring Program';
- b) Using this Internet address: <http://www.aerothai.co.th/maar/>.

### **4. Airspace Safety Assessment and Monitoring**

- 4.1 In order to conduct the airspace safety assessment and monitoring required by the ICAO Doc 9574, large height deviation report will be collected. Information contained in the collected reports will not be used for other purposes than the airspace safety assessment and safety monitoring.

#### **4.2 Applicable airspace**

Large height deviation occurrences will be collected from the entire Ulaanbaatar FIR.

#### **4.3 Applicable level stratum**

Large height deviation occurrences will be collected between 8900m (29100ft) and 12500m (41100ft).

#### **4.4 Action taken by Pilot**

Pilot of aircraft operating in accordance with IFR, when deviating for any reason by 90m (300ft) or more from cleared flight level by ATC in RVSM airspace, shall report to the relevant ATS unit concerned via radio or if available, data link as soon as practicable, on the level deviation. After completion of the flight, the pilot shall also report to the operator the details of deviation.

#### **4.5 Action taken by State and Aircraft Operators**

When large height deviation is reported by a pilot as described in 4.4, the State of Registry of the operator shall submit the report, in principle, using the Table B in Attachment B, as soon as possible to the RMA (Regional Monitoring Agency) and copy to the following address:

Air Traffic Services Division  
Civil Aviation Authority of Mongolia  
Chinggis Khaan International Airport  
P.O.Box-35, Ulaanbaatar 17120, Mongolia  
AFTN: ZMUBZRZX  
e-mail: [safety-atc@mcaa.gov.mn](mailto:safety-atc@mcaa.gov.mn)  
Tel: 976-11-281174  
Fax: 976-11-379525

### **5. ACAS II and Transponder Equipage**

- 5.1 The ICAO Asia/Pacific RVSM Implementation Task Force recommends that those aircraft equipped with ACAS and operated in RVSM airspace shall be equipped with ACAS II. (TCAS II systems with Version 7.0 incorporated meet ICAO ACAS II standards).
- 5.2 Operators shall equip their aircraft with ACAS II and SSR transponder as required by AIP Mongolia.

### **6. In-flight Procedures within RVSM Airspace**

- 6.1 Before entering RVSM airspace, the pilot should review the status of required equipment. The following equipment should be operating normally:

- a) Two primary altimetry systems;

*Note: Altimetry system requirement should be in accordance with paragraph 2.4 that aircraft shall be flown using the flight level in FEET.*

- b) One automatic altitude-keeping device; and

c) One altitude-alerting device.

6.2 In contingencies, the pilot must notify ATC whenever the aircraft:

a) Is no longer RVSM compliant due to equipment failure; or

b) Experiences loss of redundancy of altimetry systems; or

c) Encounters turbulence that affects the capability to maintain flight level.

6.3 Transition between FL's

During cleared transition between levels, the aircraft should not overshoot or undershoot the assigned FL by more than 45m (150ft).

6.4 Pilot level call

Within RVSM airspace, pilots shall report reaching any assigned altitude.

6.5 Procedures for wake turbulence

Pilots encountering or anticipating wake turbulence in Mongolia RVSM airspace have the option of requesting FL change, or if capable, a vector, or a lateral offset.

6.6 Procedures for Strategic lateral offset (SLOP)

6.6.1 The flight crew may apply strategic lateral offset in remote continental airspace within the airspace of Mongolia when the aircraft is equipped with automatic offset tracking capability. The decision to apply a strategic lateral offset shall be the responsibility of the flight crew.

6.6.2 Within the airspace of Mongolia, the strategic lateral offset shall be established at a distance of 2 NM to the right of the centre line of the route relative to the direction of flight. Pilots are not required to inform ATC that a strategic lateral offset is being applied.

6.7 Phraseology Related to RVSM Operations

Phraseology Related to RVSM Operations is in Attachment C.

## 7. Transition areas

7.1 Transition areas and procedures for transition between Mongolia RVSM airspace and adjacent FIRs in Russian Federation are provided in Attachment E.

## 8. Flight Planning Requirements

8.1 Unless special arrangement is made as detailed below, RVSM approval is required for operators and aircraft to operate within designated RVSM airspace. The operator must determine that the appropriate State authority has granted them RVSM operational approval and they will meet the RVSM requirements for the filed route of flight and any planned alternate routes. The letter "W" shall be inserted in Item 10 (Equipment) of the ICAO standard flight plan to indicate that both the aircraft and operator are RVSM approved. The request metric flight level within Mongolia RVSM airspace in Flight Plan shall be expressed as S followed by 4 figures (such as S1250, S1220 and S1190 represent 12500m, 12200m and 11900m respectively).

## 9. Procedures for Operation of Non-RVSM Approved Aircraft in RVSM Airspace

9.1 Flight priority

It should be noted that RVSM approved aircraft will be given priority for level allocation over non-RVSM approved aircraft.

9.2 Vertical separation applied

The vertical separation minimum between non-RVSM aircraft operating in the RVSM stratum and all other aircraft is 600m (2000ft).

9.3 Phraseology

Non-RVSM approved aircraft operating in RVSM airspace should use the phraseology contained in Attachment C.

9.4 Special coordination procedures for cruise operation of Non-RVSM approved aircraft in RVSM airspace.

Aircraft that are not RVSM compliant may not flight plan between 8900m (29100ft) and 12500m (41100ft), except for the following situations:

a) The aircraft is being initially delivered to the State of Registry or Operator (see paragraph 11 for additional details and information); or

b) The aircraft was RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repairing in order to meet RVSM requirements and/or obtain approval; or

c) The aircraft is being utilized for mercy or humanitarian purposes; or

d) State aircraft (those aircraft used in military, custom and police services shall be deemed state aircraft).

9.4.1 Aircraft operators requesting that approval shall, if departing from an airport within Ulaanbaatar FIR, obtain approval from the ATFM and Flight Permit Department of Civil Aviation Authority of Mongolia and Tactical Planning Unit of Air Traffic Services Division of Civil Aviation Authority of Mongolia. ATFM and Flight Permit Department and Tactical Planning Unit will provide notification of approval via AFTN, SITA or e-mail as appropriate; and

9.4.2 The assignment of cruising levels to non-RVSM approved aircraft listed in paragraph 9.4 (a) to (d) shall be subject to an ATC clearance. Aircraft operators shall include the 'STS/Category of operations (i.e. FERRY/HUMANITARIAN/MILITARY/CUSTOMS/POLICE/STATE) / NON-RVSM COMPLIANT' in Field 18 of the ICAO Flight Plan;

9.4.3 The department may be contacted as follows:

ATFM and Flight Permit Department  
Civil Aviation Authority of Mongolia  
Chinggis Khaan International Airport  
P.O.Box-05, Ulaanbaatar 17120  
Mongolia  
AFTN: ZMUBYAYX  
SITA: ULNUGOM  
Tel: 976-11-282012, 976-11-282014, 976-11-282120, 976-11-282104  
Fax: 976-11-379981  
e-mail: fpd@mcaa.gov.mn

9.4.4 The unit may be contacted as follows:

Tactical Planning Unit of Air Traffic Services Division  
Civil Aviation Authority of Mongolia  
Chinggis Khaan International Airport  
P.O.Box-35, Ulaanbaatar 17120  
Mongolia  
AFTN: ZMUBZGZX  
SITA: ULNKKOM  
Tel: 976-11-281602  
Fax: 976-11-379680, 976-11-281512  
e-mail: tpu@mcaa.gov.mn

9.4.5 This approval process is intended exclusively for the purposes indicated above and not as a means to circumvent the normal RVSM approval process.

**10. Continuous Climb/Descent of Non-compliant Aircraft through RVSM Airspace**

10.1 Non-RVSM compliant aircraft may be cleared to climb to and operate above 12500m (41100ft) or descend to and operate below 8900m (29100ft) provided that they:

- a) Do not climb or descend at less than the normal rate for the aircraft; and
- b) Do not level off at an intermediate level while passing through the RVSM stratum.

