

AERODROME MANUAL MALPENSA Airport

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CHAPTER 25: PROCEDURES IN ADVERSE WEATHER CONDITIONS

Operations Manager	Donot Pa
Davide Pisoni	Carrier 1 2
Maintenance Manager	
Alessandro Tovo	Clesseul Govo



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CHAPTER 25: PROCEDURES IN ADVERSE WEATHER CONDITIONS

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REVISION TABLE FOR THIS CHAPTER

ED. / REV. AM	DATE	SUMMARY DESCRIPTION OF THE AMENDMENT	
Ed. 0	26/12/2016	First edition of the Airport Manual with the conversion of the Certificate in accordance with the new requirements of Reg. EU No. 139.	
Ed. 0 / Rev. 1	25/07/2018	Minor amendments made to this Chapter. The following points were included in the procedure: - coordination with Enav for receiving notifications; - references to the requirements already contained in the Airport Regulations; - in the annexes, added reference to the SEA - ENAV Operations Letter: Operations in winter and adverse weather conditions -attached; - Registration forms added to the procedures.	
Ed. 1 / Rev. 0	11/12/2020	Divided the AM into separate individual chapters for easier document management and consultation and inserted numbering of sub-sections with corresponding references to regulations. Amendments made to this Chapter: - renaming of functions and professional roles following the implemented SEA organizational Service Orders; - inserted paragraph on staff training; - to the paragraph: REGISTRATIONS, inserted reference to examples of information sheets transmitted through METAR, TAF and AD, in the Annex to the Chapter. Further corrections made following comments made by the ENAC DO Team.	
Ed. 2 / Rev. 0	02/12//2021		



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Ed.2 / Rev 1	22/12/2021	Eliminated the assessment upon reaching 1mm of contaminant detected by floor sensors, while retaining the usefulness of performing friction coefficient checks using ASFT during the progression of the precipitation. The mode of assessment in the event of changing conditions from dry to wet remains unchanged. In order to verify and promptly report a possible contamination condition (standing water), the trigger assessment threshold previously identified at 3.1 mm was as a precautionary measure reduced to 2.5 mm. Introduction of the 'AirportGRF' software, replacing the manually compiled RCAW form, for determining the Runway Condition Code and producing RCR and SNOWTAM. To ensure periodic updates, in the absence of significant changes, the RCR will be updated daily following routine inspections of the flight infrastructures. Fine-tuning of the procedure that incorporates comments from the Team following the approval of ED2 REV0.	
Ed.2 / Rev 2	02/12/2022	Updated § 25.6.1 by transposing ED Decision 2022/16/R amending GM1 ADR.OPS.A.057(d)(4)	
Ed.2 / Rev 3	Xx/xx/2024	Update following publication of Airport Regulation 5.1: § 25.3 REFERENCES § 25.4 Coordination with Enav for receiving notifications, disseminating information and mitigating risks	



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25. PROCEDURES IN ADVERSE WEATHER CONDITIONS

ADR.OPS.B.050 - AMC1 ADR.OPS.B.050 - ADR.OPS.C.010 - AMC1 ADR.OPS.C.010 - GM1 ADR.OPS.C.010(b)(4) - AMC4 ADR.OPS.C.010(b)(4) - GM1 ADR.OPS.C.010(b)(4) - GM2 ADR.OPS.C.010(b)(4) - ADR.OPS.A.060 - ADR.OPS.A.065 - AMC1 ADR.OPS.A.065(a) - AMC2 ADR.OPS.A.065(a) - GM1 ADR.OPS.A.065(a) - GM2 ADR.OPS.A.065(a) ADR.OPS.A.065(a) - GM4 ADR.OPS.A.065(a) - GM1 ADR.OPS.A.065(a)(18);(19) - AMC1 ADR.OPS.A.065(b);(c) - GM1 ADR.OPS.A.065(b);(c) - GM1 ADR.OPS.A.065(d) ADR.OPS.B.037(a) - GM1 ADR.OPS.B.037 AMC1 ADR.OPS.B.037(a) ADR.OPS.B.037(a) - AMC1 ADR.OPS.B.037(a);(b) - GM1 ADR.OPS.B.037(b) - GM2 ADR.OPS.B.037(b) - AMC1 ADR.OPS.B.037(c) - GM1 ADR.OPS.B.037(c) - ADR.OPS.B.045 -AMC1 ADR.OPS.B.045 -

25.1 SCOPO

Adverse weather conditions constitute a risk for the performance of aircraft support operations, because of the wide open spaces that characterise the apron, the metal masses comprising the Ground Support Equipment (GSE) are composed, the aircraft themselves and outdoor operating positions required by handling activities.

This procedure outlines the operational activities to be conducted at the airport during meteorological alerts, enabling the Operator to maintain control over the safe execution of operations by various parties in the movement area, in accordance with airport safety standards. It also regulates the activities for assessing the condition of flight infrastructure, provides information on the thickness, extent, and type of contaminants, and specifies the methods for disseminating related aeronautical information (Snowtam).

25.2 SCOPE OF APPLICATION

This procedure is implemented in the following cases of adverse weather conditions:

- 1. Strong wind
- 2. Ground frost
- 3. Low visibility (ref. Chp. 23 AM)
- 4. Thunderstorms and lightning
- 5. Snow, rain and hail precipitation.

