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LDZA - Airport ZAGREB/Franjo Tudjman - Snow Plan

1. Organization

The airport readiness plan in case of snowfall / SNOW PLAN is fully compliant with Regulation (EU) 139/2014 and its amendments and supplements.

Construction maintenance, de-icing and snow removal department (Winter Service Department), conducts tasks such as monitoring/reporting surface condition for manoeuvring areas and aprons, surface friction testing, snow clearance and de-icing. Winter Service Department is organized within the International Zagreb Airport Jsc.(Company) according to the following organization:

- Director of the Maintenance Sector
- Manager of construction maintenance, de-icing and snow removal services
- Head of construction maintenance, de-icing and snow removal services
- Chief on duty
- Deputy on duty
- Mechanic on duty
- Driver

2. Communication

The Winter Service Department employees communicate with each other via radio station on the "WINTER SERVICE DEPARTMENT" channel. Communication between the Winter Service Department and Zagreb TWR takes place via radio station on the "TWR" channel, while communication between the Winter Service Department and Aeronautical Meteorological Service takes place via telephone, fax, and website of the Croatia Control Ltd. (CCL).

The Aeronautical Meteorological Service sends a daily weather forecast for a narrower area of the Airport LDZA, specifically conducted for the needs of the Winter Service Department, and in case of worsening weather conditions they send an Airport Alert.

Winter Service Department contact:

Phone: +385 98 238 501 (VPN 650)

Email: zimska@zag.aero

3. Equipment

For de-icing and snow removal on the manoeuvring areas of LDZA, the external subcontractor uses the following equipment owned by the Company:

- Friction coefficient vehicle SAAB SFH - 2 vehicles
- Snowplough (towing vehicle, plough and brush) Danline - 3 trucks
- Snowplough Bucher Schorling P 21 with the plough - 3 trucks
- Snowplough Overaasen RS 400 with the plough - 4 trucks
- Snowblower Fendt Kalbacher - 1 vehicle
- Snowblower Steyer Kalbacher - 1 vehicle
- Spreader Iveco Kupper Weisser - 1 truck
- Spreader Epoke - 1 truck.

Other surfaces on the airside and landside are serviced by the second subcontractor with their own equipment.

During the winter season, equipment is parked on the airside space, allocated for equipment of Winter Service Department.

Conditions on LDZA manoeuvring areas and aprons are monitored from the Winter Service Department operating office, using the 'Boschung Mecatronic Ice Early Warning System', which consists of three sensors built into the RWY and one sensor built into TWY "F", one sensor on TWY "MC" and one sensor on the Apron East with the corresponding external measuring stations.

"Nordway KF" liquid is used for de-icing of manoeuvring areas and aprons, roads, and parking lots on the airside, while road salt is used on the landside.

4. Priorities

The priorities for de-icing and snow removal on LDZA pavements are as follows:

- Runway
- Taxiways A, E, F, G, H, MC, D, C, B, R and T
- Taxilane W
- Apron parking positions
- Apron service roads
- Landside (roads, parking lots and sidewalks)

5. SNOWTAM

a. Reporting

The inspection of manoeuvring areas for the purpose of GRF reporting is carried out by the: Chief on Duty of the Winter Service Department, Deputy on Duty of the Winter Service Department, Airside Safety Controllers, and if necessary, by the Airport Duty Managers. After the inspection, a report in the form of an RCR, NOTAM or SNOWTAM is issued. An inspection of the condition of the RWY, including its contamination, is carried out for each third of the Runway distinctly. Reporting on the condition of the manoeuvring areas is carried out in Croatian language by the person in charge of the inspection. Croatian/English terms used, are described in the RCAM table which is in Appendix 1 to this Snow Plan and forms an integral part thereof.

b. Runway inspection with issuance of RCR

After inspecting the Runway (and immediately upon departing), the person who carried out the inspection (Chief on Duty of Winter Service Department, Deputy on Duty of Winter Service Department, Airside Safety Controllers of Airport Duty Managers), instantly reports to TWR Zagreb via radio station ground-to-ground (TETRA system) the condition of the Runway for every third (according to the Code - RWYCC and Condition Description).

If the last created report is (before conducting an inspection) 6/6/6 NR/NR/NR NR/NR/NR DRY/DRY/DRY and after a runway inspection there is no change in surface condition, then via radio station ground-to-ground (TETRA system) the person who conducted the inspection reports to TWR Zagreb the condition of the Runway. No new report is sent. However, if there is a change in surface condition, then the RCR report (Request for issuance of a SNOWTAM) is entered into Galiot by the person who carried out the inspection and the report is automatically sent by e-mail to:

- TWR addresses: twr.ldza@crocontrol.hr with mandatory confirmation on phone +385 1 6259 226 (Fax +385 1 6259 597), and aro.ldsp@crocontrol.hr
- Airport Duty Manager: koordinatori@zag.aero with mandatory confirmation on phone +385 1 4562 113 or mobile phone +385 98 238 505.

c. Runway inspection with issuance of SNOWTAM

After inspecting the Runway (and immediately upon departing), the person who carried out the inspection (Chief on Duty of Winter Service Department, Deputy on Duty of Winter Service Department, Airside Safety Controllers or Airport Duty Managers), instantly reports to TWR Zagreb via radio station ground-to-ground (TETRA system) the condition of the Runway for every third (according to the Code - RWYCC and Condition Description). If the Runway condition requires an issuance of a SNOWTAM, then:

The person who carried out the inspection enters the data in the Request for issuance of a SNOWTAM in Galiot, which is automatically delivered by e-mail to:

- TWR addresses: twr.ldza@crocontrol.hr with mandatory confirmation on phone +385 1 6259 226 (Fax +385 1 6259 597) and aro.ldsp@crocontrol.hr
- Airport Duty Manager: koordinatori@zag.aero with mandatory confirmation on phone +385 1 4562 113 or mobile phone +385 98 238 505.

