



**AEROTHAI** Aeronautical Radio of Thailand

บริษัท วิทยุการบินแห่งประเทศไทย จำกัด

# Case study on ATFM operations during a contingency situation: Earthquake

ATFM/SG/15



# SITUATION TIMELINE (28 MAR 2025)

0620 UTC

An 8.2 Magnitude earthquake was reported with an epicenter located near Mandalay, Myanmar.



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- 0625z Network Operations Air Traffic Management Center staffs evacuated the building and regroup at the assembly point.
- 0630z Bangkok ACC issued national wide / inbound flight Ground Stop
- 0657z Bangkok ATFMU set up temporary ATFM workstation and issued the Ground Stop.
- 0711z Bangkok ATFMU / Strategic ATFM / ASM -> coordinate with all stakeholders regarding VTBB airspace status and Ground Stop measure
- 0730z 0730z
- AEROTHAI security department allows operation personnel to go back into the building
  - Bangkok ACC cancelled Ground Stop followed by Bangkok Approach issued MDI 5 minutes for flight bound to VTBS
- 0737z Strategic ATFM was separated into 3 teams and coordinate with each other
- Team 1 operated at original Bangkok ATFMU station with Bangkok ATFMU
  - Team 2 operated at Bangkok Area Control Center and coordinate with ATC
  - Team 3 Operated in foreign country
- 0754z Issued GDP for flights bound to VTBS
- 0804z Bangkok ATFMU cancelled Ground Stop (and coordinated with airline for flights bound to VTBS to follow CTOT
- 0830z 0830z Issued GDP for flights bound to VTSP
- 0845z Strategic ATFM team 1 and 2 returned to the original station
- 0900z 0900z Brief post-contingency operations analysis was reported to the managing level

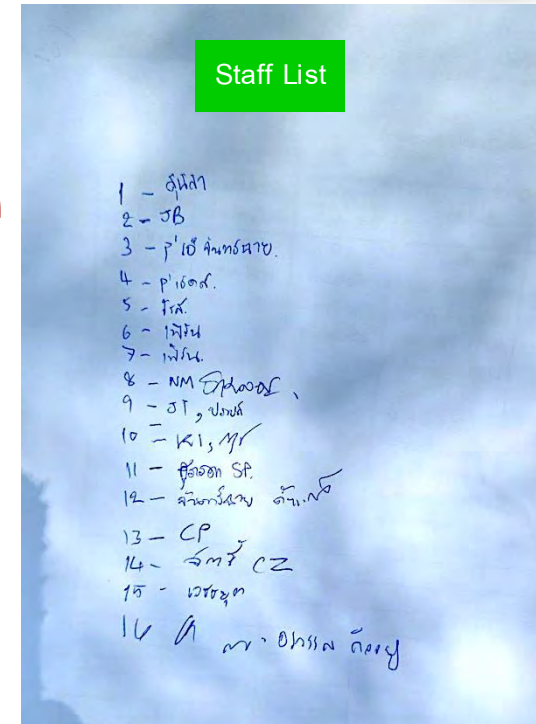


@Assembly Point

0625 UTC

Thailand was affected by the earthquake in Myanmar, which resulted in significant damage to some vulnerable buildings and minor damage to most buildings

Personnel from Bangkok ATFMU, Bangkok ACC (non-essentials positions), and other ATM units evacuated the building and regrouped at the assembly point.





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## 0630 UTC

Bangkok ACC issued a nationwide Ground Stop (GSt) to reduce the amount of traffic within Bangkok FIR (There was no NOTAM published as the GSt was part of a Short-Term ATFM Measure)

## 0657 UTC

### Bangkok ATFMU

- Set up temporary ATFM station outside operations building (Issued ATFM measure (GSt) for inbound flights into VTBB FIR for the next 2 hours)
- Coordinate with airlines and stakeholders regarding the situation in Thailand's airspace
- Coordinate with AEROTHAI Strategic ATFM team in the foreign country (AMNAC Meeting) to send the E-mail regarding the Ground Stop (GSt) measure to all stakeholders including notifying ICAO Contingency Coordination Team. (Due to unstable internet and cellular connection.)





