



European and North
Atlantic Office

RS Go-Team/UKKK

REPORT ON RUNWAY SAFETY GO-TEAM VISIT TO KYIV/ZHULIANY INTERNATIONAL AIRPORT (UKKK), UKRAINE

(Kyiv, 2-4 July 2019)

1. Introduction

1.1 An ICAO EUR/NAT Runway Safety Go-Team Visit was carried out to the Kyiv/Zhuliany International Airport (UKKK) from 2 to 4 July 2019. It was launched in support of Safety Enhancement Initiative IE-REST/RSG/02, adopted by the third meeting of the ICAO European Regional Aviation Safety Group (RASG-EUR) and related to runway safety team guidance and implementation.

1.2 This Go-Team visit was conducted within the framework of the ICAO EUR/NAT technical assistance project 16003 “RUNWAY SAFETY (RS) GO-TEAM MISSIONS” and included the following RS Go-Team members:

- a) Mr. Arnaud Desjardin, ICAO EUR/NAT office
- b) Mr. Celso Figueiredo, ICAO EUR/NAT office
- c) Mr. Mohamed Iheb Hamdi, ICAO MID office
- d) Mr. Alexander Krastev, EUROCONTROL
- e) Mr. Stijn de Graaff, EUROCONTROL

2. Objectives of the mission

2.1 The main objective of the RS Go-Team visit was to provide assistance to the State Aviation Administration of Ukraine (SAAU) and the local Runway Safety Team (RST) for the Kyiv/Zhuliany International airport to:

- a) support the improvement of the national Runway Safety Program; and
- b) improve performance of the established RST.

2.2 The RS Go-Team visit consisted of a runway safety workshop on Day 1, a visit to Kyiv/Zhuliany (UKKK) airport on Day 2 and a RST meeting of UKKK airport on Day 3.

2.3 It is to be highlighted that this mission was not an audit or a comprehensive airport inspection.

3. Participation

3.1 The ICAO RS Go-team Visit to UKKK airport was attended and facilitated by a total of 55 participants including the Safety manager, the Safety inspector and the Technical director of UKKK airport, as well as experts from the SAAU, the National Bureau of Air Accidents Investigation (NBAAI) of Ukraine, Ukrainian State Air Traffic Services Enterprise (head office), ANSPs (KYIVCENTERAERO (Kyiv Regional Branch), Dnipro Regional Branch, Lviv Regional Branch, Odesa Regional Branch, Kharkiv Regional Branch), Ukraine International Airlines, Windrose Airlines, Safety manager of International Airport Boryspil, Safety inspector of International Airport Boryspil, Safety manager of International Odesa Airport, Aerodrome Service of International Odesa Airport, Safety manager of International Airport Lviv, Safety manager & inspector of LLC New systems AM (International Airport Kharkiv), and the Safety manager of International Airport Dnipro.

3.2 The participants and the RS Go-Team members shared knowledge and best practices in the area of runway safety management during the RS workshop, the visit to UKKK airport and the RST meeting.

4. General observations and recommendations

4.1 The RS Go-Team acknowledged the positive steps towards the establishment and the promotion of the national Runway Safety Programme and of Runway Safety Teams in Ukraine. It was particularly noted that the SAAU established instructional guidelines for aviation entities about the prevention of runway excursions. It was also noted that the SAAU is progressing well in certification of aerodromes, fosters Safety Management System (SMS) implementation by aerodrome operators and takes active participation in the conduct of the UKKK RST.

4.2 In order to further improve the situation, the RS Go-Team recommended the SAAU to:

- a) enhance guidance material for SMSs and RSTs, including qualification and training requirements for the involved personnel;
- b) ensure that a runway safety awareness module is included in the initial, recurrent, and refresher training of all airside operators;
- c) establish and implement Global Reporting Format (GRF) provisions within Ukraine national regulations;
- d) develop and ensure consistent implementation of safety management activities at the State level, including safety data collection and safety data analysis by qualified and trained subject matter experts; and
- e) further develop and implement risk mitigation measures at the State level (national birdstrike prevention committee, runway safety plans, etc).

4.3 The RS Go-Team welcomed the fact that the RST of Kyiv/Zhuliany airport was established in March 2017 and that 2 meetings per year are conducted since then, under the chairmanship of the Director General of Kyiv/Zhuliany airport with the active participation of air operators, ANSP, handling companies and the MET office. The RS Go-Team also positively noted the proper interface between the airport RST and airport's SMS and welcomed the fact that the UKKK aerodrome operator conducts runway safety awareness campaigns that focus on local issues.