**11. Delivery Flights for Aircraft that are RVSM Compliant on Delivery**

11.1 An aircraft that is RVSM compliant on delivery may operate in RVSM airspace provided that the crew is trained on RVSM policies and procedures applicable in the airspace and the responsible State issues the operator a letter of authorization approving the operation. State notification to MAAR should be in the form of a letter, e-mail or fax documenting the one-time flight. The planned date of the flight, flight identification, registration number and aircraft type/series should be included.

**12. Procedures for Suspension of RVSM**

12.1 Air traffic services will consider suspending RVSM procedures within affected areas of Ulaanbaatar FIR when there are pilot reports of greater than moderate turbulence. Within areas where RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 600m (2000ft).

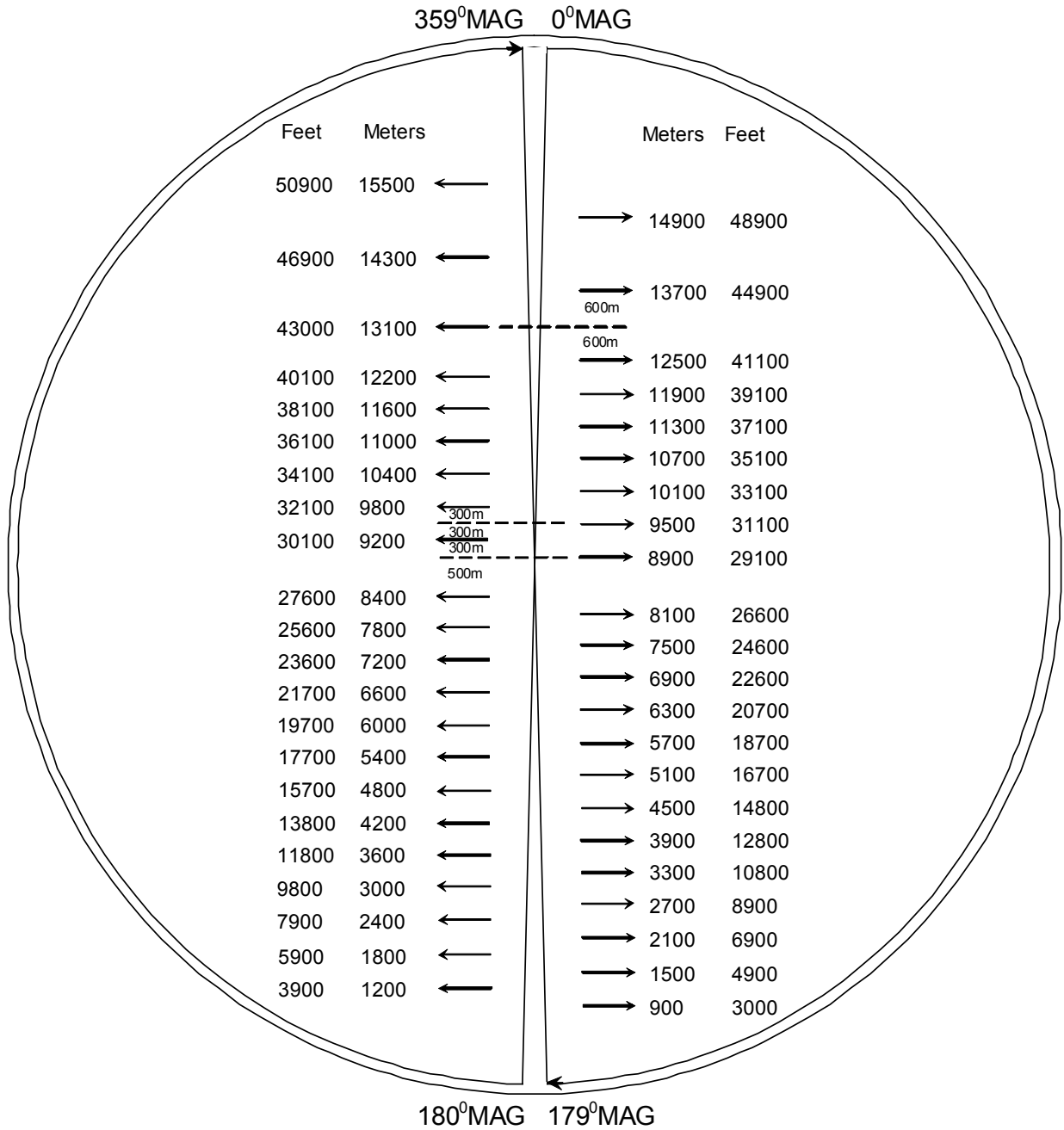
**13. Guidance for Pilots and Controllers for Actions in the Event of Aircraft System Malfunction or Turbulence Greater than Moderate**

13.1 See Attachment D for guidance in these circumstances.

**14. Procedures for Air-Ground Communication Failure**

14.1 The air-ground communication failure procedures specified in ICAO PANS-ATM Doc 4444 should be applied, in conjunction with AIP Mongolia.

ATTACHMENT A: DIAGRAM OF FLIGHT LEVEL ALLOCATIONS



*Note:* ATC will issue the Flight Level clearance in meters. Pilots shall use the Mongolia RVSM FLAS Diagram to determine the corresponding flight level in feet. The aircraft shall be flown using the flight level in FEET. Pilots should be aware that due to the rounding differences, the metric readout of the onboard avionics will not necessarily correspond to the cleared Flight Level in meters however the difference will never be more than 30 meters.

**TABLE A: TABLE OF FLIGHT LEVEL ALLOCATIONS**

<b>180°-359°MAG</b>		<b>000°-179°MAG</b>	
<b>Flight Levels</b>		<b>Flight Levels</b>	
<b>M</b>	<b>FT</b>	<b>M</b>	<b>FT</b>
15500	50900	14900	48900
14300	46900	13700	44900
13100	43000		
		12500	41100
12200	40100	11900	39100
11600	38100	11300	37100
11000	36100	10700	35100
10400	34100	10100	33100
9800	32100	9500	31100
9200	30100	8900	29100
8400	27600	8100	26600
7800	25600	7500	24600
7200	23600	6900	22600
6600	21700	6300	20700
6000	19700	5700	18700
5400	17700	5100	16700
4800	15700	4500	14800
4200	13800	3900	12800
3600	11800	3300	10800
3000	9800	2700	8900
2400	7900	2100	6900
1800	5900	1500	4900
1200	3900	900	3000
M	FT	M	FT

**ATTACHMENT B: LARGE HEIGHT DEVIATION REPORT**

Name of FIR:
<b>Please complete Section I or II as appropriate:</b> If there were no reports of large altitude deviation, only Section I should be finished. If there were reports of large altitude deviation, please finish both Section I and Section II. If there were more than one report, each report should write a separate piece of Table B.
<b>Section I:</b> There were no reports of large altitude deviation for the month of .....
<b>Section II:</b> There was/were ..... report(s) of an altitude deviation of 90m (300ft) or more between 8900m and 12500m. Details of the altitude deviation are attached (Table B). (Please use a separate table for each report of large height deviation).
<b>Section III:</b> When complete, please return to the following e-mail: <a href="mailto:safety-atc@mcaa.gov.mn">safety-atc@mcaa.gov.mn</a>

**Table B: Report of an Altitude Deviation of 90m (300ft) or more between 8900m and 12500m**

(Please use a separate table for each report of large height deviation).
(1) This is the ..... large height event reported this month.
(2) Reporting agency: .....
Location of Deviation (3) • ATS Route: ..... / .....  • Fixes (Fixes between the locations of deviation): .....
(4) Date of Occurrence (UTC: yyyy-mm-dd): .....
(5) Flight Identification and Type: .....
(6) Flight Level Assigned (Record in the picture is also admitted): .....
(7) Observed/Reported Final Level Mode C/Pilot Report: (Record in the picture is also admitted): ..... / .....
(8) Cause of Deviation: .....
(9) Other traffic: .....
(10) Crew comments (if any, when noted): .....
(11) Remarks: ..... .....
(12) Duration at Flight Level: .....