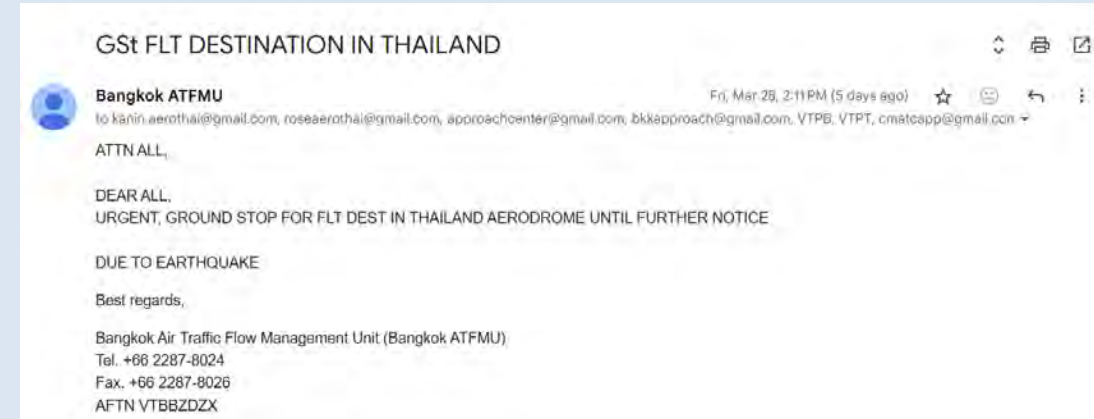


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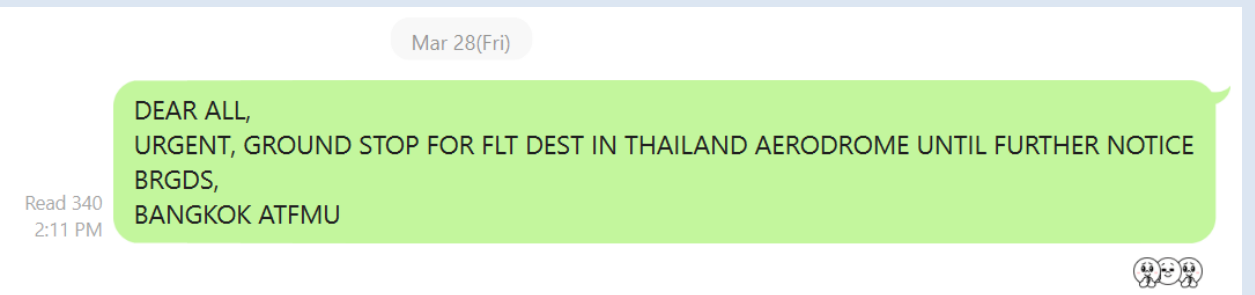
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0711 UTC

TH Strategic ATFM team in the AMNAC meeting in Hong Kong sent an email regarding the Ground Stop measure to all stakeholders



TH Strategic ATFM team at AEROTHAI Headquarters notified airlines regarding the Ground Stop through “Thailand ATFM Node” Line application group chat and provided an update on the airspace status occasionally.



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## Team 1



## Team 2



## Team 3





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## 0754 UTC

Strategic ATFM team 1 and 2 (Bangkok ATFMU) discussed and agreed to issue the GDP for flights bound to VTBS until 1300 UTC with inbound capacity at 30 flights per hour to prevent the congestion.

### List of CTOTs for VTBS28MARA2

Designator	VTBS28MARA2
Airport	VTBS
Flow Rate	30 : 30 flights / hour
Timestamp	2025-03-28 07:50:53
Begin Restriction	2025-03-28 08:00
End Restriction	2025-03-28 10:00
End Recovery	2025-03-28 13:00
Data Source	FPL, Radar
Only IFR Flights	
Exempt Airborne Flights	

ATFM Delay	
Total	748 minutes
Average per flight	5 minutes
Average per delayed flight	10 minutes
Max	30 minutes
Number of flights	140





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## 0804 UTC

Strategic ATFM team 3 sent a Ground Stop (GSt) cancellation message to all stakeholders using the Line application and email.



SH\_Hollow [Benz]



3:07 PM



Save | Save as... | Share | Send to Keep Memo



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## 0830 UTC

Strategic ATFM team 2 analyzed the traffic situation with Bangkok ACC and coordinated with Strategic ATFM team 1 (and Bangkok ATFMU) to issue additional GDP measure for flights bound to VTSP in which this measure exempted flights from VTBS and VTBD (since it was already controlled by MDI measure).