Upon the occurrence of the aforementioned events, the Operator proceeds with the following activities:

 Dissemination of airport-related weather forecasts is carried out by AOCC staff, the Dir. of Operations and the Maintenance Control Room (MCR) - Dir. of Maintenance. This process involves



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activating the bodies that provide weather forecasts for phenomena that could potentially negatively impact the safety of airport operations;

- Monitoring of the apron by AOCC staff carrying out scheduled and on-demand inspections (ref. Operating Procedure: Supervision of aircraft apron - ref. Chp 15 AM);
- Implementation, according to the type of weather condition in progress, of the procedures already provided for in the Airport Manual and Airport Regulations (e.g. Snow Plan, friction test/detection of the coefficient of adherence, de-icing/anti-icing, All Weather Operations - runway protection in low visibility, refuelling, fire-fighting plan);
- Airport operations may be suspended if adverse weather conditions threaten the safety of these operations.

The procedure includes precautionary measures for all operators informed of the issue via Safety Committees and targeted interventions by SMS and AOCC.

25.3 REFERENCES

ICAO Annex 14

ICAO - Circular 355

ICAO 9981 PANS Aerodromes - Part II

Reg. (EU) 139/2014 et seq.

SEA Agreement-ENAV Annex 4: Winter Weather Operations and Operations in Adverse Weather Conditions

Navigation Code

Legislative Decree no. 81/08: Unified text on health and safety in the workplace

Airport Regulations

Letter from Operations: OL All Weather Operations SEA - ENAV (annexed to this Chapter)

Airport Driving Permit Manual

Operating Procedure: Aeronautical information included in the NOTAM publication: issuance and

dissemination at the airport (ref. Chp. 7 AM)

Operating Procedure: *Protection of runways in low visibility* (ref. Chp. 23 AM)
Operating Procedure: *Snow Emergency Plan* (PEN, referred to in Chap. 24 AM)

Operating Procedure: *De-icing/anti-icing/de-snowing* (ref. Chp. 24 AM)

Operating procedures: Verification of infrastructure conditions in the presence of contamination, dissemination of aeronautical information, and measurement of the runway adhesion coefficient are essential for maintenance activities |(Ref. In Chps. 12 and 24 AM)

Operating Procedure: Cleaning of runways, taxiways and apron (ref. Chp. 15.3b AM)

Operating Procedure: Refuelling aircraft with passengers on board and/or during boarding/disembarking (see Chp. 15.2 AM).

Operating procedures: : Communications (ref. Cap. 30).

Operating procedures: Procedures for transfer of activities between airport personnel (ref. Chp. 32)



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25.4 COORDINATION WITH ENAV FOR RECEIVING NOTIFICATIONS, DISSEMINATING INFORMATION AND MITIGATING RISKS

ENAV broadcasts:

- The Terminal Aerodrome Forecast (TAF) is issued whenever there is a forecast for critical phenomena such as rain, snow, or strong wind;
- The Meteorological Aerodrome Report (METAR) is issued in the event of rain, snow, or high winds. The Terminal Aerodrome Forecast (TAF) is issued whenever a METAR observation includes at least one of these critical phenomena;
- The A.D. (Aerodrome Data Warning) is issued in the event of rain, snow or high winds and Wind Shear (WS) to any circumstances affecting the airport, always including the latest METAR and TAF issued, regardless of their content;
- The *Pilot reports braking action* is issued for the appropriate actions to be taken by the Operator for the purpose of assessing and reporting on the condition of the flight infrastructure.

The transmission is repeated after each update and/or issuing of new reports, until the end of the critical phenomenon.

The ENAV Milan Meteorological Forecast Office (UPM MILANO) is available for telephone consultations by a representative of the Operator, such as the Airport Duty Manager or the MCR duty manager. They serve as entry points for updates on current or forecast situations. The dissemination chain of meteorological alert information includes the Airport Operator, ground assistance service providers, the Fire Brigade, the Air Navigation Companies (ANCs), and operators in the movement area, in addition to meteorological monitoring and forecasting centres.

Adverse weather phenomena for which a weather forecast notification is to be submitted are listed in the paragraph: Scope of Application.

The Airport Operator, via the Airport Duty Manager, receives information from weather forecasting centres about relevant phenomena that may affect the airport. This information is disseminated to all relevant airport parties, particularly ramp handlers, refuelling handlers, the Fire Brigade, and the airlines operating at the airport, as specified below.

Companies operating on the airside (ramp handlers, refuellers and airlines) are required to promptly communicate their contact persons to the Operations Department (AOCC) via email to:

aocc.mxp@seamilano.eu

This communication is crucial to ensure that the Operator's staff can accurately include companies on the dedicated mailing list, thereby guaranteeing timely and precise receipt of communications about emergency situations, operational updates, and other critical information necessary for the safety and efficiency of airport operations.

For the above weather conditions, data are provided by both the ENAV Milan Meteorological Forecast Office (UPM) and the systems of the airport operator's weather provider, as well as the dedicated equipment used by SEA, present at the airport.



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Regarding operational airport weather forecasts, in addition to the previously mentioned card, the Duty Manager receives a second card from ENAV. This card consists of an operational forecast of thunderstorm phenomena in the Milan terminal area. Finally, the Airport Duty Manager receives direct information from the MCR in the event of storm and lightning forecasts.

To mitigate risks associated with normal airside operations, the Airport Manager sends a series of messages (via fax, telex, and SMS) to interested parties well in advance. These messages include a description of the expected weather phenomenon and related updates. It is the Airport Operator's responsibility to communicate these weather forecasts to the relevant company managers, airlines, and handlers, enabling them to take necessary countermeasures to ensure the safe and regular performance of airport activities.