**ATTACHMENT C: PHRASEOLOGY RELATED TO RVSM OPERATIONS FOR CONTROLLER - PILOT**

Message	Phraseology
For a controller to ascertain the RVSM approval status of an aircraft:	(call sign) CONFIRM RVSM APPROVED
<p>For a pilot to report non-RVSM approval status:</p> <p>i) On the initial call on any frequency within the RVSM airspace (controller shall provide a read-back with the same phrase); and</p> <p>ii) In all requests for flight level changes pertaining to flight levels within the RVSM airspace; and</p> <p>iii) In all read-backs to flight level clearances pertaining to flight levels within the RVSM airspace.</p> <p>Additionally, except for State aircraft, pilots shall include this phrase to read back flight level clearances involving the vertical transit through 8900m or 12500m.</p> <p>See examples that follow.</p>	NEGATIVE RVSM
For a pilot to report RVSM approval status:	AFFIRM RVSM
For a pilot of a non-RVSM approved State aircraft to report non-RVSM approval status, in response to the phrase (call sign) CONFIRM RVSM APPROVED:	NEGATIVE RVSM, STATE AIRCRAFT
Denial of clearance into the RVSM airspace:	(call sign) UNABLE ISSUE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN [or DESCEND TO, or CLIMB TO] FLIGHT LEVEL
For a pilot to report when severe turbulence affects the aircraft's capability to maintain the height-keeping requirements for RVSM.	UNABLE RVSM DUE TURBULENCE
<p>For a pilot to report that the aircraft's equipment has degraded enroute below that required MASPS Minimum Aviation System Performance Standards for flight within the RVSM airspace.</p> <p>(This phrase is to be used to convey both the initial indication of the non-MASPS compliance, and henceforth, on initial contact on all frequencies within the lateral limits of the RVSM airspace until such time as the problem ceases to exist, or the aircraft has exited the RVSM airspace.)</p>	UNABLE RVSM DUE EQUIPMENT
For a pilot to report the ability to resume operations within the RVSM airspace after an equipment or weather-related contingency.	READY TO RESUME RVSM
For a controller to confirm that an aircraft has regained its RVSM approval status or to confirm that the pilot is ready to resume RVSM operations.	REPORT WHEN ABLE TO RESUME RVSM

**Example 1:**

A non-RVSM approved aircraft, maintaining 7800m, subsequently requests a climb to 9800m.

Pilot: (call sign) REQUEST 9800m, NEGATIVE RVSM

Controller: (call sign) CLIMB TO 9800m

Pilot: (call sign) CLIMB TO 9800m, NEGATIVE RVSM

**Example 2:**

A non-RVSM approved aircraft, maintaining 11000m, subsequently requests a climb to 11600m.

Pilot: (call sign) REQUEST 11600m, NEGATIVE RVSM

Controller: (call sign) CLIMB TO 11600m

Pilot: (call sign) CLIMB TO 11600m, NEGATIVE RVSM

**Example 3:**

A non-RVSM approved civil aircraft maintaining 8400m, subsequently requests a climb to 9800m.

Pilot: (call sign) REQUEST 9800m, NEGATIVE RVSM

Controller: (call sign) UNABLE ISSUE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN 8400m

Example 4:

Air traffic controller instructs a RVSM approved civil aircraft to maintain 9200m, but he finds the aircraft is actually flying FL302. ATC will inform the Pilot to use the Mongolia RVSM FLAS Diagram to determine the corresponding flight level in feet.

Controller: (call sign) MAINTAIN 9200m

Pilot: (call sign) MAINTAIN 9200m

Controller: (call sign) MAINTAIN 9200m, CONVERT ALTITUDE WITH MONGOLIA RVSM FLIGHT LEVEL CHART.

The Pilot shall use the Mongolia RVSM FLAS Diagram to determine that, for 9200m, the corresponding flight level in feet is FL301, then flies the aircraft at FL301, and then:

Pilot: (call sign) MAINTAIN 9200m

**Coordination between ATS units**

<b>Para</b>	<b>Message</b>	<b>Phraseology</b>
1	To verbally supplement an automated estimate message exchange which does not automatically transfer Item 18 flight plan information.	NEGATIVE RVSM or NEGATIVE RVSM STATE AIRCRAFT [as applicable]
2	To verbally supplement estimate messages of non-RVSM approved aircraft.	NEGATIVE RVSM or NEGATIVE RVSM STATE AIRCRAFT [as applicable]
3	To communicate the cause of a contingency relating to an aircraft that is unable to conduct RVSM operations due to severe turbulence or other severe weather-related phenomenon [or equipment failure, as applicable].	UNABLE RVSM DUE TURBULENCE [or EQUIPMENT, as applicable]

**Table C: Pronunciation of Flight Levels**

<b>Flight Level</b>	<b>English Pronunciation</b>
600m	SIX HUN-dred METERS
900m	NIN-er HUN-dred METERS
1200m	WUN TOU-SAND TOO HUN-dred METERS
1500m	WUN TOU-SAND FIFE HUN-dred METERS
1800m	WUN TOU-SAND AIT HUN-dred METERS
2100m	TOO TOU-SAND WUN HUN-dred METERS
2400m	TOO TOU-SAND FOW-er HUN-dred METERS
2700m	TOO TOU-SAND SEV-en HUN-dred METERS
3000m	TREE TOU-SAND METERS
3300m	TREE TOU-SAND TREE HUN-dred METERS
3600m	TREE TOU-SAND SIX HUN-dred METERS
3900m	TREE TOU-SAND NIN-er HUN-dred METERS
4200m	FOW-er TOU-SAND TOO HUN-dred METERS
4500m	FOW-er TOU-SAND FIFE HUN-dred METERS
4800m	FOW-er TOU-SAND AIT HUN-dred METERS
5100m	FIFE TOU-SAND WUN-HUN-dred METERS
5400m	FIFE TOU-SAND FOW-er HUN-dred METERS
5700m	FIFE TOU-SAND SEV-en HUN-dred METERS
6000m	SIX TOU-SAND METERS
6300m	SIX TOU-SAND TREE HUN-dred METERS
6600m	SIX TOU-SAND SIX HUN-dred METERS
6900m	SIX TOU-SAND NIN-er HUN-dred METERS
7200m	SEV-en TOU-SAND TOO HUN-dred METERS
7500m	SEV-en TOU-SAND FIFE HUN-dred METERS
7800m	SEV-en TOU-SAND AIT HUN-dred METERS
8100m	AIT TOU-SAND WUN HUN-dred METERS
8400m	AIT TOU-SAND FOW-er HUN-dred METERS
8900m	AIT TOU-SAND NIN-er HUN-dred METERS
9200m	NIN-er TOU-SAND TOO HUN-dred METERS
9500m	NIN-er TOU-SAND FIFE HUN-dred METERS
9800m	NIN-er TOU-SAND AIT HUN-dred METERS
10100m	WUN ZE-RO TOU-SAND WUN HUN-dred METERS
10400m	WUN ZE-RO TOU-SAND FOW-er HUN-dred METERS
10700m	WUN ZE-RO TOU-SAND SEV-en HUN-dred METERS
11000m	WUN WUN TOU-SAND METERS
11300m	WUN WUN TOU-SAND TREE HUN-dred METERS
11600m	WUN WUN TOU-SAND SIX HUN-dred METERS
11900m	WUN WUN TOU-SAND NIN-er HUN-dred METERS
12200m	WUN TOO TO-SAND TOO HUN-dred METERS

Flight Level	English Pronunciation
12500m	WUN TOO TO-SAND FIFE HUN-dred METERS
13100m	WUN TREE TOU-SAND WUN HUN-dred METERS
13700m	WUN TREE TOU-SAND SEV-en HUN-dred METERS
14300m	WUN FOW-er TOU-SAND TREE HUN-dred METERS
14900m	WUN FOW-er TOU-SAND NIN-er HUN-dred METERS

## ATTACHMENT D: Contingency Actions for Weather Encounters and Aircraft System Failures

### Initial Pilot Actions in Contingency Situations

Initial Pilot Actions when unable to maintain flight level (FL) or unsure of aircraft altitude-keeping capability:
<ul style="list-style-type: none"> <li>• Notify ATC and request assistance as detailed below.</li> <li>• Maintain cleared flight level, to the extent possible, while evaluating the situation.</li> <li>• Maintain watch for conflicting traffic both visually and by reference to TCAS.</li> <li>• Alert nearby aircraft by illuminating exterior lights.</li> <li>• If unable to contact ATC, broadcast position, flight level and intention on 121.5 MHZ (or, as a backup 5680KHZ).</li> </ul>