### List of CTOTs for VTSP28MARA

Designator	VTSP28MARA
Airport	VTSP
Minutes in Trail	4 - 4 minutes
Timestamp	2025-03-28 08:45:56
Begin Restriction	2025-03-28 07:00
End Restriction	2025-03-28 12:30
End Recovery	2025-03-28 13:30
Data Source	FPL, Radar
Only IFR Flights	
Exempt ADEP	VTBD, VTBS
Exempt Airborne Flights	

ATFM Delay	
Total	176 minutes
Average per flight	3 minutes
Average per delayed flight	12 minutes
Max	33 minutes
Number of flights	64



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## 0845 UTC

Strategic ATFM team 1 and 2 returned to the original station (Strategic ATFM Office).

## 0900 UTC

A brief post-contingency operations analysis was reported to AEROTHAI management.





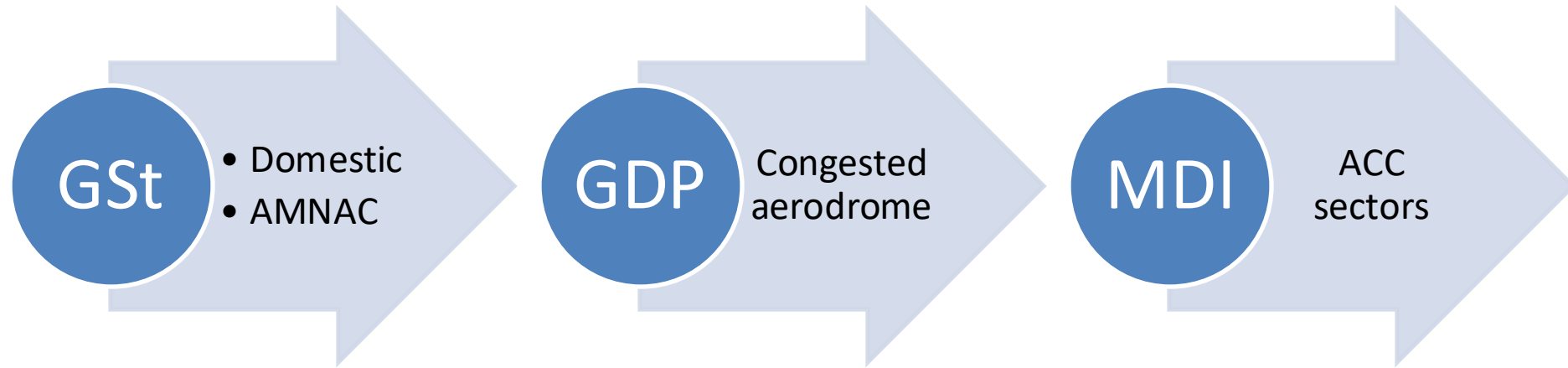
## ATFM delay statistic for flights bound to VTBS (VTBS28MARA2)

- |       |     |         |
|-------|-----|---------|
| Total | 748 | minutes |
|-------|-----|---------|
- |                    |   |         |
|--------------------|---|---------|
| Average per flight | 5 | minutes |
|--------------------|---|---------|
- |                            |    |         |
|----------------------------|----|---------|
| Average per delayed flight | 10 | minutes |
|----------------------------|----|---------|
- |     |    |         |
|-----|----|---------|
| Max | 30 | minutes |
|-----|----|---------|
- |                   |     |         |
|-------------------|-----|---------|
| Number of flights | 140 | flights |
|-------------------|-----|---------|

## ATFM delay statistic for flights bound to VTSP (VTSP28MARA)

(Exempt flight from VTBS, VTBD)

- |       |     |         |
|-------|-----|---------|
| Total | 176 | minutes |
|-------|-----|---------|
- |                    |   |         |
|--------------------|---|---------|
| Average per flight | 3 | minutes |
|--------------------|---|---------|
- |                            |    |         |
|----------------------------|----|---------|
| Average per delayed flight | 12 | minutes |
|----------------------------|----|---------|
- |     |    |         |
|-----|----|---------|
| Max | 33 | minutes |
|-----|----|---------|
- |                   |    |         |
|-------------------|----|---------|
| Number of flights | 64 | flights |
|-------------------|----|---------|





- **ATM Contingency procedure needed to be revised**
  - Detailed procedure for the earthquake situation
  - Recovery procedure to prevent traffic congestion
  - ATM Coordination Center may be required for command and control during the situation
- **Revise ATFM procedure during the ATC evacuation**
  - All ATCO evacuations
  - Partial ATCO evacuations
  - ATCO and ATFM evacuations
- **Technical issue**
  - Backup communication in case of landline and cellular is not available