In the event of adverse weather conditions that may reduce the airport's operating capacity due to malfunctions, failures, or temporary unavailability of flight infrastructures (such as for snow removal or ongoing works), a NOTAM is issued according to specific Operating Procedures. The Airport Duty Manager maintains information flows with airport operators and State bodies to jointly resolve critical operational issues, based on the provisions of the Operating Letter (OL) signed with ENAV regarding critical events.

Through the current Operational Letters signed regarding: All Weather Operations and Adverse Weather Conditions, SEA and ENAV commit to promptly exchanging information on any changes in the operability of areas, instruments, equipment, and aids that could affect the procedures detailed here.

Further specific operating procedures regulate airport operations when certain equipment or installations are functioning in a degraded manner. All operators present at the airport must provide an operational coordination structure capable of managing and controlling operations within their competence. This structure should interface with the Airport Duty Manager of SEA Operations Management.

In addition, companies operating at the airport are required to implement an effective tracking and communication system. This ensures the timely dissemination of information received from the Airport Duty Manager to their airside personnel, including updates on adverse weather conditions and other relevant operational situations. This system must ensure that all workers on the airside are constantly informed and prepared for any operational changes, thereby contributing to the safety and efficiency of airport operations.

If a reduction in the airport's capacity is deemed necessary, the Emergency Operations Centre (EOC), which serves as the headquarters of the Crisis Response Committee (CRC), is the appropriately equipped venue for its meeting. The Crisis Response Committee (CRC) is composed of airport bodies involved in resolving any crisis concerning the airport. As the type of issue to be addressed varies, the composition of the committee may also change, utilizing the airport's professional expertise according to the specific needs of the situation.

The purpose of the Crisis Response Committee (CRC) is to maintain the highest degree of airport operations possible, compatible with the type of crisis, while ensuring safety conditions are observed. Therefore:



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- it adopts all measures to reduce passenger discomfort;
- it can and at times must, through ENAC, close the airport or parts of it;
- it can establish flows, impose penalties, set priorities for the landing or take off of certain flights and issue departure sequences for flights.

The Committee, while always adhering to applicable laws, may implement targeted measures that deviate from or contradict standard procedures. It also has the authority to decide when to conclude the contingency situation and restore normal airport operations.

the Airport Duty Manager informs all interested parties, as per the Operating Procedure: *Aeronautical information included in the NOTAM publication: issue and dissemination at the airport,* as per Chap. 7 of the AM.

SEA defines and disseminates through the Airport Manual, as well as the *Safety Recommendations* issued by SMS, further information regarding potential risks, and actions to be taken in the event of adverse weather conditions.

25.5 PROCEDURES FOR SPECIFIC WEATHER CONDITIONS

25.5.1 HIGH WIND CONDITION

In the event of a forecast of strong wind (referencing the Beaufort scale, value 7 on a scale from 0 to 12, indicating winds over 28 knots or 50 km/h), airport operators are required to intensively secure apron vehicles and equipment and prevent Foreign Object Debris (FOD), as outlined in Chapter 15.3.

For the preferential use of runways in high winds, reference is also made to the current AIP publication (Box 20, Par. 1).

25.5.1.1 RESPONSIBILITIES AND ACTIONS

PHASE	No.	RESPONSIBLE PARTY	ACTION
1	Receiving and disseminating information	MCR / AIRPORT DUTY MANAGER	RECEIVES the weather report, including wind forecast intensity characteristics and probability of occurrence, via email from the weather provider and/or the UPM (Unità di Previsione Meteorologica). TRANSMITS the received weather report and corresponding instructions via fax or email to all relevant parties, with instructions on how to respond appropriately. COMMUNICATES to all concerned operators via text message, detailing the characteristics of the expected phenomenon and the actions to be taken to address it.



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			SAFETY PROVISIONS
			In the event of a forecast of strong winds (> 28kt - 50KM/h), all airside operators are required to comply with the following conditions:
			 promptly remove any potential sources of FOD. If they discover FOD, they must report it immediately so it can be removed. Operators are also required to take proactive measures to prevent FOD formation. This includes securing materials like plastics and tarpaulins used in packaging goods to prevent them from becoming airborne; Ensure that wheel chocks (heels) are applied to aircraft and apply brakes to prevent unintended movement of equipment and vehicles; Use elevated/height equipment in accordance with the manufacturer's specifications and within the limits specified therein for the maximum wind intensity at which the equipment can be operated safely; For the restriction of boarding pontoon usage during windy conditions, refer to the technical instructions provided by the manufacturer. Specifically, if wind speeds exceed 60 MPH (96.56 km/h), the pontoon must be fully retracted and lowered. Those in charge of any construction sites must also ensure that all construction material (pipes, equipment, tools, etc.) is properly anchored or fixed o prevent any risk of them being blown outside the fenced area.
2	Implementation of Extraordinary Inspections	MCR	When the weather sensors at the airport detect a strong wind alarm, corresponding to a Beaufort scale value of 7 on a scale from 0 to 12 - >28 kt / 50 km/h, the PAI structure is ACTIVATED to conduct extraordinary inspections.
			The PAI [Fire Emergency Response] structure informs the Airport Duty Manager of the alarm received and co-ordinated inspections.



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PAI [Fire Emergency Response]	Upon activation of MCR, extraordinary inspections of the movement area are INITIATED, as provided for in the specific procedures on flight infrastructure inspections, contained in this Manual (ref. Chap. 9 AM), requesting the support of AOCC staff - Operations on apron if needed (ref. Chp. 15), to prevent the formation of FOD and ensure that risk elements are removed and well anchored, especially where construction sites may be present.