### Severe Turbulence and/or Mountain Wave Activity (MWA) Induced Altitude Deviations of Approximately 60m (200ft)

<p>Pilot will:</p> <ul style="list-style-type: none"> <li>• When experiencing severe turbulence and/or MWA induced altitude deviations of approximately 60m (200ft) or greater, pilot will contact ATC and state 'Unable RVSM Due (state reason)' (e.g., turbulence, mountain wave).</li> <li>• If not issued by the controller, request vector clear of traffic at adjacent FL's.</li> <li>• If desired, request FL change.</li> <li>• Report location and magnitude of turbulence or MWA to ATC.</li> </ul>	<p>Controller will:</p> <ul style="list-style-type: none"> <li>• Assess the traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal or increased vertical separation and, if so, apply the appropriate minimum.</li> <li>• Advise pilot of conflicting traffic.</li> <li>• Issue FL change, traffic permitting.</li> <li>• Issue PIREP to other aircraft.</li> </ul>
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### Mountain Wave Activity (MWA) Encounters - General

*Note: MWA encounters do not necessarily result in altitude deviations on the order of 60m (200ft). The guidance below is intended to address less significant MWA encounters.*

<p>Pilot actions:</p> <ul style="list-style-type: none"> <li>• Contact ATC and report experiencing MWA.</li> <li>• Report location and magnitude of MWA to ATC.</li> <li>• If so desired, pilot may request a FL change or deviation from the intended route.</li> </ul>	<p>Controller actions:</p> <ul style="list-style-type: none"> <li>• Advise pilot of conflicting traffic at adjacent FL.</li> <li>• If pilot requests, vector aircraft to avoid merging target with traffic at adjacent RVSM flight levels, traffic permitting.</li> <li>• Issue FL change or re-route, traffic permitting.</li> <li>• Issue PIREP to other aircraft.</li> </ul>
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### Wake Turbulence Encounters

<p>Pilot should:</p> <ul style="list-style-type: none"> <li>• Contact ATC and request vector, FL change or, if capable, a lateral offset to right 2NM.</li> </ul>	<p>Controller should:</p> <ul style="list-style-type: none"> <li>• Issue clearance of vector, FL change or lateral offset to right 2NM, traffic permitting.</li> </ul>
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### Unable RVSM Due Equipment (Failure of Automatic Altitude Control System, Altitude Alerter or All Primary Altimeters)

<p>Pilot will:</p> <ul style="list-style-type: none"> <li>• Contact ATC and state "Unable RVSM Due Equipment".</li> <li>• Request clearance out of RVSM airspace unless operational situation dictates otherwise.</li> </ul>	<p>Controller will:</p> <ul style="list-style-type: none"> <li>• Provide 600m (2000ft) vertical separation or appropriate horizontal separation.</li> <li>• Clear aircraft out of RVSM airspace unless operational situation dictates otherwise.</li> </ul>
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### One Primary Altimeter Remains Operational

<p>Pilot will:</p> <ul style="list-style-type: none"><li>• Cross check stand-by altimeter.</li><li>• Notify ATC of operation with single primary altimeter.</li><li>• If unable to confirm primary altimeter accuracy, follow actions for failure of all primary altimeters.</li></ul>	<p>Controller will:</p> <ul style="list-style-type: none"><li>• Acknowledge operation with single primary altimeter.</li></ul> <p><i>Note: Aircraft are able to operate in RVSM airspace at this situation except that pilot report unable RVSM due equipment.</i></p> <ul style="list-style-type: none"><li>• Relay to other controllers or facilities who will subsequently handle the aircraft and any special handling requirement or being provided.</li></ul>
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### Transponder Failure

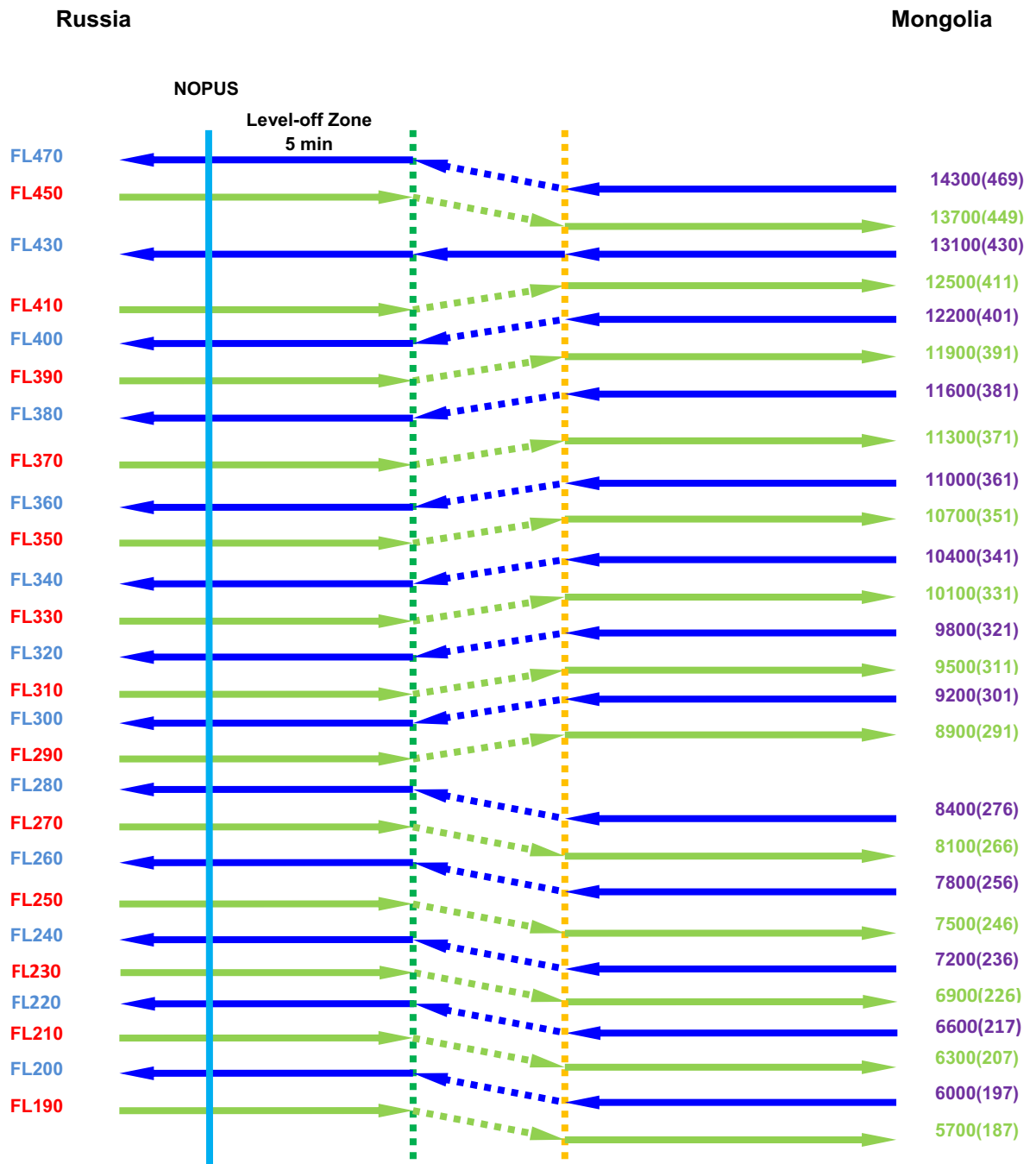
<p>Pilot will:</p> <ul style="list-style-type: none"><li>• Contact ATC and request authority to continue to operate at cleared flight level.</li><li>• Comply with revised ATC clearance, if issued.</li></ul>	<p>Controller will:</p> <ul style="list-style-type: none"><li>• Consider request to continue to operate at cleared flight level.</li><li>• Issue revised clearance, if necessary.</li></ul>
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### Contingency Procedures for Aircraft Requiring Rapid Descent

