

## **USER MANUAL**

### **System for completing and sending flight plans via Internet by using Web interface**



Content:

1. Functional description of the system .....	3
2. Hardware and software requirements for software operation. ....	3
3. General description of the ‘BulATSA FlightPlanner’ application interface.....	3
4. Workflow .....	5
4.1. User identification .....	5
4.2. Creating a new flight plan.....	5
4.3. Editing a flight plan.....	5
4.4. Sending a flight plan .....	6
4.5. Semantic verification of the flight plan. ....	6
4.6. Indication for an incorrect flight plan.....	6
4.7. Distribution and processing of a correct flight plan.....	7
4.8. Canceling a flight plan. ....	7
4.9. Working with templates .....	8
5. Using the route editor - Map tool.....	8
Annex I. ....	10
Annex II. ....	11



Certified EN ISO 9001:2008 Nr Q110203



Certified EN 15038:2006-08 Nr ON-S 2008 020



## 1. Functional description of the system

The system enables an authorized user to fill in and send flight plans, to verify whether these are correct and to receive feedback about the stages of flight plan processing. The process of flight plan completion takes place through an Internet-based application that runs through a Web-browser supporting Java. The flight data completion form is designed so as to resemble to a maximum extent the process of work with a flight plan form in the hard copy. The application establishes asynchronous communication with the server modules and presents immediately the results of the system operation. The user is able to create and process several (up to four) flight plans simultaneously. Up to seven templates are supported so that the users can compose, store and delete them in their personal profile. All user data is stored in a data-base on the server and can be used by the user irrespective of the time and place.

## 2. Hardware and software requirements for software operation.

The ‘BulATSA FlightPlanner’ application can be put to work on every PC nowadays and there are no specific requirements to its parameters. It is necessary to have a Web-browser (Mozilla Firefox is recommended) and install a Java ‘Plug-in’, available freely on the page [www.java.com](http://www.java.com). The operating system of the personal computer may be MS Windows, Mac OS X, Linux or another one supporting Java browser technology.

## 3. General description of the ‘BulATSA FlightPlanner’ application interface

The figure below shows a sample view of the application. The current processed flight plans are located in the upper part in the form of “tabs”. The tab “+” is located to the right of the tabs and is used to create a new flight plan. The flight plan to be completed is located in the central part of the form. Vertically to the right, there is a button for sending the completed flight plan, a button to cancel the flight plan (CNL), a status field for the sent plan, a plan deletion button, a button to save the data as a template, as well as icons that represent visually the templates saved by the user, along with buttons to delete them. There is an icon in the upper right corner, which changes its color depending on whether there is a connection with the Internet and the server.



Certified EN ISO 9001:2008 Nr Q110203



Certified EN 15038:2006-08 Nr ON-S 2008 020

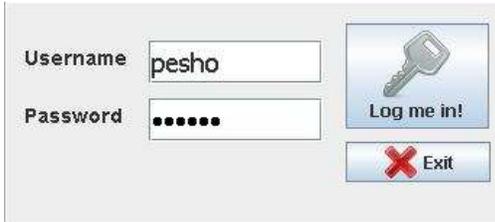




## 4. Workflow

### 4.1. User identification

A window pops up after the successful connection to the server, where the user enters one's username and password. After successfully logging in, the profile of the user opens loading the current flight plans and templates.



A login window with two input fields: 'Username' containing 'pesho' and 'Password' with six dots. To the right are two buttons: 'Log me in!' with a key icon and 'Exit' with a red 'X' icon.

### 4.2. Creating a new flight plan.

If there is no active flight plan upon launching the application, a new empty one is created automatically. The details in a template shall be filled in the respective fields of the form by clicking on the icon of any of the templates. Clicking on the tab of the current plan will update its title in the format **AircraftID ADEP->ADES** and the details are saved on the server. If the status of a flight plan is changed, its icon (to the left of the title) is changed (see it. 4.7) too, irrespective whether the plan is the one currently displayed. Another new plan (up to four plans)

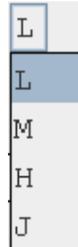


may be created by clicking on the tab:



### 4.3. Editing a flight plan.

Flight details shall be filled in each of the fields. Each field verifies the entered details and precludes invalid symbols. The fields '**FLIGHT RULES**', '**TYPE OF FLIGHT**' and '**WAKE TURBULENCE CAT**' can be changed by entering a symbol by the keyboard or by selecting it from a dropdown menu with the mouse:



A symbol that has already been entered can be deleted with the 'Backspace' key. When all symbols in a field are filled in, the input focus is automatically transferred to the next field. The navigation between the fields is performed with the mouse or with the 'Tab' key.