25.5.2 GROUND FROST CONDITION

In the event of ground frost, MCR launches the following operational procedure:

 Checking and reporting on the condition of infrastructure in the presence of contamination and aeronautical information (ref. 25.5.5 of this Chapter);

In particular, when temperatures are forecasted to reach 0 (zero)°C, MCR requests PAI to activate monitoring of both airside and landside areas. This includes the potential treatment of pavements with specialized solid and liquid products to prevent ice formation and facilitate its removal. 24 AM).

25.5.2.1 RESPONSIBILITIES AND ACTIONS

PHASE	No.	RESPONSIBLE PARTY	ACTION
1	Receiving and disseminating information	MCR / AIRPORT DUTY MANAGER	RECEIVES via email from the weather provider and/or UPM the weather information related to the forecast of ground frost, including the intensity and likelihood of occurrence.
		AIRPORT DUTY	
		MANAGER	SENDS the weather sheet received and the relevant safety provisions to all interested bodies by fax/email. COMMUNICATES via text message to all airport operators the message containing the characteristics of the expected phenomenon and the relevant safety provisions.
			SAFETY PROVISIONS



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 In the event of ground frost, all airside operators are required to comply with the following provisions: no spillage of water and/or liquids on the ground (in the event of any spillage, the ANCs
 and handlers involved are responsible for informing the Duty Manager as per the operational procedure: Operations in the event of fuel and oil spills in the movement area, as referred to in Chap. 15 AM); the recommendation to drive with particular caution advises that drivers must reduce their speed below the permitted limits. This is to ensure that they can brake effectively and stop within the distance separating them from the vehicle ahead, as well as near traffic signs: Stop/give way.



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25.5.3 LOW VISIBILITY CONDITION

In the event of a low visibility forecast:

- OL All Weather Operations (LVP), signed by the operator with ENAV:
- the operating procedure: Protection of runways in case of low visibility (ref.Chap. 23 AM).

<u>Precautionary prescription</u>: In case of low visibility, all airport operators are required to exercise maximum caution and monitor the optical guides of the stands during the aircraft entry phase.

25.5.4. LIGHTNING CONDITION - THUNDERSTORM PHENOMENA

The meteorological condition of a thunderstorm in the field indicates a thunderstorm phenomenon with potential electrical discharges occurring within 3 nautical miles of the airport site. In this case, the people and vehicles present may be exposed to risks from electrical discharges.

When notifications of a thunderstorm with electrical discharges are issued, airport operators must implement a series of safety measures to mitigate the risk of electrocution during outdoor aircraft service activities. Aircraft within an electrical field caused by a thunderstorm can accumulate static electricity, posing a serious potential hazard to airport operations. This situation can occur even if the thunderstorm is still distant from the airport grounds, affecting safety and security.

In the event of lightning and/or storm phenomena within 3 mn of the site, all refuelling operations are suspended, as per the Operating Procedure: *Aircraft refuelling with passengers on board and/or embarking/disembarking*, as referred to in Chap. 15 AM, also published in AIP Italy.

25.5.4.1 RESPONSIBILITIES AND ACTIONS

On the basis of the above, the airport operator can declare the following three steps, described below:

- 1. TECHNICAL ALERT status;
- 2. LIGHTNING PRE-ALERT status;
- 3. LIGHTNING ALERT status.



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PHASE	No.	RESPONSIBLE	ACTION
1	TECHNICAL ALERT Status	MCR	ACTIVATES the status of TECHNICAL ALERT, which is an alert directed solely at technical maintenance facilities, if the special system in use detects electrical discharges within 11 nautical miles.
			COMMUNICATES the status of the TECHNICAL ALERT via email or telephone to the maintenance departments to prepare for managing any anomalies in the electrical network and airport installations.
			DEACTIVATES the <i>TECHNICAL ALERT</i> status after no further electrical discharges have been detected within the 11 mn area for 30 minutes.
			COMMUNICATES the deactivation of the <i>TECHNICAL ALERT</i> status via e-mail/phone to the maintenance departments and SEA Energia.



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2	LIGHTNING PRE- ALERT status	MCR	ACTIVATES the <i>LIGHTNING PRE-ALERT</i> status if the lightning detection system detects electrical discharges between 3 and 5 mn.
			COMMUNICATES the <i>LIGHTNING PRE-ALERT</i> status to the Duty Manager and the maintenance departments by e-mail/telephone, specifying that no electrical discharges are detected on airport grounds at that time.
		AIRPORT DUTY MANAGER	COMMUNICATES the <i>LIGHTNING PRE-ALERT</i> status by e-mail/sms to all relevant agencies/operators: ANC, ANC technicians, handlers and suppliers.
		MCR	DEACTIVATES the <i>LIGHTNING PRE-ALERT</i> status once no further electrical discharges are detected within the 11 mn area for 30 minutes, simultaneously deactivating the <i>TECHNICAL ALERT</i> .
	AIRPORT DUTY MANAGER	AIRPORT DUTY	COMMUNICATES deactivation of the the LIGHTNING PRE-ALERT status to the Airport Duty Manager and maintenance departments by e-mail/telephone.
		COMMUNICATES deactivation of the LIGHTNING PRE-ALERT status by e-mail/text message to all relevant operators.	