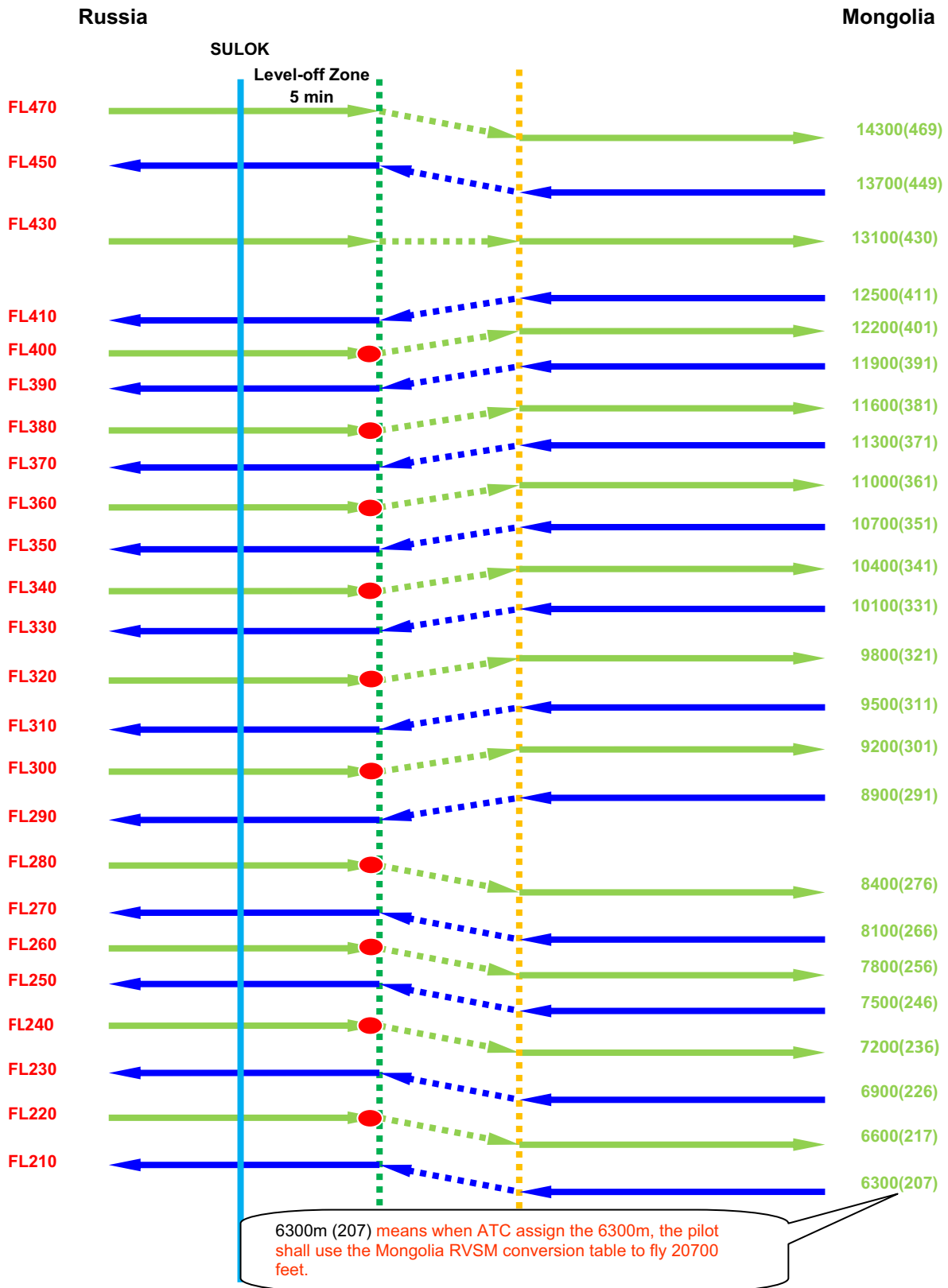
<p>Pilot will:</p> <ul style="list-style-type: none"><li>• Notify ATC of aircraft location and request FL change as required.</li><li>• Upon declaring an emergency a pilot may exercise his right and change his assigned flight level. He shall notify ATC immediately and submit a report upon arrival at the destination.</li><li>• If unable to contact ATC and rapid descent required:<ul style="list-style-type: none"><li>a) Deviation procedure for level change: 30° right and track out 20 kilometers (i.e. deviate right of airway centerline by 10 km or 5 NM), then turn left to track parallel the original route, then climb or descend to the new level, and then return to the original one (when appropriate).</li></ul><p><i>Note: When return to the original route, it is possible to have conflict traffic on that route.</i></p><ul style="list-style-type: none"><li>b) Establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position and intention on the frequency in use, as well as on frequency 121.5 MHZ (or, as a backup 5680KHZ).</li><li>c) Establish visual contact with conflicting traffic.</li><li>d) Turn on all aircraft exterior lights.</li></ul></li></ul>	<p>Controller will:</p> <ul style="list-style-type: none"><li>• Issue ATC clearance to change flight level.</li></ul>
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ATTACHMENT E: Flight Level Transition Procedures between Different FLAS system

Transition procedure between Muren ACC and Barnaul ACC (NOPUS)



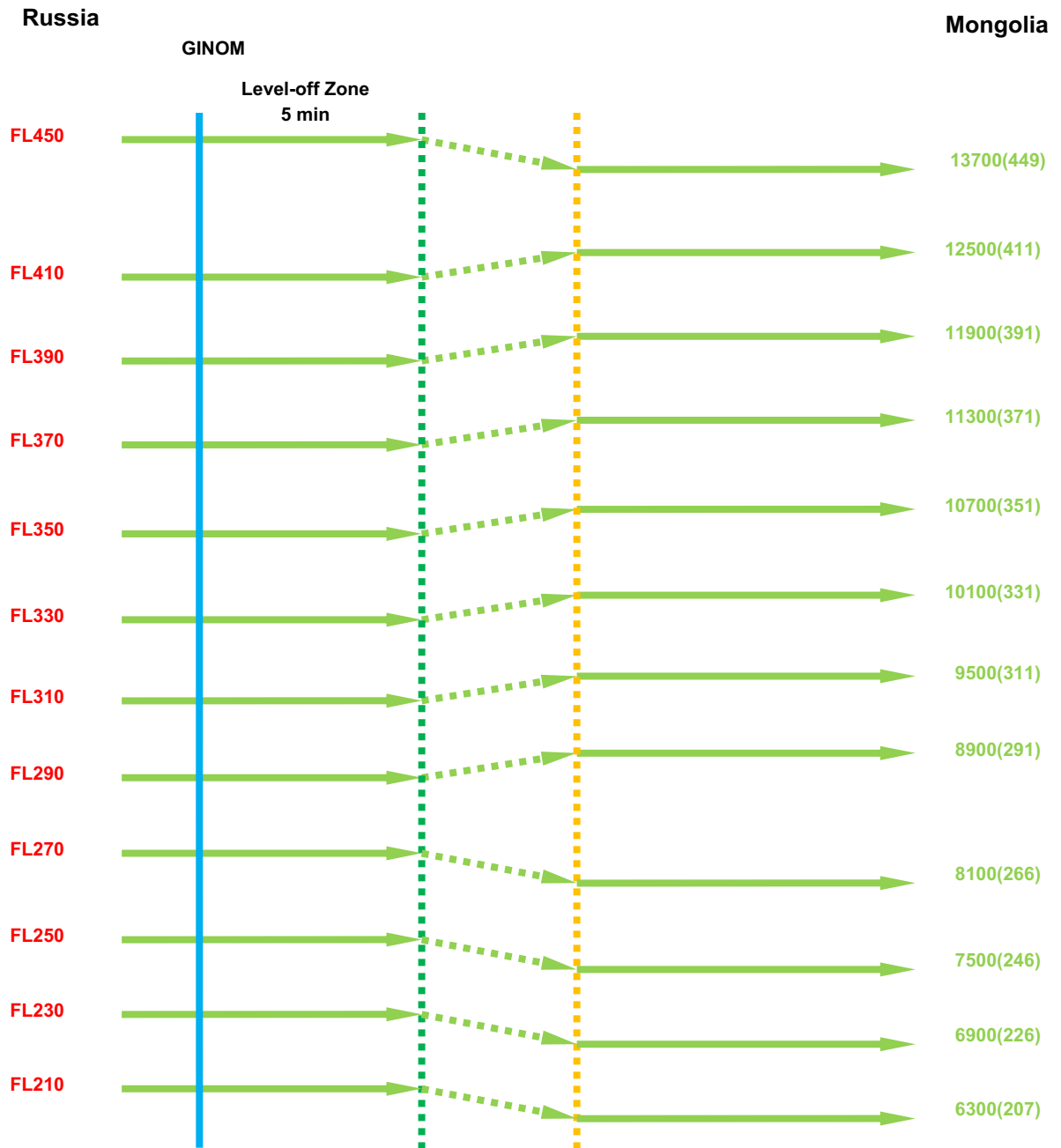
Transition procedure between Sainshand ACC and Chita ACC (SULOK)



