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OPTIMIZATION OF THE DISSEMINATION OF AIR TRAFFIC INFORMATION AT LVIV AERODROME

At Lviv aerodrome Air Traffic Services Reporting Office (ARO) combined with Aerodrome Control Tower (ACT) provides operators with aeronautical information. Procedures of receiving, processing and sending air traffic information are performed on automated workplace ARO.

Departure and landing telegrams about air traffic, departure and landing telegrams about visual flights and telegrams about landing at alternate aerodrome Lviv are sent from automated workplace ACT. But ACT controller is constantly compelled to establish the internal communication with ARO controller for requesting a correction of the sent air traffic information in cases of errors and for monitoring received responses from Integrated Initial Flight Plan Processing System (IFPS) [1, 2].

Block diagrams, structural-hourly tables, network graphs and critical time of the dissemination of air traffic information have been obtained. The determined models of ACT and ARO controller's activity for the existing procedure of the dissemination of air traffic information and when ACT controller is responsible only for the preparation of telegrams have been built. In the second case ARO controller checks telegram's accuracy, distributes its to recipients and receives responses from IFPS.

If ARO controller will disseminate the air traffic information, ACT controller will spend on preparation and sending one departure or landing telegram almost in eight times less: 29 seconds instead of 225 seconds. In addition, ACT controller will not need to wait for over 3 minutes message from ARO controller about satisfactory or unsatisfactory result of telegram's sending.

The reduction of ACT controller's work time with telegrams and occurrence of an opportunity to serve more aircrafts will also lead to economic benefit. Currently ACT controller during one hour of work shift serves up to 16 aircrafts, by changing procedure of the dissemination of air traffic information he can serve in 1,25 times more - 20 aircrafts. Accordingly, in 1,25 times increase over UkSATSE revenue for air navigation services at Lviv aerodrome: from 36277,68 € to 45347,1 € per six-hour work shift.

Transfer functions of the dissemination of air traffic information to ARO controller will increase the time ACT controller for performing tasks of air traffic controlling that will improve flight safety in the air traffic services system.

References

1. IFPS Users Manual. – Edition №13.0. – EUROCONTROL, Belgium, Brussels, 2009. – 508 p.

2. CFMU Operational Problem Reporting. – Edition № 3.0. – EUROCONTROL, Belgium, Brussels, 2009. – 20 p.

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