

NMOC Capacity and Weather-based operations

Validity

From: 01/06/2025

To: 15/10/2025

Introduction

This document describes the procedure for the Capacity and Weather-based operations during Summer 2025. Capacity and Weather-based operations aim to enhance the integration of network weather-based ATFM measures within the pre-tactical and tactical timeframes of Network operations, as agreed through the Network ATFM CDM processes.

Airspace capacity is limited in certain areas in the Network during the peak traffic periods and weather is one of the primary causes of capacity reduction across the network.

The impact of adverse weather conditions on European ATM Network have increased significantly in recent years and resulted in a reactive and volatile network situation with very high delays in summer 2024. The NMB/41, Network Strategy Plan objective 4 and NF-IR article 7 states the clear role for NM to manage the weather and its significant impact on ATM. The goal of the summer 2025 procedure is to minimise the impact of adverse weather by the support of improved and frequent weather reports through Met specialists employed within NMOC and ensure a timely mitigation on the capacity shortfalls due to weather and any other reasons. This goal will be achieved by a clearly defined set of triggers case by case led by NMOC decision making through a set of data driven processes in support of it.

This procedure will apply to capacity shortfalls expected due to adverse weather conditions and any demand-capacity imbalance that significantly disrupts the European Network.

The Network Manager, in coordination with member states, has developed summer traffic orientation measures to redirect traffic flows from forecasted network hotspots (implemented through NM RAD). In addition to NM RAD measures, a set of Network Scenarios (RN) were created by NMOC experts.

These measures are approved strategically through the Cooperative Decision-Making by all stakeholders.

Two strategic Rerouting Network (RN) playbook scenarios have been defined, one for each Axis (SW and SE), with the following characteristics:

- Based on city pair statistics.
- Off-loading multiple Reference Locations based on bad weather patterns from summer 2024.
- Shifting a limited number of flights per city pair to avoid significant overloads in adjacent traffic volumes.

Expected Outcomes:

- Enhanced safety through improved coordination during adverse weather.
- Better use of available airspace capacity, leading to reduced delays.
- Increased Network stability by improving predictability and reducing unexpected traffic.

1 Duration

The procedure will take place from 1st June 2025 until 15th October 2025.

2 Triggers for the analysis and CDM involved

In case the network situation corresponds to the criteria specified for at least one of the triggers, it is the (pre-) tactical SNOCs responsibility, that an assessment is done to identify, whether the application of the tools provide a network benefit (safety, stability, reduce volatility, delay reduction, etc.).

If more detailed or updated meteorological information is required for a specific area, the SNOC will request the Met specialist to contact local meteorological forecasters for potential updates.

Situation		Trigger	Tool	CDM
1	Bad weather	Red or Purple polygons (CBCF) + Met Specialist input	Pre-agreed NM Scenarios	NMOC decision ¹⁾ Information provided to impacted FMPs (phone call / email) + INP and NOP Portal.
			Pre-agreed NM RAD relaxation	NMOC decision ¹⁾ Information provided to impacted FMPs (phone call / email) + INP and NOP Portal.
2	Bad weather + capacity shortfall	Dark Orange polygons (CBCF) + Met Specialist input	Pre- agreed NM Scenarios	NMOC decision Information provided to impacted FMPs (phone call / email) + INP and NOP Portal.
		+ Capacity Hotspot ²⁾ with demand/capacity imbalance of 15% or more	Pre-agreed NM RAD relaxation	NMOC decision Information provided to impacted FMPs (phone call / email) + INP and NOP Portal.
3	Capacity Shortfall	Capacity Hotspot ²⁾ with demand/ capacity imbalance of 20% or more	Pre-agreed NM Scenarios	CDM process (NMOC to propose measures) Coordination + information provided to impacted FMPs (Phone call or mail) + INP, NOP Portal.
			RAD relaxation (Pre-agreed NM RADs mainly)	CDM process (NMOC to propose measures) Coordination + information provided to impacted FMPs/NRCs (Phone call or mail) + INP, NOP Portal.

¹⁾ Local specificities apply for BULATSA as Türkiye is not part of EUMETNET CBCF (please refer to the CBCF OI)

- 2) A capacity shortfall of more than 15% shall be communicated by an FMP or identified by NMOC and then confirmed by the FMP.

Shortfalls can be identified through the following:

- Known capacity reduction based on OIs (e.g. MIL activity, Special Event, etc.)
- Indicators in PREDICT, as well as the Pre-Tactical Dashboard, such as discrepancies between the Rolling NOP and PREDICT sector openings.
- Historical data analysis in the Pre-Tactical Dashboard, correlating Rolling NOP data with actual sector openings and associated delays.

3 Procedure

Network operations management for summer 2025 will rely on close and proactive collaboration between SNOC & Pretactical team, Met specialists, and FMPs.