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3	LIGHTNING ALERT status	MCR	ACTIVATES the <i>LIGHTNING ALERT</i> status if the lightning detection system detects electrical discharges within 3 mn.
		AIRPORT DUTY MANAGER	COMMUNICATES the LIGHTNING ALERT status to the Duty Manager and the maintenance departments by e-mail/telephone, specifying that electrical discharges are detected on airport grounds at that time.
			COMMUNICATES the <i>LIGHTNING ALERT</i> status by e-mail/sms to all relevant agencies/operators: ANCs, ANC technicians, handlers and suppliers.
		MCR	DEACTIVATES the <i>LIGHTNING ALERT</i> status after no further electrical discharges are detected for 30 minutes within 3 mn.
			COMMUNICATES deactivation of the the LIGHTNING ALERT status to the Airport Duty Manager and maintenance departments by e- mail/telephone.
		AIRPORT DUTY MANAGER	COMMUNICATES deactivation of the LIGHTNING ALERT status by e-mail/text message to all relevant operators.
4	DEACTIVATION of the <i>LIGHTNING</i> <i>ALERT</i> status	PAI [Fire Emergency Response]	At the request of MCR, after confirming through the weather portal the actual detection of atmospheric discharges on the airport grounds, conduct extraordinary inspections of the movement area. These inspections, as outlined in the specific procedures for flight infrastructure inspections in this Manual (refer to Chp. 9 AM), aim to verify the integrity of the area following adverse weather conditions.



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25.6 SNOW, RAIN AND HAILSTORM CONDITIONS

25.6.1 APPLICABILITY, CONDITION ASSESSMENT, AND REPORTING PROCEDURES

In the event of snowfall, rain, or hail, the Airport Operator must assess the flight infrastructure and report any conditions that could affect aircraft performance and airport operations. This involves notifying the Aeronautical Information Services and, consequently, the Air Traffic Services by issuing a Runway Condition Report (RCR) and/or requesting the publication of a SNOWTAM, particularly concerning the following conditions:

1. COMPACTED SNOW; 2. DRY; 3. DRY SNOW; 4. DRY SNOW ON TOP OF COMPACTED SNOW; 5. DRY SNOW ON TOP OF ICE: 6. FROST; 7. ICE; 8. SLIPPERY WET; 9. SLUSH (snow mixed with water); 10. SPECIALLY PREPARED WINTER RUNWAY; 11. STANDING WATER; 12. WATER ON TOP OF COMPACTED SNOW; 13. WET; 14. WET ICE; 15. WET SNOW; 16. WET SNOW ON TOP OF COMPACTED SNOW;

17. WET SNOW ON TOP OF ICE.

Note: If the condition 'chemically treated' is present, it will be reported in the appropriate field of the situational awareness section of the RCR.

If the contaminants mentioned above are present on the surface of even just one runway, the Airport Operator must:



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- Assess the condition of the runway surface by inspecting the infrastructures;
- Assign a Runway Condition Code (RWYCC) based on the type, thickness, and extent of the contaminant, as well as the air temperature, by completing the RCAW format and using the RCAM matrix (attached)

In particular for thickness reporting, consider the following:

- thicknesses of 'water' <= to 3 mm should not be reported (NR)
- minimum thickness of 'standing water' to be reported is 4 mm (04)
- for thicknesses <= 3 mm of slush, wet snow and dry snow, 3 mm must be stated (03)
- the thickness of contaminants other than slush, wet snow, standing water and dry snow should not be reported;

In addition:

- Inspect the runway every time its surface conditions change due to weather conditions;
- Use pilot reports on braking action, when available, which are transmitted by ATS to MCR via recorded telephone or heard by MCR on TWR APP frequencies (refer to OI Operations in Winter and Adverse Weather Conditions). These reports should be used for RWYCC reevaluation using the RCAM matrix as follows:
 - ✓ To **downgrade** in accordance with the RCAM matrix and as a tool to trigger a subsequent reassessment of the flight infrastructures;
 - ✓ For the **upgrade**, the braking action carry-over may only be used in accordance with the RCAM matrix in combination with other information that clearly determines the RWYCC upgrade, including a properly calibrated and used measuring instrument. It is important to note that a RWYCC of 2, 3, 4, or 5 may not be upgraded, while a RWYCC of 0 or 1 may at most be upgraded to 3. Additionally, the condition of the flight infrastructure must be checked frequently to ensure that it does not degrade below the assigned code.

Further elements of both objective and subjective assessment that can be taken into account for downgrading purposes, in addition to the special braking action air-reports, include:

- (1) Prevailing weather conditions:
 - stable temperature below freezing point
 - dynamic conditions
 - active precipitation
- (2) Observations:
 - e.g. behaviour of the vehicle used for the inspection
- (3) Measures:
 - e.g. coefficient of adhesion
- (4) Other factors related to local experience:
 - e.g. types of flooring.



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The Airport Operator incorporates the additional assessment elements mentioned above as supplementary, yet not exclusive, factors to facilitate a downgrade that is judiciously conservative without being excessively pessimistic.

N.B. Pending the execution of the runway assessment, when the flight infrastructure is in a "WET" condition (not associated with standing water, snow, slush, ice, or frost) and airport traffic conditions do not permit immediate access to the flight infrastructure, MCR, in these specific cases, utilizes data from installed pavement sensors (indicating a precautionary value > 0.1 but < 1 mm thickness of the contaminant) and information from meteorological stations to produce and transmit a Runway Condition Report (RCR) to ATS.

Subsequently, MCR activates the PAI [Fire Emergency Response] for the relevant inspection and coordinates with the ATS provider for the execution of the physical assessment of the flight infrastructure. If the output values differ or are discrepant, a new Runway Condition Report (RCR) will be produced and conveyed.