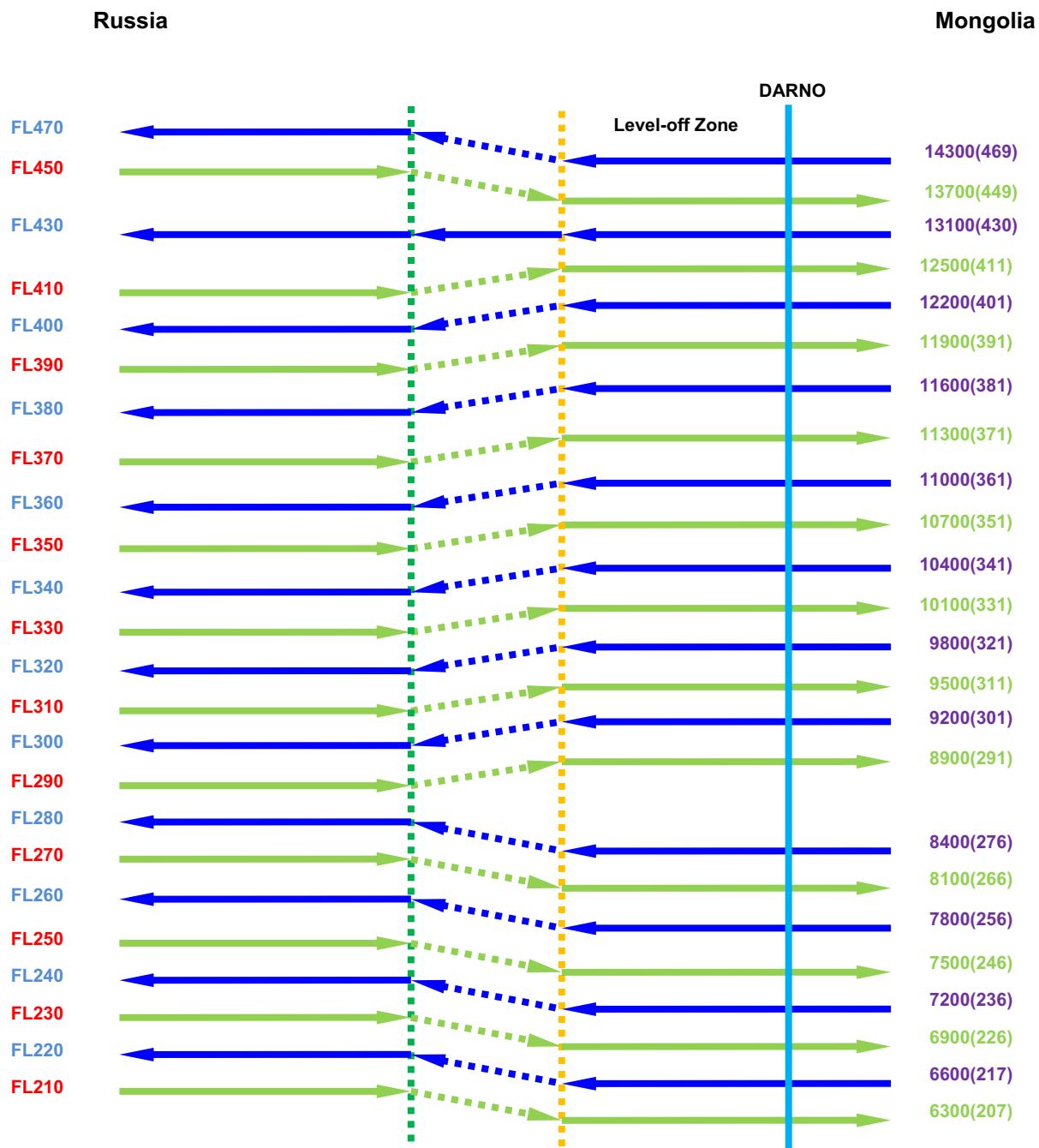
● Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use Mongolia RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.



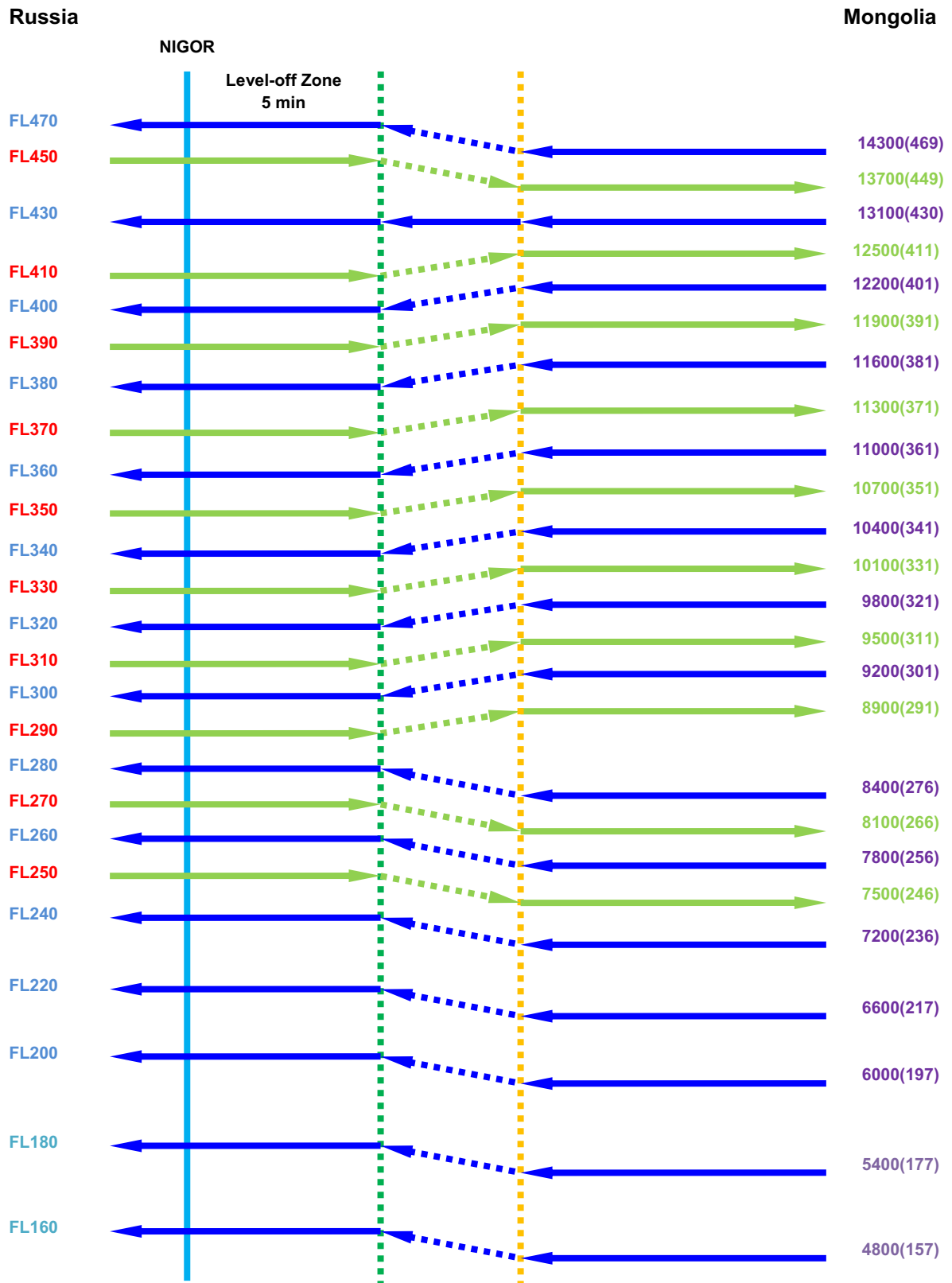
Transition procedure between Muren ACC and Krasnoyarsk ACC (GINOM)