#### 4.4. Sending a flight plan

A flight plan can be sent by pressing the **'Send'** button.



The off-block time for an already acknowledged flight plan can be changed, but only if the new time is at least 30 min later than the previously planned time. The change to an earlier off-block time shall take place only by means of canceling the flight plan and completing and sending a new flight plan.

#### 4.5. Semantic verification of the flight plan.

Once it has been sent, the flight plan shall be verified by the server based on the following criteria:

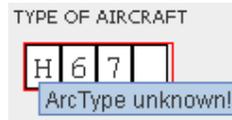
- The Aircraft Identification field shall not be shorter than four symbols; if the field contains *CallSign*, then field 18 (Other information) shall include value **'REG/xxxx'**. (During the test period the field **REG/** is obligatory).
- The Aircraft Type field shall not be shorter than 2 symbols and shall be present in the database for registered types (Doc 8643 "Aircraft Type Designators"). If the field is completed with **'ZZZZ'**, it is necessary to add **'TYP/xxxxx'** in field 18 for aircraft types that are not registered in the database.
- The fields Departure Aerodrome, Destination Aerodrome, ALTN Aerodrome and 2<sup>nd</sup> ALTN Aerodrome need to be registered in the data base with certified airports and airfields (Doc 7910 "Location Indicators"). If **'ZZZZ'** is entered in the fields, then it is necessary to enter **'DEP/xxxxx'**, **'DEST/xxxxx'**, **'ALTN/xxxxx xxxx'** respectively in field 18.
- Field UTC Time/EOBT shall be verified for valid numeric value for time.
- Field Level shall not be shorter than three symbols. (See Annex I)
- Field Speed shall not be shorter than four symbols. (See Annex I)
- Field DOF/ shall contain a valid date in the YYMMDD format, which shall not be expired.

#### 4.6. Indication for an incorrect flight plan.

If there is an incorrect field in the sent flight plan, the symbol *Incorrect* appears in the status field:



The respective field (fields) are then outlined in red and a reminder message appears when the mouse cursor points at them. The first incorrect field shall be activated for editing. The 'Send'  button shall be deactivated until corrections are made.



#### 4.7. Distribution and processing of a correct flight plan.

The sent flight plan shall be subject to verifications for semantic correctness by the server. During the verification, for a short period of time, the symbol *Processing...* appears onscreen:



If these verifications are successfully completed, the plan is adopted for processing and distribution. The symbol *Waiting...* appears in the status field:



If there is a communication failure, the symbol *Failed* appears onscreen:



Upon the receipt of a plan by the systems for processing and distribution of flight details at BULATSA, the request might receive the following replies:



- MAN message – the plan has been accepted for manual processing.



- ACK message – the plan has been acknowledged and activated.



- REJ message – the flight plan has been rejected.



- A message from the operator in a free text format.

As for the last two messages, if the symbol in the status field is pointed by the mouse, the text of the message appears onscreen.

#### 4.8. Canceling a flight plan.

After the acknowledgement of a flight plan, it may be cancelled by a click on the button 'Cancel'.



The cancellation of a flight plan is also subject to acknowledgement from the system for flight plan processing and distribution.

## 4.9. Working with templates

At any time, the flight plan currently edited may be saved for future use as a template. Press the button 'Save as' to do that.



A dialogue box appears where the user enters the name of the template:



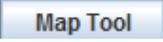
If the name coincides with that of an existing template, it is updated with the new data.

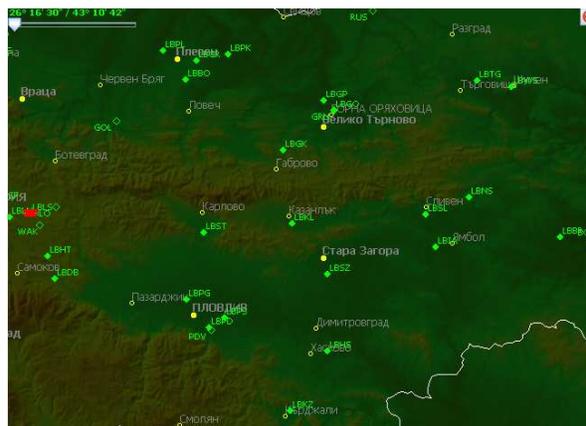
The saved template appears as an icon in the right field of the form and the fields *ArcID*, *ADEP* and *ADES* appear in the icon. When the icon of the template is pointed by the mouse cursor, a tooltip with the name of the template appears onscreen.