Should the thickness of the contaminant reported by the floor sensors be greater than or equal to 1 mm, the MCR will activate the PAI to facilitate a physical inspection of the flight infrastructure, which is preparatory to the creation and conveyance of the RCR.

In support of the flight infrastructure assessment, carried out by staff trained for PAI [Fire Emergency Response], it should be noted that the data returned by the pavement sensors installed at the 3/3 runway (see attached plan) for:

- Floor surface temperature (°C);
- Condition of the floor surface (dry, damp, wet, ice, snow, frost);
- Thickness of contaminant (0 to 10 mm with a resolution of 0.01 mm);
- Freezing temperature (0 to -30°C);
- Presence of de-anti-icer (quantity in grams per square metre).

To determine air temperature, data from the weather stations installed at the airports are utilized.

The extent of the contaminant is visually assessed by the personnel conducting the evaluation as they traverse the flight infrastructure, using the attached plan as a reference. The plan also shows the location of the measuring points where assessment personnel carry out the assessment of the thickness and type of contaminant.

The extent of the individual contaminant on 3/3 of the infrastructure must be assessed as follows:

- < 10% allocation RWYCC 6 with no contaminant coverage
- >= 10 % <= 25 % assignment RWYCC 6 with 25 % contaminant coverage carry-over
- 25% RWYCC should be assigned on the basis of the contaminant present.



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N.B.: If the contaminant coverage is less than 10 % over all 3/3 of the infrastructure, no RCR is to be generated.

In the event of multiple contaminants whose total coverage exceeds 25%, but none individually covers more than 25%, either longitudinally or transversely, the Runway Condition Code (RWYCC) must be determined based on the contaminant that most significantly affects aircraft performance, as assessed by the personnel conducting the evaluation.

Assessments of the condition of the runway surface must be carried out on each third of the runway and must lead to the compilation of the RCR.

The Runway Condition Report (RCR) includes the 'Aeroplane Performance Calculation Section' and the 'Situational Awareness Section'.

The Aeroplane Performance Calculation Section includes:

- Aerodrome Location Indicator;
- Date and time of the evaluation;
- Lowest runway designation number;
- RWYCC for each third of the runway;
- Percentage coverage of the contaminant for each third of the runway;
- Thickness of contaminant per third of runway (only for water, dry and wet snow, snow mixed with water);
- Description of runway conditions for each third;
- runway width to which the RWYCC applies if less than that published.

The Situational Awareness Section includes:

- reduced runway length;
- snow carried by the wind on the runway (drifting snow);
- sand scattered on the runway;
- chemical treatment of the runway;
- snow banks on the runway;
- snow banks on the taxiway;
- snow banks adjacent to the runway;
- conditions of the taxiways;
- condition of the aprons;
- notes in simple language.



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The RCR includes a runway condition code (RWYCC) using values from 0 to 6, the extent and thickness of the contaminant, and a description of the contaminant using the following terms:

(1) COMPACTED SNOW; (2) DRY; (3) DRY SNOW; (4) DRY SNOW ON TOP OF COMPACTED SNOW; (5) DRY SNOW ON TOP OF ICE; (6) FROST; (7) ICE; (8) SLIPPERY WET; (9) SLUSH; (10) SPECIALLY PREPARED WINTER RUNWAY; (11) STANDING WATER; (12) WATER ON TOP OF COMPACTED SNOW; (13) WET; (14) WET ICE; (15) WET SNOW; (16) WET SNOW ON TOP OF COMPACTED SNOW; (17) WET SNOW ON TOP OF ICE; (18) CHEMICALLY TREATED; (19) LOOSE SAND.

It should be noted that:

flight infrastructure assessments begin when there is a change in surface conditions due to the presence of the above contaminants and must be updated when one of the following significant changes occur:

- (a) Amendment of the RWYCC;
- (b) change of contaminant type;
- (c) modification of the extent of the contaminant as per tab.1;



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- (d) change in contaminant thickness as per Table 2;
- (e) other information, e.g. PIREP (Pilot Report).

Assessed per cent	Reported per cent
< 10	No.
10-25	25
26-50	50
51-75	75
76-100	100

Tab. 1 - Percentage coverage of contaminants

Contaminants	Significant change
STANDING WATER	3 mm
SLUSH	3 mm
WET SNOW	5 mm
DRY SNOW	20 mm

Tab 2: Thickness assessment for contaminants

In the absence of significant variations, the Airport Operator will ensure a periodic update of the surface conditions of the flight infrastructure by issuing an updated Runway Condition Report (RCR) on a daily basis, utilizing routine inspections as a means of assessment. This approach ensures that during prolonged weather events with a 'WET' track configuration, the published Runway Condition Report (RCR) is updated to reflect the current day's conditions.

Fields D and E of the SNOWTAM (RWYCC and extent of contaminant) need only be completed when a contaminant (field G) other than DRY is present on at least one third of the runway (GM1 ADR.OPS.A.057(d)(4)).

The elements of the RCR are conveyed by the Manager by completing the necessary formats:

- AIS and the ATS (RCR and SNOWTAM) when the track is contaminated by standing water, snow, slush, ice or frost, or the infrastructure is wet in association with the presence of snow, slush, ice or frost for action;
- ATS (RCR) when the track is wet, but not associated with standing water, snow, slush, ice or frost.

Reporting must continue to reflect significant changes in the condition of the runway surface until the runway is no longer contaminated. When the latter situation occurs, the Airport Operator issues an RCR indicating that the runway is dry or wet, as applicable.