The procedure for scenario implementation and pre-agreed NM RAD relaxation pretactically is as follows:

D-1:

Time (UTC)	Responsible	Action
07.00	EUMETNET	Produce D-1 Cross Border Weather Convection Forecast
08.00	Met specialists	Produce and integrate a consolidated network weather assessment. Prepare a report to Pretact team.
	Pretact team	Commence ADP preparation
11.30	all FMPs	FMPs shall submit the following information by email, phone and/or B2B: • List of ATFCM measures; • Staffing shortages, equipment failures, WIP, change in military activity plan etc.; • All operational problems that could impact the flow of traffic. • Capacity Hotspots with demand/capacity imbalance of 15% or more.
12.30	Met specialists	Update of the network weather assessment. Report to be provided to Pretact Team
	Pretact team	Based on the updated network situation and the weather assessment; considering the color and coverage of the polygons, expected traffic, staffing levels, overall network and their traffic flow knowledge, the Pre-tactical team analyses whether applying the RN Scenarios and relaxing pre-agreed NM RAD restrictions will provide a network benefit. DOM or Pretact team will request Met specialists to contact the local Met forecasters, if additional, detailed and granular weather information is required. Red/Purple Polygons or widespread Dark Orange with d/c imbalance of 15% or more – indicating a high and a very high-risk area or d/c imbalance of 20% or more the following steps shall be performed: • Trigger analysis based on WX forecast and FMP data done by the Pretact team • Implement FMP requests in the system (based on ATFCM Manual) • Pretact team to apply RN Scenarios and to relax pre-agreed NM RAD: (1) identify RN scenarios offloading Red/Purple Polygons or widespread Dark Orange with d/c imbalance (2) simulate GRRT RR to analyse traffic shifts and perform an impact

		assessment (3) In case less than 80% of traffic is rerouted, Pretact team to coordinate with IFPS Supervisor for validation of the suggested routes and check if TV description to be updated in Regulation editor. (4) apply the RN Scenario(s) (<i>Scenario Reason: Weather, ANM Remark: Summer 2025 Strategic scenarios</i>) and apply its GRRT RR. Transfer ADP to ETFMS with GRRT RR applied (delay threshold 20', XCD and FCM off).. (5) analyse the network situation and consider pre-agreed NM RAD relaxation (6) record all relevant information including number of flights rerouted in the DNP. • If a capacity shortfall of more than 20% is confirmed, trigger 3 shall be considered, requiring coordination with the impacted FMPs based on GRRT results and NIA: Pre-tactical SNOC to propose d/c imbalance mitigation measures to FMP(s). Depending on the CDM outcome, steps (1) – (5) to be implemented (<i>Scenario Reason: ATC Capacity, ANM Remark: Summer 2025 Strategic scenarios</i>). If the mitigation measures are not accepted by FMP(s), a summary of the coordination with reasons for refusal shall be recorded in the DNP Editor (step (5) as above).
14.00	Pretact team + FMPs impacted	Information sharing + CDM process. Appropriate CDM process shall be followed based on the trigger activated (ref. 3 Triggers for the analysis and CDM involved). The template for the email/phone call to affected FMPs/NRC is available in Outlook Draft ref. Annex I. (RAD ID and time to be indicated).
After 14.00	Pretact team	Send an email to AD Supervisor reference to pre-agreed NM RAD relaxation (email template ref Annex I).
Anytime	Pretact team	Record all relevant information in the DNP editor.
By 16.00	AD SUP	Update pre-agreed NM RAD as requested and reply to all ensuring all participants are aware of the changes.
16.00	NMOC Pretact	• INP Publication • email to all FMPs impacted, CFSP (email templates ref. Annex I). • ADP transfer to ETFMS • Publish Headline News with Network Scenarios and pre-agreed NM RAD relaxation.

The Tactical SNOC will use continuous updates from the Met specialist's weather assessments to advise FMPs on potential weather regulation implementations or modifications.

The procedure for RN scenario implementation and pre-agreed NM RAD relaxation on the day is as follows:

D-0:

Time (UTC)	Responsible	Action
04.00	Met specialists monitor and update at regular intervals	Produce and integrate a consolidated network weather assessment. Prepare a report for the Tactical team.
As of 04.00 Anytime	SNOC	1. Analyse the Network situation & WX forecast and amend the plan if necessary 2. Continuous monitoring 3. Trigger analysis based on WX forecast and actual Network situation