4.4 In order to further improve the situation, the RS Go-Team recommended the UKKK aerodrome operator to:

- a) include emergency response service providers in RST meetings;
- b) use and monitor appropriate safety performance indicators (SPI), in particular for the assessment of the effectiveness of implemented mitigations measures. In order to do so:
 - i. choose SPIs which has non-zero numbers
 - ii. determine safety targets and safety trigger level(s)

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- iii. establish a procedure if the SPI does not meet the target
 - iv. establish a procedure for breaching safety triggers
 - c) ensure the continuous maintenance of the hazard registry using a data-driven approach with safety data collection and processing system documenting operational hazards at UKKK;
 - d) ensure that all RST members contribute to the formal safety data collection and processing system by sharing identified operational hazards;
 - e) develop and implement a centralized safety event database for the RST;
 - f) establish a formalized process to determine the level of risk the RST is willing to accept;
 - g) develop risk mitigation strategies to control the level of risk, and measure their effectiveness; and
 - h) ensure that RST uses data coming from the SMS of the service providers involved.

5. Site visit observations and recommendations

5.1 The RS Go-Team had a visit to the Aerodrome Control Tower (AC TWR) and the airside movement area, connecting taxiways and apron of UKKK aerodrome.

5.2 In the area of air traffic management (ATM) operations, the RS Go-Team noted a number of good practices, including:

- a) no Single Person Operation (SPO) in the AC TWR (H24 operation of GND and TWR working positions);
- b) one air traffic controller (TWR ATCO) providing air traffic services (ATS) to the same standard (incl. R/T phraseology) to both military and civil flights;
- c) availability of “Occupied RWY by vehicle” memory aid at TWR ATCO working position;
- d) conditional ATC clearances to line up on RWY08 not used due to the angle between the RWY and TWY1;
- e) enhancement of the apron and RWY 26 threshold area visibility from the TWR by means of video cameras.

5.3 In order to further improve the situation in the area of ATM, the RS Go-Team recommended to:

- a) develop and publish RNAV (GNSS) approach procedures for arrival to runways RWY08 and RWY26 for use in case of ILS unavailability;
- b) include in the AIP information regarding the ILS critical and sensitive areas, as well as criteria and description of visibility/RVR values for the preparation, commencement and termination of Low Visibility Procedures (LVP) phases;
- c) develop a safety assessment for All Weather Operations (AWO), which covers aerodrome management, aircraft operations, ATC and apron management, aerodrome vehicle operations, AIS and MET service provision;
- d) post and revise as necessary detailed grid map(s) of the airport and its immediate vicinity in the control tower, fire station, rescue and fire fighting vehicles and all other supporting vehicles responding to an emergency for easy access/consultation (ref. ICAO Doc 9137, part 7, chapter 7);

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- e) implement “runway occupied” memory aid at the GND ATCO working position (e.g. similar to or same as the one available at the TWR working position) to ensure correct ATCO situational awareness;
 - f) consider separate means (e.g. paper or electronic flight process strips) to support GND/TWR ATCO awareness of the ATC clearances, ATC instructions and coordination data issued to aircraft and other ATC units (i.e. approach control), on the movement area and of runway occupancy by aircraft in accordance with issued clearances to line up, take-off or land (ref. Doc 4444, para 4.13.3);
 - g) modify, as necessary, the ATC procedure for delivery of departure clearance to ensure it is communicated to the flight crew before the taxi phase to avoid interference with sterile cockpit procedures and reduce pilot workload during the taxi phase;
 - h) ensure that the RWY protected area is identified, a map produced and that operational staff with access to the manoeuvring area is familiarised with it;
 - i) use the same frequency for air-ground communication with aircraft and vehicles or, as minimum ensure that drivers of vehicles (including firefighter vehicles) on the manoeuvring area monitor the TWR frequency;
 - j) plan for training of vehicle drivers with access to the RWY for use of the minimum needed standard phraseology in English language;
 - k) in view of the rapid increase of number of movements over the last two years and expected further growth, develop written guidance material for TWR controllers, including:
 - i. VFR approach and departure routings for the most commonly used VFR flight routes/destinations in order to ensure as far as feasible conflict-free VFR and IFR flight trajectories;
 - ii. minimum spacing (time and/or distance based) between a departing aircraft cleared to line up and backtrack for take-off on RWY26 and an aircraft approaching to land on RWY26. The guidance should be provided for the scenarios involving the most common aircraft types operating on aerodrome (e.g. jet, propeller, GA aircraft);
 - l) ensure that runway safety awareness module is included in the initial, recurrent, and refresher training of ATCOs.

