



EASA
European Aviation Safety Agency

Time Zone Crossing and Acclimatisation under the new European Fatigue Management Framework

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ORO.FTL.105 (1) & (2)

(1) “acclimatised” means a state in which a crew member’s circadian biological clock is synchronised to the time zone where the crew member is. A crew member is considered to be acclimatised to a **2-hour wide time zone** surrounding the local time at the point of departure. When the local time at the place where a duty commences **differs by more than 2 hours** from the local time at the place where the next duty starts, the crew member, for the calculation of the maximum daily flight duty period, is considered to be acclimatised in accordance with the values in the Table 1.

(2) “reference time” means the local time at the reporting point situated in a **2-hour wide time zone band** around the local time where a crew member is acclimatised;



Acclimatisation Table 1

Time difference (h) between reference time and local time where the crew member starts the next duty	Time elapsed since reporting at reference time				
	<48	48–71:59	72–95:59	96–119:59	≥120
< 4	B	D	D	D	D
≤6	B	X	D	D	D
≤9	B	X	X	D	D
≤12	B	X	X	X	D

‘B’ means acclimatised to the local time of the departure time zone,

‘D’ means acclimatised to the local time where the crew member starts his/her next duty, and

‘X’ means that a crew member is in an unknown state of acclimatisation.

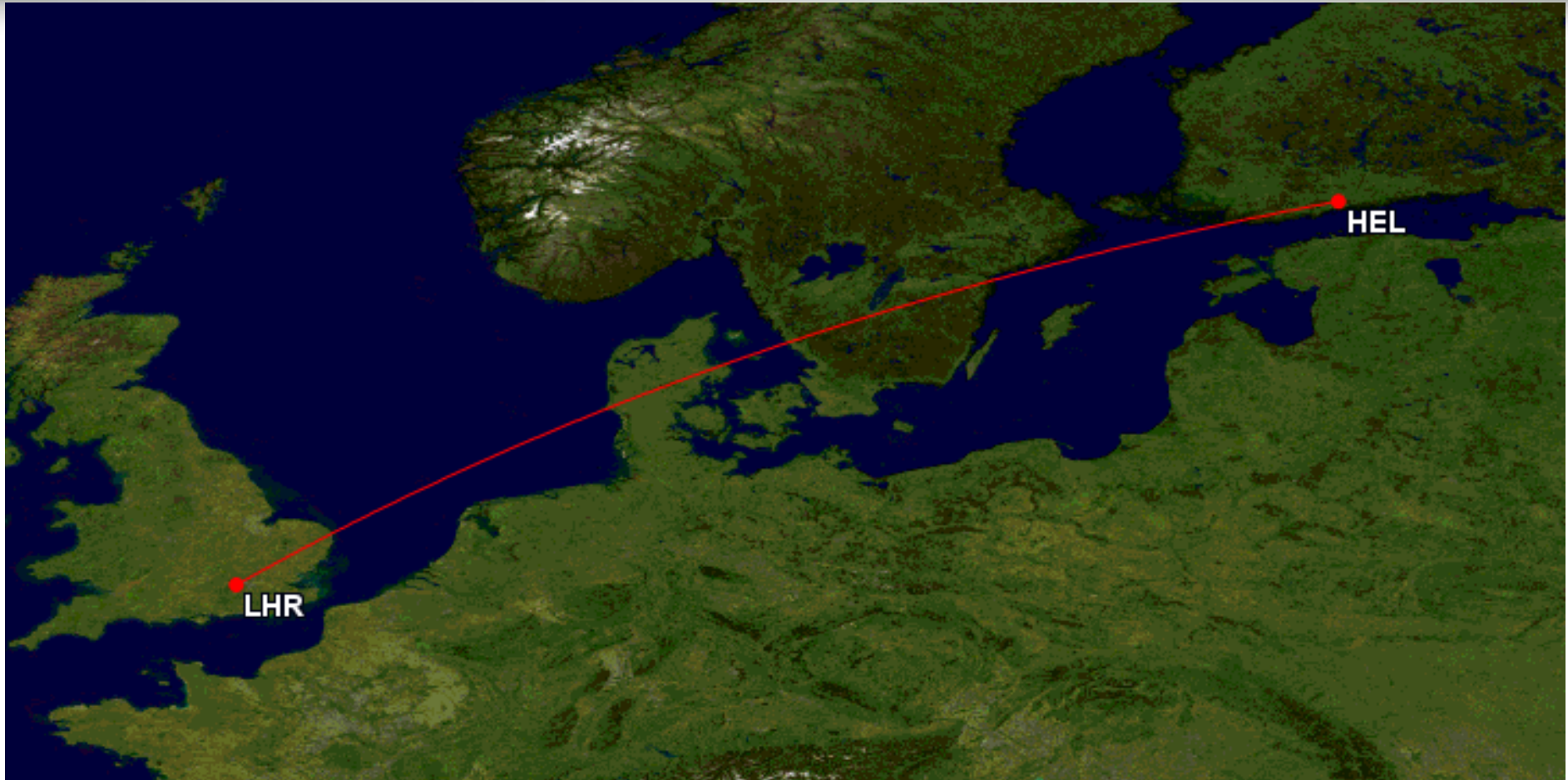


LHR-HEL-SVO-HKT-LHR



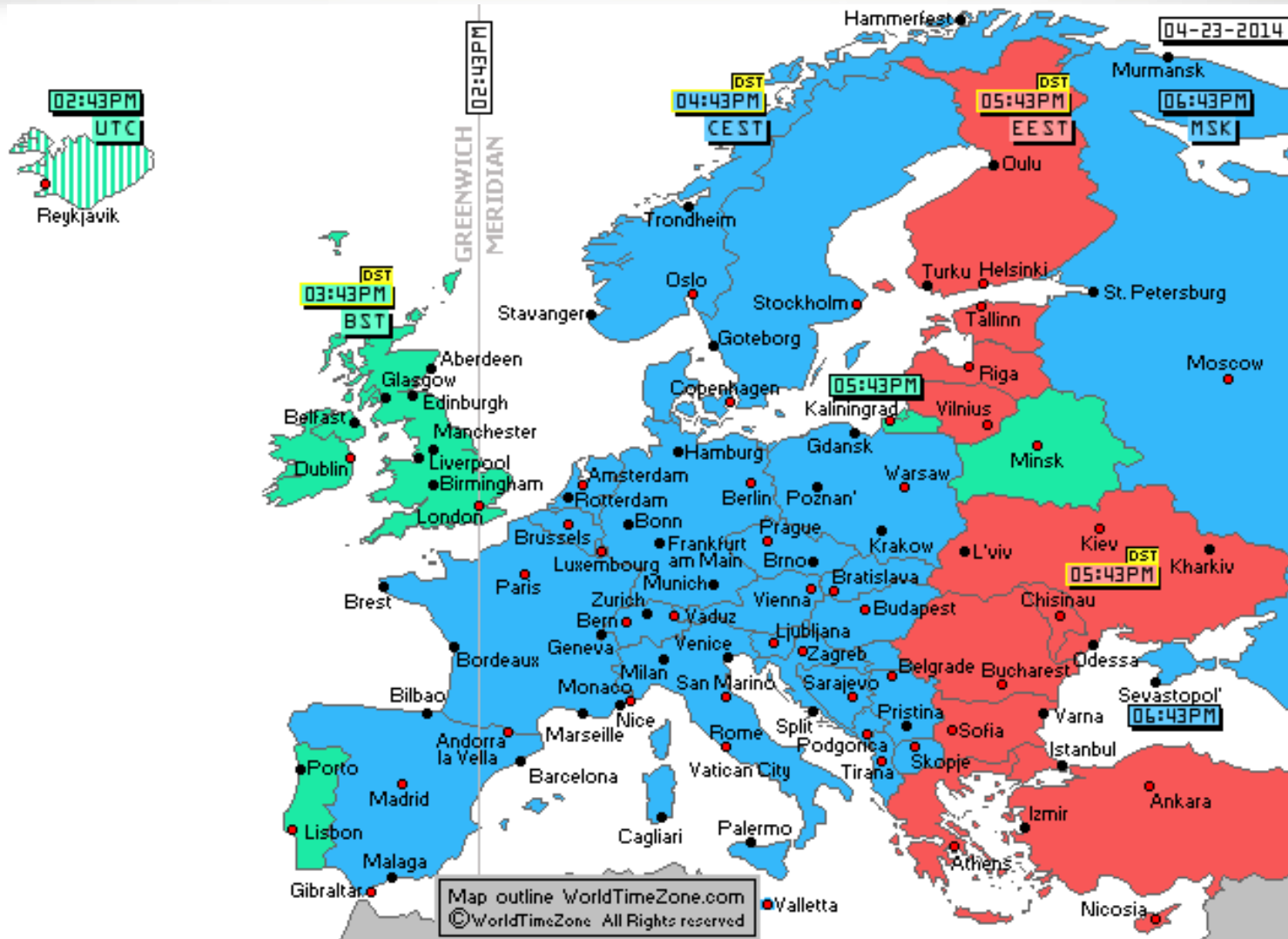


Duty 1: LHR-HEL



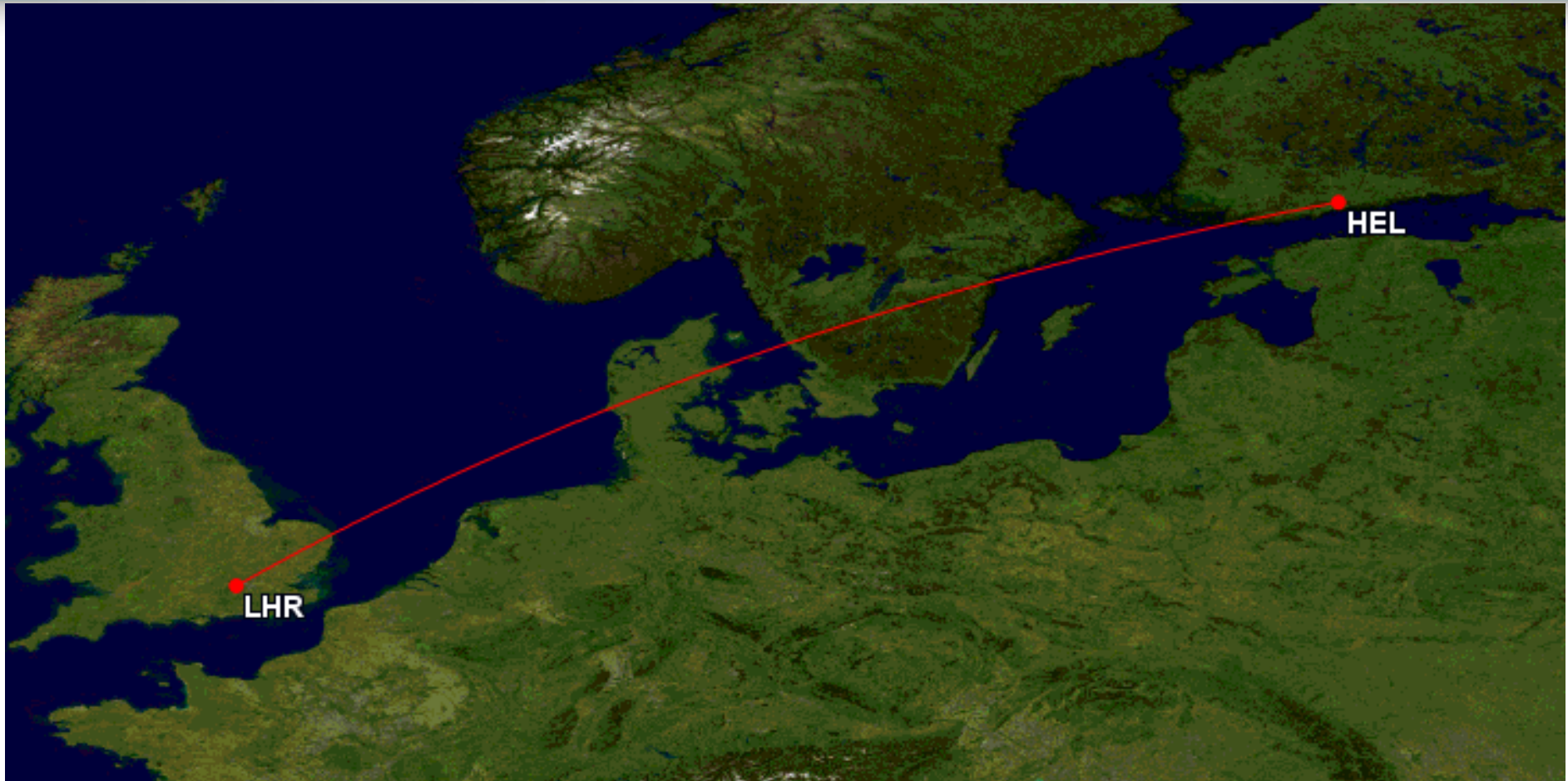


Time Zones in Europe (DST)