As well as to:

- International NOTAM Office (NOF) at notam@crocontrol.hr with mandatory confirmation on phone +385 1 6259 314 or +385 1 6265 889 (Fax +385 1 2020 338).

d. Runway inspection with issuance of SNOWTAM and NOTAM

The procedure is equivalent to the procedure described in Article 5. SNOWTAM, part c), with the addition of issuing a NOTAM. In cases where the report states that the Runway is Slippery Wet, the Airport Duty Manager issues a request for a NOTAM to the International NOTAM Office.

Factors contributing to the Runway being Slippery Wet are: rubber deposits, unmaintained joint in asphalt, issues with texture etc.

This state is determined by: conducting of the Runway friction coefficient measurement (the program of the Runway friction trend monitoring gives an indication of whether it is slippery when wet), observation of airport staff, repetition of pilot reports, aircraft braking action analysis, etc.

The surface condition Slippery Wet (Slippery When Wet) is validated by the Construction Maintenance Department, through analysis of obtained information and continuous Runway friction trend monitoring. If it is determined that the surface condition is Slippery Wet, the Manager or Head of the Construction maintenance department will inform the Airport Duty Manager.

e. AIREP Reporting

In case a pilot considers that the condition of the Runway does not correspond to the assessed values, he will report it immediately to TWR Zagreb (AIREP), and TWR Zagreb will forward the information obtained to Airport Duty Manager (primarily by telephone or TETRA system).

Airport Duty Manager will pass on the obtained message to the Chief on Duty of Winter Service Department, Deputy on Duty of Winter Service Department or Airside Safety Controllers, and then the process described in Article 5. SNOWTAM, parts a), b), c), or d) repeats.

6. Snow Disposal

An arranged snow disposal area is located on the western part of the airport.

7. Notification - Alarming

Once a day, the Winter Service Department receives a local winter conditions forecast for LDZA area from Meteorological Service of CCL. Throughout the year, the Winter Service Department receives Airport Alerts on weather forecasted conditions that could affect air traffic safety.

Weather forecast and Airport Alerts are given to all persons in charge of de-icing and snow removal. Notification and alerts are conducted via telephone communication according to the chain of command, explained in detail in the Rulebook on inspection and maintenance of operational areas in winter conditions number: CC-MAI-RB-01-0.

8. Workforce

Cleaning of manoeuvring areas and aprons is organized in three shifts (H24), and in each shift there are:

- Chief on duty - 1
- Deputy on duty - 1
- Mechanic on duty - 1
- Driver - 33

Cleaning of aprons, roads and parking lots is organized in two shifts, and in each shift there are:

- Coordinator - 1
- Driver - 15

9. Work Technique

The Runway is cleaned with 10 snowploughs in "V" formation, spreaders and snowblowers are used as needed in one pass. Next, the Taxiways and Aprons are cleaned according to priorities. In case of heavy snowfall, a part of the equipment is transferred to cleaning of Taxiways and Aprons while the rest of available equipment cleans the Runway via two passes method, in a stepped formation.

Aprons are cleaned by gathering snow into piles on free surfaces, in coordination with the Traffic centre dispatcher of the Resource Allocation Department via telephone +385 1 4562 380 and then relocated to a designated area.

10. Closure of Manoeuvring Areas

When necessary, manoeuvring areas may be temporarily closed for traffic to carry out an inspection, assessment for braking conditions, de-icing and snow removal. In case of continuous heavy snowfall, for de-icing, snow removal and runway inspection, the team may need to be provided with a period of approximately 20 to 30 minutes. Such decisions must be closely coordinated between the Winter Service Department Chief on Duty, Airport Duty Manager and TWR Zagreb.

11. Criteria for Suspension of Operations on The Runway

The closure of the Runway should be considered when the Runway condition is RWYCC 1 or 0 according to the assessment of the Winter Service Department Chief on Duty, Winter Service Department Deputy on Duty or Airside Safety Controllers.

Appendix 1

| Runway condition assessment matrix (RCAM) | |
|---|--|
| RWYCC | Runway surface description |
| 6 | Dry |
| 5 | Frost |
| | Wet (≤ 3 mm) |
| | Slush (≤ 3 mm) |
| | Dry snow (≤ 3 mm) |
| | Wet snow (≤ 3 mm) |
| 4 | Specially prepared winter runway |
| | Compacted snow if -15 °C or lower outside temperature |
| 3 | Slippery wet |
| | Dry snow or wet snow (any depth) on top of compacted snow |
| | Dry snow (>3 mm) Or Wet snow (>3 mm) |
| | Compacted snow if -15 °C or higher outside air temperature |
| 2 | Standing water (>3 mm) |
| | Slush (>3 mm) |
| 1 | Ice |
| 0 | Wet ice |
| | Water on top of compacted snow |
| | Dry snow or wet snow on top of ice |