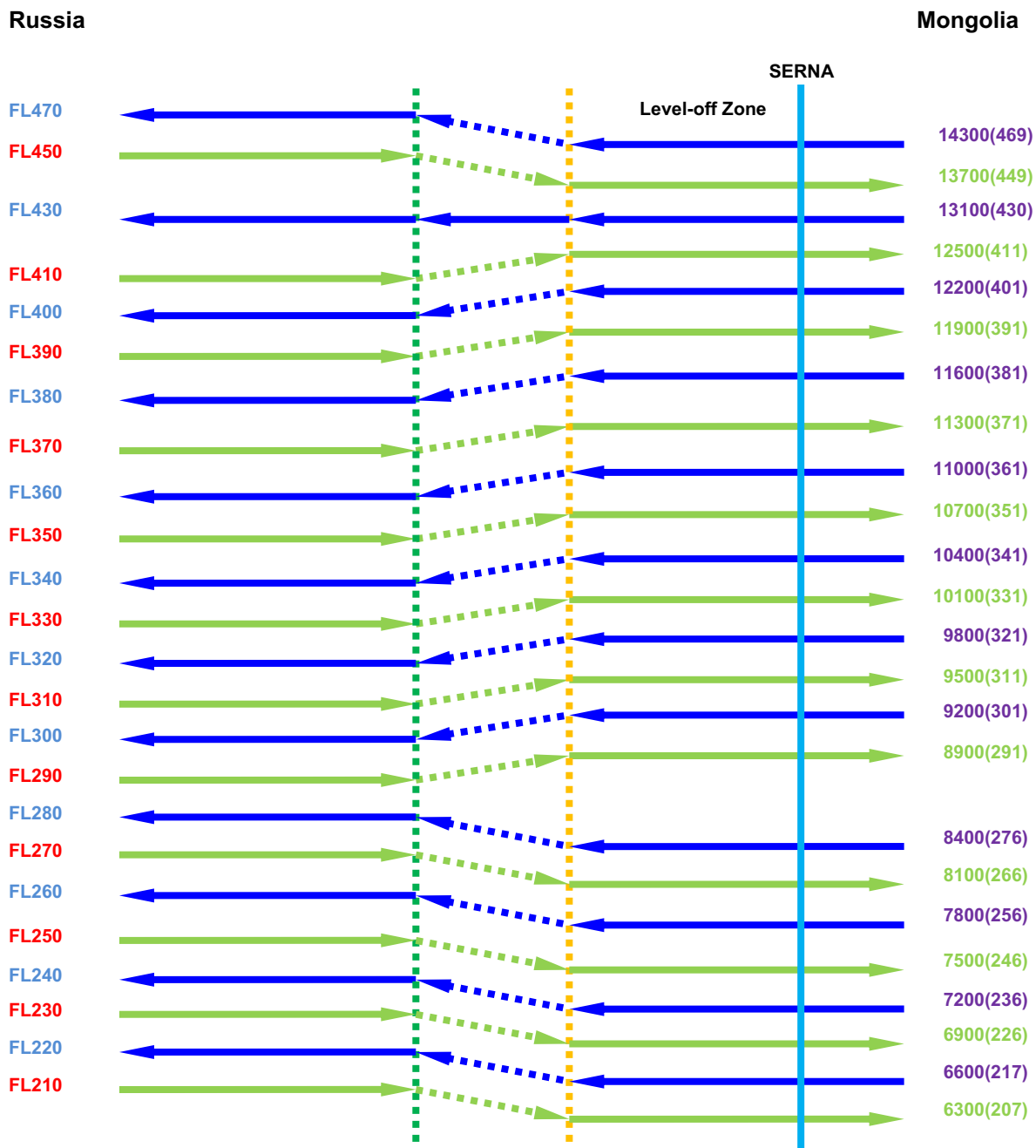
Transition procedure between Muren ACC and Krasnoyarsk ACC (DARNO)



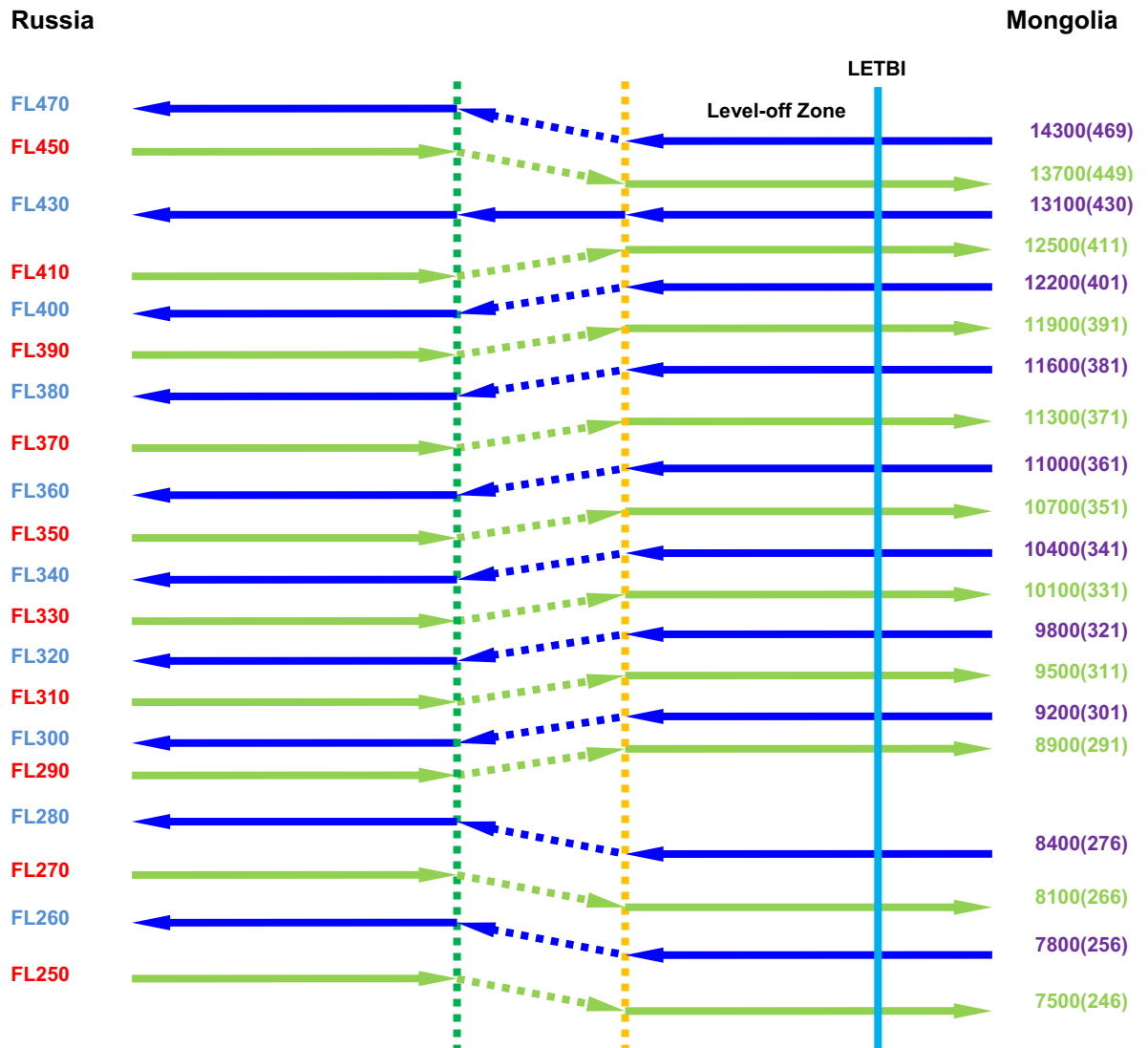
Transition procedure between Muren ACC and Krasnoyarsk ACC (NIGOR)