Time (UTC)	Responsible	Action
		(Red/Purple Polygons or widespread Dark Orange with d/c imbalance of 15% or more, indicating a high and a very high-risk area or d/c imbalance of 20% or more) 4. In case less than 80% of traffic is rerouted, SNOC to coordinate with IFPS Supervisor for validation of the suggested routes and check if TV description to be updated in Regulation editor. 5. Apply RN scenarios/ pre-agreed NM RAD relaxations as per triggers. Lead time to be considered. 6. Modify scenarios application if required. 7. CDM as required • Publish info on NOP HN • record all relevant information including number of flights rerouted in the DNP.
Anytime	AOLO	• Where possible, AOLO, in coordination with the tactical SNOC, will provide RRP if it would be of benefit to the flight and reduce its delay. RRP provision applies to both RN scenario implementation and RAD relaxation. The RRP should be sent around 2 to 3hrs before EOBT to help maintain network stability. • The purpose for this RRP must be ATC routing
04.30-05.00	SNOC	SNOC to brief FM team about D-1 plan, measures taken, on-load/off-load areas and expected critical areas and elements in the Network.
05.30	DOM/SNOC	Morning Briefing
12.00	SNOC	Handover to afternoon Tactical SNOC about Network situation including Network measures implemented on D-1, progress of the morning, critical areas and any modifications.
22.00	EUMETNET	Produce D-0 Cross Border Weather Convection Forecast.
22.00	DOM	• Analyse and compare the forecast with D-1 report • In case of differences highlight potential risks • Publish the forecast and info on HN

On the day of operations, based on last updates from Met specialist where a major shift of weather is identified or in case of a major change/issue in the Network situation, scenarios could be amended or cancelled if deemed beneficial.

Modifications to relaxed pre-agreed NM RAD measures are expected to be done only on an exceptional basis when a major issue or update in the Network necessitates such a change, to avoid volatility and impact on airline operators in the Network.

Information will be published in the NOP.

RN scenarios applied shall be applied with Regulation reason: "Weather", remark: "Capacity and Weather based operations".

4 Ad-Hoc Network Calls

Organise an adhoc conference when an update on the Network situation is needed to provide operational guidance to airlines. The timing of the conference is recommended to be between 0900- 11.00 UTC and can be adapted due to the actual network situation. Conferences will be organised by DOM.

5 CDM process

The RN scenarios to be applied in the context of weather management following the triggers defined in [section 2](#): Trigger 1 and 2 will be implemented by NMOC decision (notification procedure), impacted FMPs will be informed.

The RN scenarios to be applied in the context of capacity management following the triggers defined in [section 2](#): Trigger 3 will be implemented with previous coordination and approval with FMPs and information published via NOP Portal and INP.

Pre-agreed NM RAD relaxation applies to all triggers. For Trigger 3, a standard CDM process applies, with requirement for approval from the FMP/NRC of the owner of the restriction. An email/phone call to the affected FMPs/NRC is needed (template available in Outlook Draft reference [Annex I](#)).

6 What is requested from FMPs for summer 2025

FMPs must communicate a set of requested data to NM Pretactical as per ATFM Operations Manual.

FMPs shall commit to provide by email, phone and/or B2B to NMOC Pretactical team, the following information:

Submit the following information from D-2 to D-1 latest by at 11.30 UTC on D-1:

- List of required ATFCM measures;
- Staffing shortages, equipment failures, WIP, change in military activity plan etc.;
- All operational problems that could impact the flow of traffic.
- Capacity Hotspots with demand/capacity imbalance of more than 15%.

7 Information dissemination

- The weather forecast shall be uploaded to the Headline News every day.
- The INP will include additional information when RN Scenarios have been applied, and pre-agreed NM RADs relaxed.
- Pretactical and Tactical feedback shall be recorded in the DNP Editor.
- Emails to be sent to all relevant parties.

8 Civil/military coordination

NM MILO will receive the Network Weather Assessment for D-1/D0 and will be informed by the Pretact team/Tact team when a Met update indicates major impact on parts of the network.

Trigger for coordination:

- **Dark Orange**, **Red** or **Purple** Polygons – indicating a high and a very high-risk area.

NM MILO will look for solutions in case a planned military activity can be adapted to support the Network capacity optimisation. Please refer to dedicated FTI.

9 Feedback and Post Analysis

NMOC internal feedback on the procedure application shall be given through the DNP Editor.

Stakeholders from outside the NMOC are encouraged to provide their input by sending an email to NM.OPA@eurocontrol.int and via the weekly NDOP Coordination Cell.

A full review meeting shall be held after summer and appropriate reporting will follow.

10 Delay reattribution

The delay re-attribution will follow the same process as per the Summer NM RAD measures and an open and transparent exchange will be put in place. The delay generated by the flights that are rerouted will be reattributed to the originator, that is, to the FMP where the convective weather conditions appeared. This delay will be reattributed as Weather Delay. The reattributed delay will not be for the entire regulation in the onloaded ACC but only for the regulated airspaces that received the rerouted flights and only for the number of flights that they received.