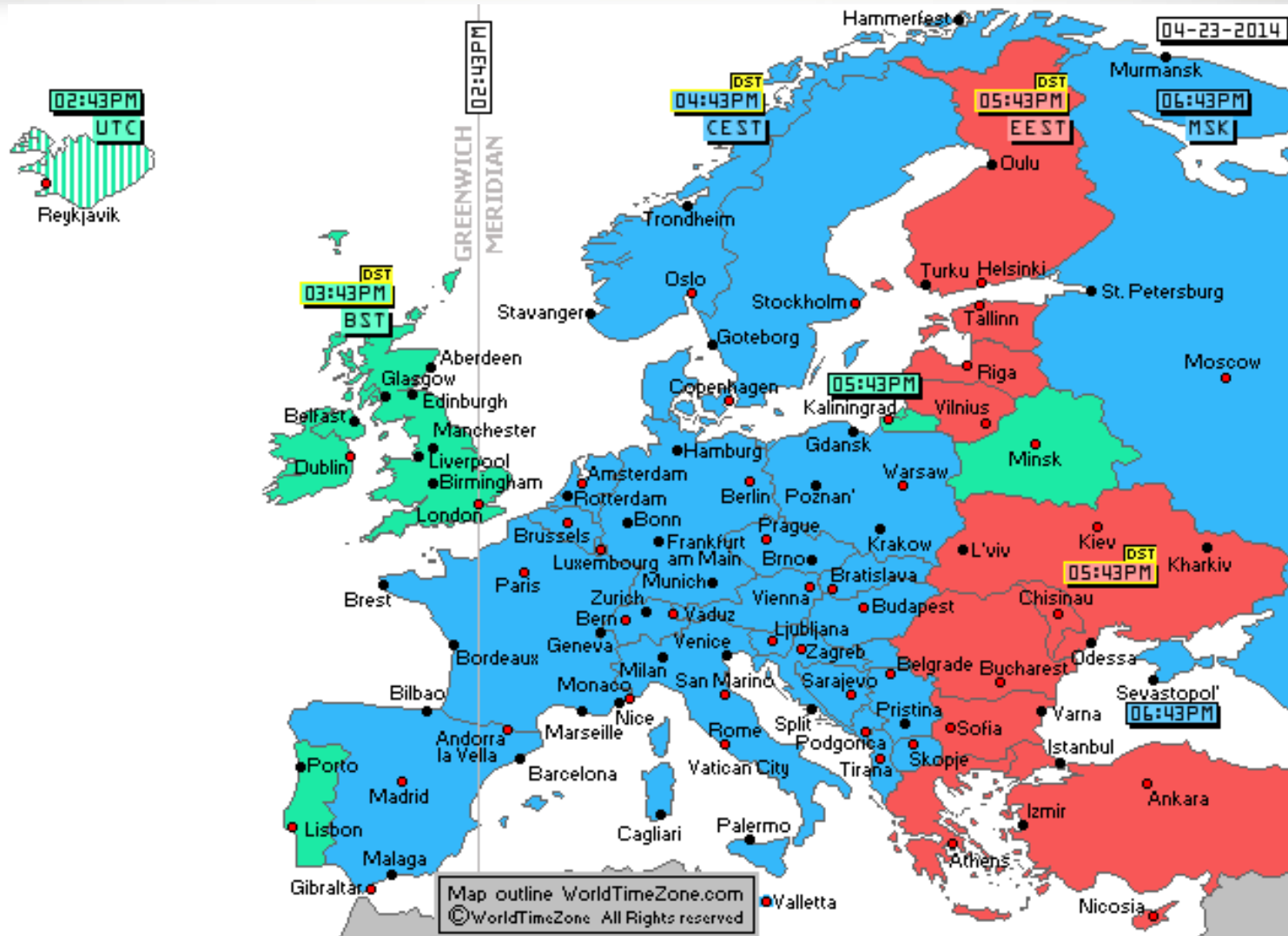
Duty 1: LHR-HEL



2-hour time difference: reference time for departure duty 2 = HEL

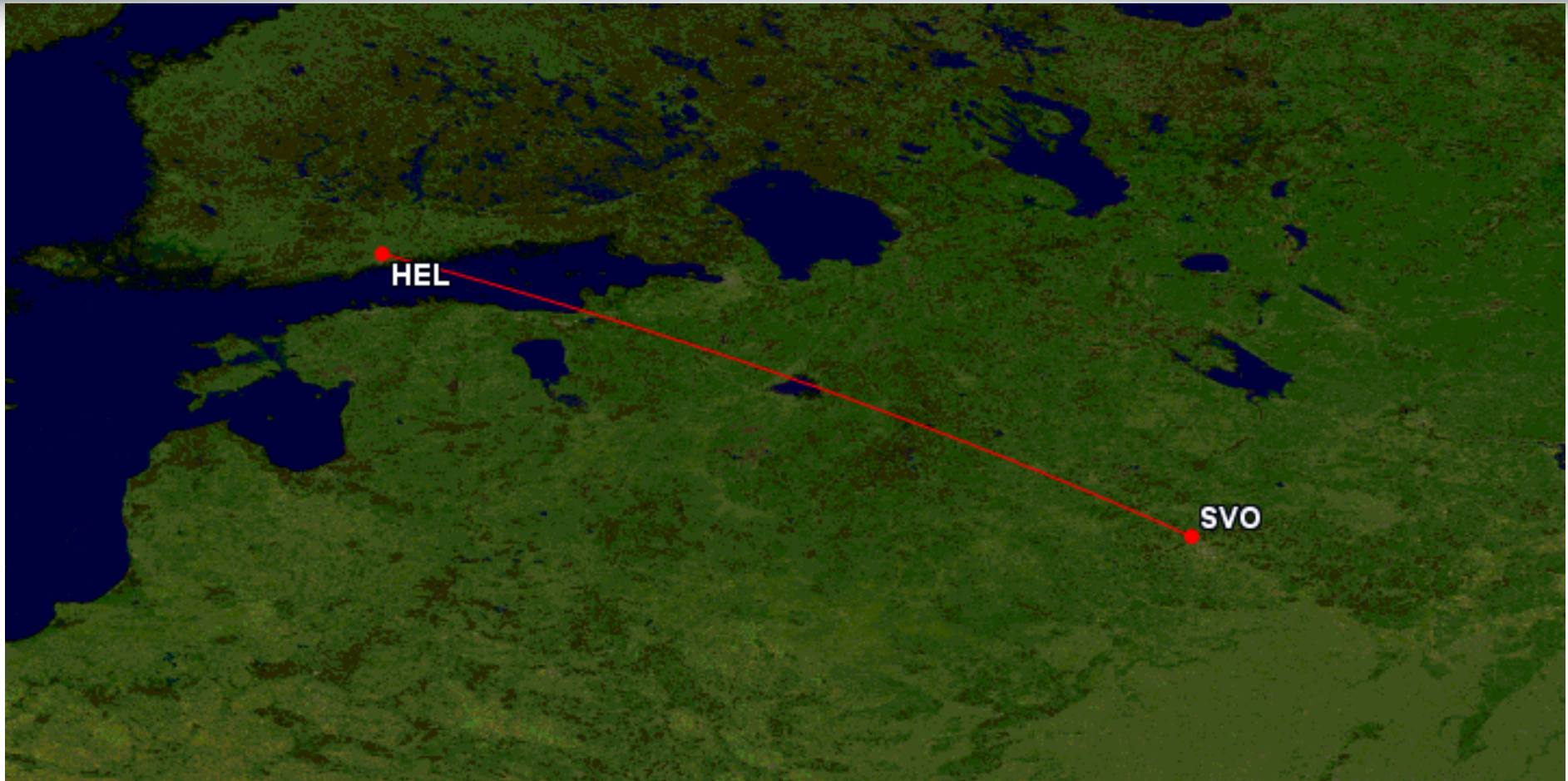


Time Zones in Europe





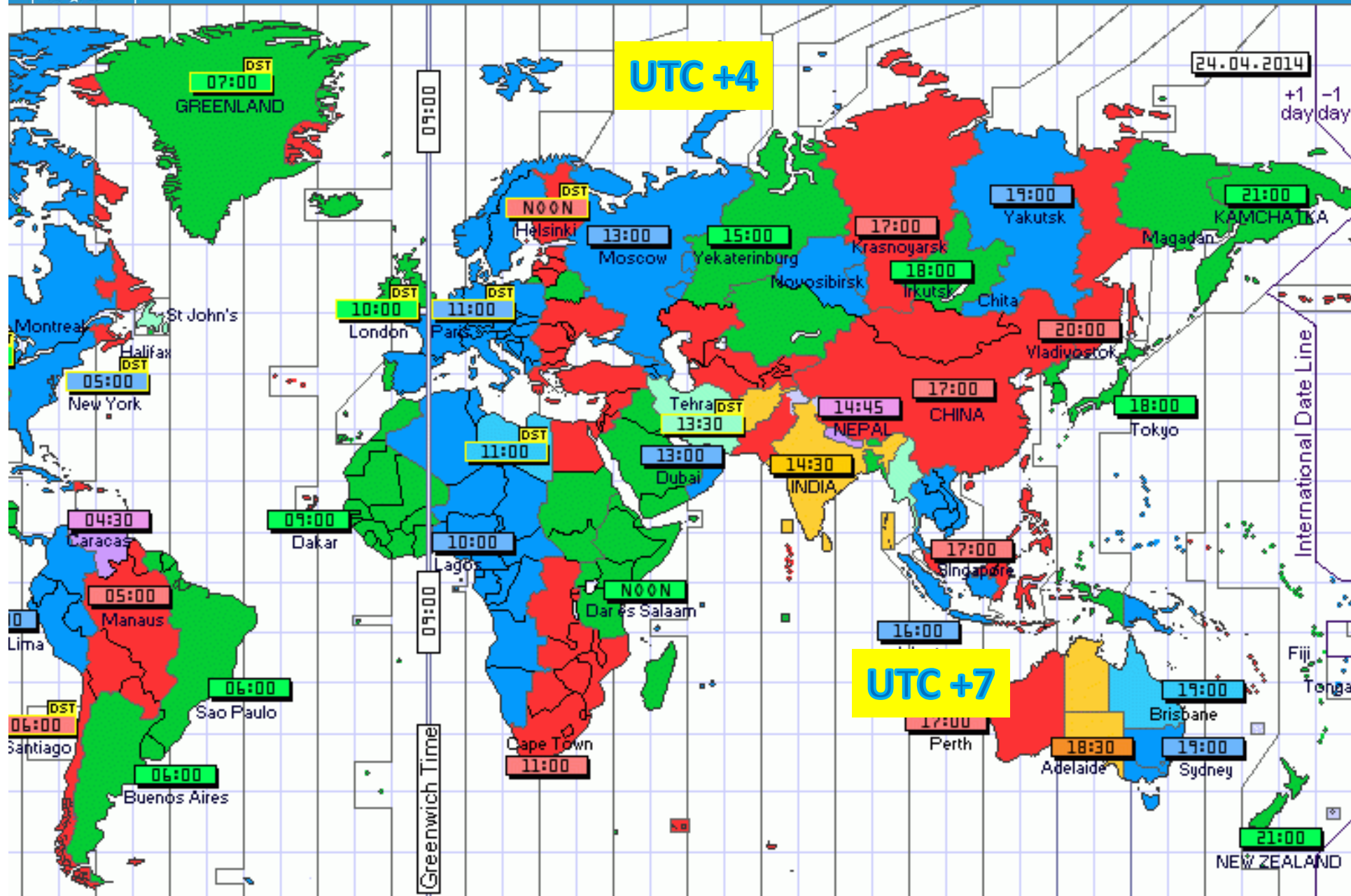
Duty 2: HEL-SVO



1-hour time difference: reference time for departure duty 3 = SVO



World Time Zones





Duty 3: SVO-HKT

3-hour time difference:
reference time for
departure for duty 4 =
depends on table 1





Acclimatisation Table 1