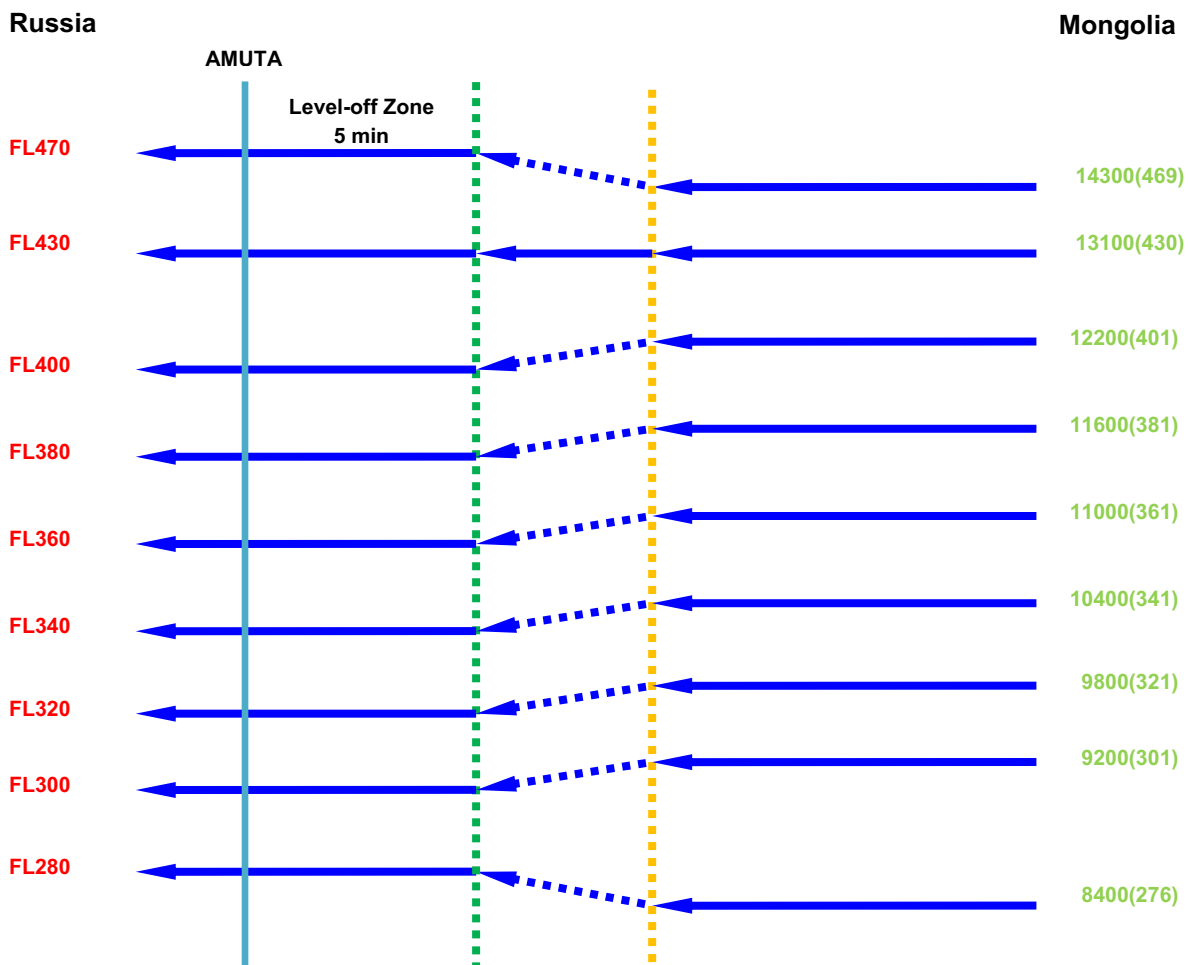
Transition procedure between Ulaanbaatar ACC and Irkutsk ACC (SERNA)



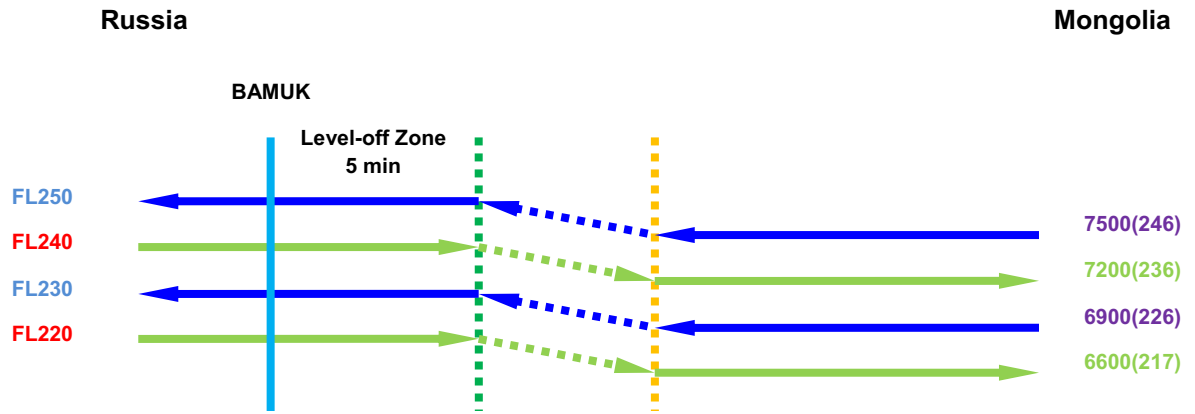
Transition procedure between Ulaanbaatar ACC and Irkutsk ACC (LETBI)



Transition procedure between Ulaanbaatar ACC and Irkutsk ACC (AMUTA)



Transition procedure between Muren ACC and Irkutsk ACC (BAMUK)



## **ATTACHMENT F: Mongolia RVSM Switchover Arrangements**

Guidelines for operators during the transition to Mongolia RVSM on 17 November 2011 at 0001 UTC as follows:

All aircraft that operate or are planning to operate in the RVSM levels within the airspace of Mongolia at and beyond 0001 UTC on 17 November 2011 shall comply with the RVSM requirements in the AIP Mongolia.

All aircraft entering the airspace of Mongolia between 8900m (29100ft) and 12500m (41100ft) inclusive, at and beyond 0001 UTC on 17 November 2011 will be assigned a level in accordance with the Mongolia RVSM level allocation.

All aircraft departing from airports in the airspace of Mongolia that need to file a level between 8900m (29100ft) and 12500m (41100ft) inclusive, at and beyond 0001 UTC on 17 November 2011 will be assigned a level in accordance with the Mongolia RVSM level allocation.

RVSM non-approved aircraft should not flight plan into the RVSM airspace if they expected to operate in the airspace after 0001 UTC 17 November 2011. Aircraft operating within the airspace of Mongolia at 0001 UTC on 17 November 2011 can expect:

### **Implementation Phase on 16 November 2011 from 2300 - 0030 UTC**

#### **2300 UTC**

ATC will broadcast: "Attention all aircraft, RVSM operations will begin in 1 hour."

#### **2300 - 2330 UTC**

ATC will accommodate RVSM non-approved aircraft at and below 8400m (27600ft).

#### **2340 UTC**

ATC will broadcast: "Attention all aircraft, RVSM operations will begin at 0001 UTC."

#### **0001 - 0030 UTC and onward**

ATC will clear RVSM approved aircraft to climb or descend to the nearest appropriate RVSM level in accordance with the Mongolia RVSM level allocation.

All aircraft operating in RVSM airspace will be cleared in accordance with the Mongolia RVSM level allocation.

- END -