In addition, the Operator proceeds according to the following criteria:

 A reassessment of the runway surface conditions is required if, despite a current carryover indicating a RWYCC 2 or better condition, two special air-reports are received that report POOR braking action on the runway;



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- The runway surface conditions are re-evaluated, considering a possible downgrade, based on feedback from the pilot regarding a braking action that does not align with what the Operator has published;
- The surface condition of the runway is re-evaluated, considering the suspension of operations, if a pilot reports braking action that is LESS THAN POOR on the runway.

The Airport Operator will assess the potential need to perform grip coefficient measurements using ASFT (Airport Surface Friction Tester) during the evolution of disturbances and their variations.

Adherence measurements made with ASFT are not used for compiling the Snowtam (indicated by "NR" in the dedicated section) or the RCR, and they are not disclosed to ATS and AIS. Instead, they are utilized to downgrade the assessment according to the TALPA Matrix, which is the only tool permitted for this purpose.

25.6.2 SLIPPERY WET RUNWAY CONDITION

If a runway is determined to be in a "Slippery wet" condition—defined as a wet runway with degraded surface grip characteristics over a significant portion (>= 100 meters) and an average grip value <= 0.34 (verified at 95 km/h) and/or an average grip value <= 0.50 (verified at 65 km/h)—the Airport Operator must disseminate this information to relevant users by issuing a specific NOTAM. This NOTAM should include the wording "SLIPPERY WET" and specify the section of the runway affected.

The "slippery wet" NOTAM remains in effect until the flight infrastructure is restored to a DRY condition or optimal adherence conditions are re-established.

In the event of runway slippery wet conditions, RCRs are communicated to ATS and AIS, and SNOWTAMs are published regarding the condition of the flight infrastructure.

In order to activate the above-mentioned processes, the monitoring of weather conditions is carried out by MCR with the help of weather stations (inside the airport grounds) and floor sensors installed on the runways and consists of the detection of various climatic values (such as: air temperature, wind intensity and direction, type and amount of precipitation, solar radiation, ground temperature, freezing point, etc.) and the amount of rainwater and snow falling on the airport grounds.



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25.6.2.1 RESPONSIBILITIES AND ACTIONS

Phase	No.	RESPONSIBLE	ACTIONS
1	Visualization precipitation	MCR/SCC Officer	Using the instrumentation installed on the airport grounds VERIFIES the weather conditions as well as through the floor sensors the presence and thickness of any contaminants.
			If at least one of the installed sensors detects an exceedance of the 0.1 mm threshold (indicating a change from DRY to WET, but not associated with standing water, snow, slush, ice, or frost), an RCR is produced and transferred to ATS (Air Traffic Services). Concurrently and subject to the traffic conditions present, PAI is ACTIVATED for the relevant inspection and coordinate with ATS provider for the execution of the physical assessment of the flight infrastructure. If the output values differ or are discrepant, a new RCR will be produced and conveyed. In relation to the above, therefore in the cases in which at least one installed sensor detects an exceedance of the thresholds described
			 0.1 mm - shift from DRY to WET 2.5 mm - a value close to the contamination threshold which, as a precaution, allows any "STANDING WATER" condition to be activated, carried out and reported in good time
			REQUESTS:
			- PAI [Fire Emergency Response] to inspect the infrastructure and assess the condition of the infrastructure in order to transmit information such as: type, extent and thickness of the contaminant, preparatory to the assessment.



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			INFORM the Airport Duty Manager by telephone of the request for verification in the Maintenance Department.
			For rainfall conditions, assessments must be conducted and updated periodically as the rainfall develops. It should be noted that for precipitation of a snowy nature the assessment is activated at the beginning of the phenomenon and updated periodically according to its evolution.
2	Chamfall	MCD/SCC	At the same time, it is specified that all assessments end with the return of the infrastructures to normal DRY operating conditions and reporting of the relevant RCR.
2	Snowfall or presence of ice/frost	MCR/SCC Officer	Using the data provided by the weather stations, and the values returned by the installed floor sensors, he/she VERIFIES the weather conditions and the presence and thickness of any contaminants.
			Concurrently with the onset of the phenomenon, REQUESTS PAI [Fire Emergency Response] to inspect the infrastructure and assess the condition of the infrastructure in order to transmit information such as: type, extent and thickness of the contaminant, preparatory to the assessment and produce the RCR to be conveyed to ATS and AIS.
			via recorded telephone communication, CONTACTS CSO TWR to inform it of the need to carry out a flight infrastructure assessment for the determination of the RCR.
			INFORMS the Airport Duty Manager by telephone of the request for verification of the flight infrastructure.
3	Start of assessment of the extent, thickness and type of contaminant	PAI or Manager of Winter Operations (or his/her deputy)	This Officer is positioned in the safety area near the manoeuvring area, onboard a vehicle equipped with a radio on frequency 445,775 MHz, communicating with the TWR.