5.4 In the area of Aerodromes Ground Aids (AGA) and Airside operations, the RS Go-Team noted the good level of adherence to ICAO provisions and a good level of implication of the RST in:

- a) airport works (planned and ongoing);
- b) aerodrome signage, markings and lights;
- c) low visibility operations;
- d) FOD management;
- e) wildlife management;
- f) communications;
- g) local procedures, practices and publications that relate to runway operations or runway safety.

5.5 In order to further improve the situation in AGA and Airside operations, the RS Go-Team recommended to:

- a) consider including RFF Service as an active member during LRST meetings;
- b) maintain the RFF access road to the runway in order to facilitate the movement of vehicles and avoid any potential damage;
- c) consider any potential safety benefits of carrying out runway inspections in the opposite direction to runway movements;
- d) establish and implement a robust program to maintain the runway surface friction characteristics by removal of contaminants;
- e) establish and implement robust procedures for communicating safety information regarding aerodrome/surface conditions by implementing the GRF for assessing and reporting runway surface conditions as set out in the amendment to ICAO Annex 14 Vol I (applicable in Nov. 2020) and ensure staff are appropriately trained on its use;
- f) ensure that all Visual Aids are implemented in accordance with ICAO SARPs/National Regulation of Ukraine;
- g) ensure that all Visual Aids are clearly visible, adequate and unambiguous in all relevant conditions;
- h) consider reinforcing the current marking for the closed taxiways by RED lights in order to enhance safety during all weather conditions;
- i) eliminate any object which can be a potential obstacle or attract wildlife within the movement area, including the aircraft wreckage placed on the closed TWY3; and
- j) consider implementing available technologies such STOP BAR when it is intended that the runway will be used in RVR conditions between 350 m and 550 m.

6. RST meeting

6.1 The RS Go-Team participated in a UKKK RST meeting on 4 July 2019. The meeting was devoted to hazard identification, risk assessment and mitigation for runway excursions (RE).

6.2 The RS Go-Team noted that the meeting had a good representation of RST members. The overall atmosphere at the meeting was positive, facilitating open discussions and desire to find compromised solutions focused on safety improvements.

6.3 In order to further improve performance of the RST, the RS Go-Team concluded to the following recommendations:

- a) provide a RST meeting agenda that includes the review of the status of the action items of the previous RST meeting, any new hazards or events identified within the SMS of the RST members, and an action log to document findings and the action plan (refer to ICAO RST Handbook, Appendix B).
- b) facilitate broader participation of airlines (including foreign ones operating to the airport);
- c) implement a more data driven approach, based on constant utilization of data coming from the SMSs of participating organizations;
- d) in addition to the aerodrome focus, facilitate more discussions on issues affecting runway safety requiring interaction or directly dependent on ATC, air operators, etc.;
- e) evaluate the effectiveness of risk mitigation measures;
- f) develop runway safety performance indicators (SPIs) and monitor the effectiveness of mitigation measures being implemented through SPIs; and
- g) issue promotional material sharing outcomes and success stories of the RST.

7. Disclaimer

7.1 It should be noted that all recommendations given in the report represent the expert view of relevant experts of the RS Go-Team. Before implementing the above recommendations, UKKK RST and SAAU should perform relevant risk assessment, cost-benefit analysis and ensure that proposed changes will not affect the safety of operations in other areas.

7.2 The RS Go-Team is not imposing any solutions and does not imply that all recommendations should be implemented as stated.

7.3 ICAO or other organisations whose experts participated in the RS Go-Team will bear no responsibility for any actions taken by UKKK RST, and SAAU in the implementation of the above recommendations.

8. Agreed outcomes and follow-up actions

8.1 A closing meeting was held with RS Go-team members and the participants on 4 July 2019, during which a debriefing of the visit as well as the observations and recommendations mentioned in paragraphs 4, 5 and 6 above were provided.

8.2 During the closing meeting, the following actions were agreed as a follow-up to the RS Go-Team:

- a) SAAU and UKKK RST will review the provided recommendations and develop an implementation plan based on the assessments of steps to be made;
- b) Major outcomes of the RS Go-Team visit and example of RST implementation in Kyiv/Zhuliany International Airport will be shared with other airports to facilitate establishment of RSTs or improve performance of existing ones;
- c) SAAU will review the need and request, if found necessary, ICAO RS Go-team visits to other airports in the Ukraine; and
- d) SAAU and UKKK RST will review the need of the follow-up RS Go-Team visit in 2020-2021.

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