Time difference (h) between reference time and local time where the crew member starts the next duty	Time elapsed since reporting at reference time				
	<48	48–71:59	72–95:59	96–119:59	≥120
< 4	B	D	D	D	D
≤6	B	X	D	D	D
≤9	B	X	X	D	D
≤12	B	X	X	X	D

‘B’ means acclimatised to the local time of the departure time zone,

‘D’ means acclimatised to the local time where the crew member starts his/her next duty, and

‘X’ means that a crew member is in an unknown state of acclimatisation.



Duty 4: HKT-LHR



•6-hour time difference (with DST)



CS FTL.1.235 (b) (3)

(3) Time zone differences are compensated by additional rest, as follows:

Minimum local nights of rest at home base to compensate for time zone differences

Maximum time difference (h) between reference time and local time where a crew member rests during a rotation	Time elapsed (h) since reporting for the first FDP in a rotation involving at least 4 hour time difference to the reference time			
	< 48	48 – 71:59	72 – 95:59	≥96
≤6	2	2	3	3
≤9	2	3	3	4
≤12	2	3	4	5



CS FTL.1.235 (2) & (5)

(2) The operator monitors rotations and combinations of rotations in terms of their effect on crew member fatigue, and adapts the rosters as necessary.

(5) The monitoring of combinations of rotations is conducted under the operator's management system provisions.



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Summary

The state of acclimatisation depends on:

- ***Time difference*** between the ***place*** where a crew was last acclimatised and starts the next duty
- ***Time elapsed*** since reporting when last acclimatised

ORO.FTL.110 (b) & (g)

- **TZC needs monitoring**

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