Press the icon of a saved template and the template data will be filled in the fields of the currently edited flight plan. The time fields shall not be completed. A template can be deleted by pressing the red button  to its right.

## 5. Using the route editor - Map tool

The graphic **Map Tool** is available to facilitate routes entry. This is a Java application using the map of Bulgaria to show navigation points and airports, displayed in ICAO format. It is easy and intuitive to use. The button  is above field 15. Press this and a window similar to the one below will pop out:



The map can be dragged and panned with the left button of the mouse, while the scale can be changed from the slider in the upper left corner. The scale of the map can also be changed with the "scroller" of the mouse and this can be done while simultaneously performing other



Certified EN ISO 9001:2008 Nr Q110203



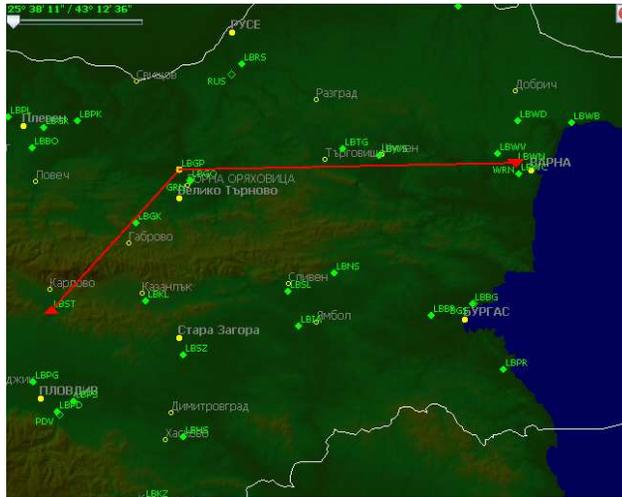
Certified EN 15038:2006-08 Nr ON-S 2008 020



actions. The towns and villages displayed change along with the scale depending on how big they are.

When the cursor is moving on the map, the geographic coordinates of current position appear above the slider.

After launching the the Map Tool, the symbols for departure ▼ and landing ▲ represent the details entered in the fields *DEPARTURE AERODROME* and *DESTINATION AERODROME*. If there are no details entered, the place of departure is marked by a click with left button of the mouse. The next point along the route shall be marked by a click with the left button of the mouse. The route is displayed as a thick red line, and a double click marks the place of landing with the respective symbol. A route line can be changed with the left button of the mouse, whereas the line “bends” and the new point can be placed at the desirable position. Each point along the route as well as the departure and landing sites can be dragged and moved with the left button of the mouse.



An existing point along the route can be deleted by pointing at it (its color then becomes brighter) and double clicking on the point.

Upon closing the route editor with the button , the entered route is displayed in fields 13, 15 and 16 of the flight plan.

## ***Annex I.***

Flight plan completion rules.

A flight plan is completed pursuant to Annex № with Art. 53, 57, 150, 957 of INSTRUCTION № 4444 dated 14.06.2007 for air traffic management, issued by the Minister of Transport, promulg. SG is. 58 of 17.07.2007, effective 18.11.2007.

The latest and updated copies of regulatory documents are published by the Directorate General Civil Aviation Administration (DG CAA) - [http://www.caa.bg/upload/docs/1\\_INSTRUK4444.pdf](http://www.caa.bg/upload/docs/1_INSTRUK4444.pdf).



Certified EN ISO 9001:2008 Nr Q110203



Certified EN 15038:2006-08 Nr ON-S 2008 020



## ***Annex II.***

### Abbreviations

Arc ID	Aircraft Identification
FPL	Flight Plan
ADEP	Departure Aerodrome
ADES	Destination Aerodrome
WKTRC	Wake Turbulence Category
UTC	Universal Time Coordinated
ALTN	Alternative (Destination Aerodrome)
TEET	Total Estimated Elapsed Time
MAN	Manual
ACK	Acknowledged
REJ	Rejected
DOF	Date Of Flight
EOBT	Estimated Off Block Time
EOBD	Estimated Off Block Date
REG	Registration
OPR	Operator
RMK	Remark
AC	Aircraft
VFR	Visual Flight Rules
ATS	Air Traffic Services