11 Creation of new scenarios or scenario modification

New RN scenarios may be created, or current RN scenarios may be subject to modifications based on internal and external feedback. The process to follow will be the one referred to in section 4.5.3 of the ATFM Operations Manual (Urgent scenario requests and crisis situation).

Once the new scenarios or possible modifications have been coordinated and approved by the impacted FMPs, the new scenarios or modifications will be presented in one of the weekly Monday NDOP Coordination Cell teleconferences for information purposes, and then they will be part of the capacity and weather-based operations procedures.

12 Annexes

- Annex I – Information dissemination: DNP editor feedback entry, email templates (pre-agreed NM RAD relaxation: CDM with FMPs/NRCs, AD SUP and IFPS, SNOC, AOLO, DOM, CFSPs and impacted FMPs), Headline News entry template.
- Annex II – List of RN scenarios
- Annex III – List of pre-agreed NM RADs

Head of NMOC

Annex I – Information dissemination

(1) Information to be included in the INP on D-1, when RN scenarios applied and/or pre-agreed NM RAD relaxed.

(2) Same text to be published on the NOP Headline News:

Capacity and Weather based operations

Due to the forecast CB activity in the following area/s forecast for the period/s -----
 ///
 and demand capacity imbalance in the following area/s for the period/s

As part of Capacity and Weather based operations, the Network Manager has applied the following 'Rerouting Network (RN) Scenarios'

- RNxxxxx
- RNxxxxx
- RNxxxx

To facilitate rerouting options during adverse weather, pre-agreed NM RADs have been temporarily disabled.

- NMxxxx
- NMxxxx

Where possible, the AOLO will provide RRP to AOs that are affected by 'Rerouting Network (RN) Scenarios' and/or pre-agreed NM RAD relaxation.

NM Brussels

(3) Email templates:

4.1) FMP/NRC for pre-agreed NM RAD relaxation ([Trigger 3](#)) for approval

Dear colleagues,

Due to the predicted **demand capacity imbalance** in the following area/s for the period/s

As part of Capacity and Weather based operations and to facilitate rerouting options, NMOC requests to apply the following 'Rerouting Network (RN) Scenarios' and to de-activate pre-agreed NM RADs for the date and times mentioned in the table below.

- RNxxxxx between hh-hh
- RNxxxxx between hh-hh
- RNxxxxx between hh-hh

Pre-agreed NM RAD restriction ID	Start Date – Time	End Date – Time	DISABLE/ YES or NO
NMxxxx	dd/mm hh:mm	dd/mm hh:mm	YES
NMxxxx			

Validity of the Summer 2025 measures
dd/mm– dd/mm from hh to hh

	dd/mm hh:mm	dd/mm hh:mm	YES
NMxxxx	dd/mm hh:mm	dd/mm hh:mm	YES
NMxxxx	dd/mm hh:mm	dd/mm hh:mm	YES
NMxxxx	dd/mm hh:mm	dd/mm hh:mm	YES

dd/mm– dd/mm from hh to hh
dd/mm– dd/mm from hh to hh
dd/mm– dd/mm from hh to hh
dd/mm– dd/mm from hh to hh

Thank you.
Kind regards,

NM Pretact

Network Manager Operations Center

nm.pretact@eurocontrol.int

Tel: +32 (0)2 745 19 20

Annex II - List of RN scenarios

SE AXIS	SW AXIS
RN94LDLH	RN3LFBM
RN81LDLH	RN1LFEDY
RN1LDLI	RN3LFM
RN1LDLH	RN2LECB
RN85LDLH	RN2LFELS
RN4EDLO	RN2LFBM
RN72LDLH	RN4LFM
RN5LHLK	RN1LFELS
RN82LDLH	RN1LFSIK
RN1LH	RN1LFBM
RN1LBLY	RN1LECMC
RN1LHLO	RN2LFMSK
RN6LDLH	RN3LFMLS
RN86LDLH	RN1LECB
RN1LDLO	RN4LFBM
RN83LDLH	
RN10LDLH	
RN92LDLH	
RN91LDLH	
RN4LHLK	
RN87LDLH	
RN93LDLH	
RN3LHLK	
RN84LDLH	
RN3LHLO	
RN71LDLH	
RN88LDLH	
RN5EDLO	

Annex III - List of pre-agreed NM RADs

Karlsruhe

NM2075
NM2077
NM2082
NM2083
NM2084
NM2086
NM2087
NM2113
NM2126
NM2127

Budapest

NM2046
NM2074
NM2184
NM2186
NM2187
NM2193

Zagreb

NM2204
NM2207
NM2209
NM2208
NM2205

Maastricht

NM2203

DSNA

NM2104
NM2107
NM2109

Note: Identical Traffic Volumes (TVs) have been created to facilitate the identification of flights subject to the pre-agreed NM RAD relaxation. These TVs can be found in **VS WX25**.