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4	Request via radio to the TWR to access the manoeuvring area	PAI or Manager of Winter Operations (or his/her deputy)	REQUEST TWR authorisation to access the manoeuvring area via radio, communicating the following in aeronautical terminology: • the currently occupied position; • reason of access; • The RWY to be reached; • the expected length of time of RWY occupation; • the route they intend to take to reach the RWY.
5	Assessment of the extent, thickness and type of contaminant	deputy)	INSPECTS flight infrastructures and ASSESSES for three-thirds of the runway: type, thickness and extent of contaminant coverage. For reporting purposes, the runway is divided into three sections: first, second, and third. These sections are always identified by the Operator with reference to the threshold that has the lowest identification number, regardless of the direction in use. Information on the type, thickness, contaminant distribution, and RWYCC is provided for each section of the runway. UPDATES MCR/SCC in real time while conducting the assessment via telephone/radio about the outcome of the inspection conducted. ENSURES the correct transposition of transmitted information by applying the readback principle.
6	Analysis/asses sment of flight infrastructure conditions	MCR / SCC Officer	Upon receipt of the information from the field, using dedicated software(AirportGRF), the Officer LOADS all assessment data, supplemented with additional information, such as: infrastructure treatment with de-icing/anti-icing liquids, presence of snow banks, state of junctions and reduction of TWY and RWY widths. Uploads and fills out the AirportGRF RCAW forms to define the RWYCC and more broadly the RCR.



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				The RWYCC is eventually downgraded in accordance with the PIREPs in respect of the braking action, as mentioned in Section 5.5.
7	RCR definition and transmission to ENAV	MCR / S Officer	CC	Following the RWYCC definition phase and before clearing the committed flight infrastructure for the assessment, the Office PROVIDES for the compilation of the <i>Runway condition report</i> and TRANSMITS it by e-mail to ENAV ATS.
				via registered telephone, CONTACTS CSO TWR for feedback on receipt of the RCR. In the event of a negative response by CSO TWR, TRANSMITS the RCR data via registered telephone again.
				INFORMS by telephone/via radio the PAI [Fire Emergency Response] personnel of the transmission and reception of RCR by ATS to enable the flight infrastructure to be cleared.
8	Accessibility of	PAI [F	Fire	Upon reconfirmation from MCR that the RCR
	flight	Emergency		had been disseminated (cf. Point 7).
	infrastructure	Response] Manager of Winter	or	CLEARS the flight infrastructure, communicating its readiness.
			or	
9	Dissemination of	MCR / S	CC	Using the RCR, if necessary (with
	Information on	Officer		contamination greater than 3 mm),
	flight			COMPLETES he MANDATORY,
	infrastructure conditions			CONDITIONAL and OPTIONAL sections in the <i>Snowtam</i> application:
	Conditions			 Header: serial number, location indicator,
				date and time of evaluation, originator, date and time of dispatch;
				- Calculation of aircraft performance: airport
				location indicator, date/time of assessment,
				lower runway designation number, for each
				third of the runway: RWYCC, percentage of contaminant coverage and thickness in mm of
				contaminant, type of contaminant and runway
				width, if different from published;
				- Situational awareness - additional
				information: length of runway if different from
				published runway length, presence of snow drifts, any scattered sand on the runway, any
				chemical de-icing/anti-icing treatments carried



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					out, presence of banks on the runway, presence of aprons on the junctions, presence of banks adjacent to the runway, condition of aprons.
					In the case of a non-uniform distribution of the contaminant and in the case of DOWNGRADE or UPGRADE of the RWYCC, these aspects are described in the 'plain-language remarks' box of the situational awareness section of the RCR / Snowtam.
					It should be noted that, in line with EASA regulations, point S of the <i>Snowtam format</i> must indicate 'NR'.
10	Transmission of SNOWTAM emission request to ENAV	MCR Officer	1	SCC	TRANSMITS to ENAV AIS the issuance request containing the indications mentioned in the previous point. Concurrently with transmission to ENAV, the same Snowtam issue request is notified to ENAC, to ADM and to the corporate functions concerned (MFO - SMS - Operations Management).
11	Check following the publication of the SNOWTAM	MCR Officer	/	SCC	Upon receipt of the publication of the Snowtam, a process carried out by the central ENAV AIS service VERIFIES that the content of the published text is consistent with what was communicated and transmitted previously. Following the verification, the issue request, accompanied by the central ENAV strip Notam, IS SENT to the local ENAV, ENAC DA, MFO, Operations Directorate. If the publication differs from what was requested by MCR, it should promptly notify ENAV and ENAC to ensure the necessary alignments are made.
12	Monitoring Significant Changes	MCR Officer	1	SCC	MONITORS, in constant contact with PAI staff, the evolution of the weather phenomenon and in case of significant changes: (a) amendment of the RWYCC; (b) changes of the contaminant type; (c) changes of the contaminant coverage; (d) changes of the thickness of the contaminant;



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			(e) other information, e.g. PIREP (Pilot Report). ACTIVATES this procedure again.
and Snowta	Rs Officer am	/ SC	Following the Snowtam publication phase, the Officer ARCHIVES all the documentation, guaranteeing the traceability of the published information, storing the issuing process via the management programme (AirportGRF) in use at the facility.

25.6 STAFF TRAINING AND QUALIFICATION

The resources of the Operations and Maintenance Departments involved in the processes described above are trained and qualified in accordance with the provisions of Chapter 3 - Annexes 1 and 2 AM and their syllabi.

Certificates of training courses attended are archived and stored at Education and Training SEA.

25.7 REGISTRATIONS

Records of the notification and dissemination process are kept for at least 5 years by the relevant Directorates, available to the relevant control bodies for their control activities.

25.8 ANNEXES

- 1. Letter of Operations SEA ENAV: *Operations in winter and adverse weather conditions -* ed. in force.
- 2. SNOWTAM
- 3. RCA Worksheet wet condition
- 4. RCA Worksheet winter fillable
- 5. RCAM matrices
- 6. Floor plan sensors and detection points
- 7. Assessment measuring instrument