International Civil Aviation Organization

SIP/2012/ASBU/Dakar-WP/32B

Hands-on Exercises Performance Based Planning and use of IFSET

Workshop on preparations for ANConf/12 − ASBU methodology
(Dakar, 16-20 July 2012)

Step 1 – Introduction

- **Names/Infrastructure**
  - Indicate name of your State
  - List names of participants from the State
  - Provide a brief introduction to current air navigation infrastructure of your State

Step 2 – ASBU Block 0 Modules

- **Review 18 Modules of ASBU Block 0**
  - Evaluate and determine the Modules and corresponding PIAs that are applicable to your State
  - For guidance, refer to documents on details of ASBU Modules or all Module PPTs

Step 3 – ANRF

- Study Air Navigation Report Form (ANRF) template available in WP28A
- Using WP28 A, Develop (fill-up) three ANRFs for any Block 0 Modules that you selected for your State in step 2
- For guidance, refer to Air Navigation Report form: how to use - explanatory notes

Step 4 – Metrics

- **Performance Metrics**: Identify the relevant metrics that are suitable for monitoring the implementation status of those 3 ASBU Modules selected in step 3
- For guidance on metrics refer to WP 5 and WP28A

Step 5 – Download IFSET

- Go to : http://www.icao.int/environmental-protection/Pages/Tools.aspx
- Scroll to the bottom and download the iFSET

ICAO Fuel Savings Estimation Tool

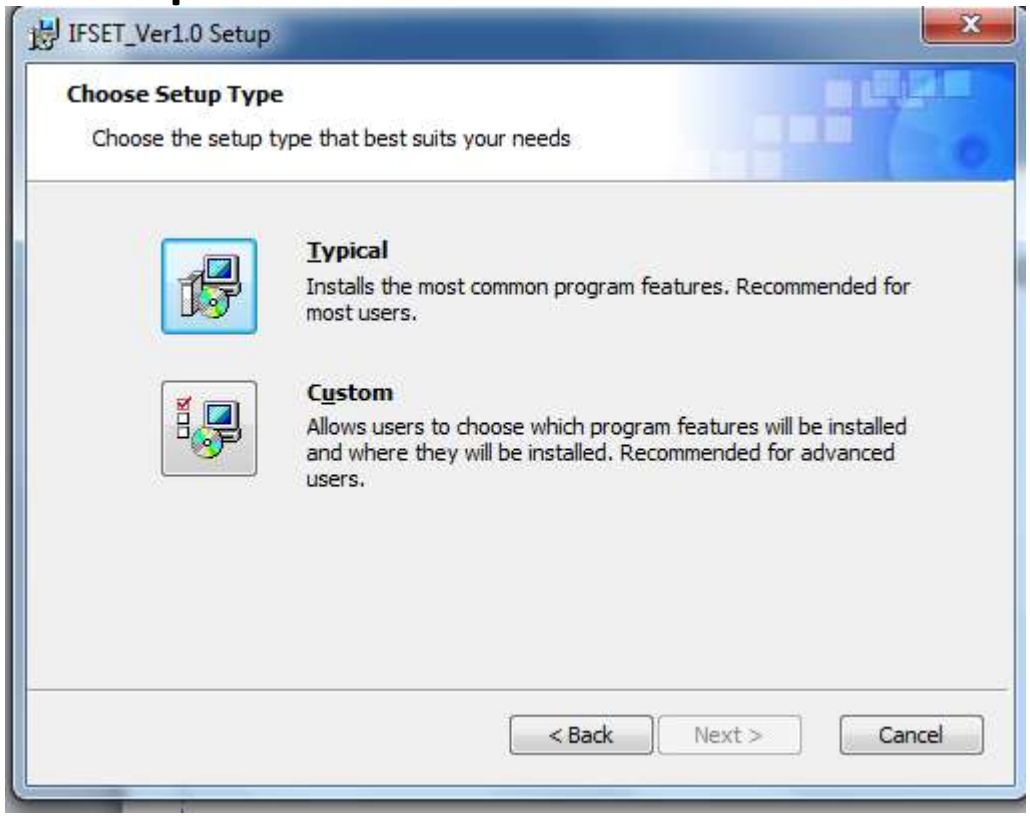
Operational measures are one of the instruments available to States to improve fuel efficiency and reduce CO2 emissions. The ICAO Fuel Savings Estimation Tool (IFSET) has been developed by the Secretariat with support from States and international organizations to assist the States to estimate fuel savings in a manner consistent with the models approved by CAEP and aligned with the Global Air Navigation Plan.

The ICAO Fuel Savings Estimation Tool (IFSET) is not intended to replace the use of detailed measurement or modelling of fuel savings, where those capabilities exist. Rather, it is provided to assist those States without such facilities to estimate the benefits from operational improvements in a harmonized way.

Access the files here: IFSET (requires Microsoft Windows XP or newer) and the IFSET User Guide.

Step 6 – Download IFSET (cont.)

- Un-zip the file and run the installation, choose the ‘typical’ option.



Step 7 – Run IFSET

- Locate the IFSET and run the application for three operational improvements: CCO,CDO and PBN route.(Defined in next slide)
- For each operational improvement do the following in IFSET
  - Create an operations definition
  - Describe the old procedure
  - Describe the new procedure
  - View the fuel estimation report and export to your folder
- Indicate fuel savings and corresponding CO_2 reduction for the above 3 Operational Improvements

Step 7 – Run IFSET(Cont.)

Operations 1

- Airport AAAA (ADEL 1000FT) is known by the restrictions to departures due to conflicting routes that impose restrictions to a continuous climb operation.
- At this airport, B737-800 is the dominant aircraft type with 400 **operations** daily, but E-195 also operates at a rate of 50 daily operations. CL60 operates at 30 movements daily and C560 at a rate of 20 movements a day. The other operations of small aircraft are not representative. All aircraft will benefit of the new departure procedure.
- The only SID in use is described as: From 1000FT, climb to 7000FT and maintain this altitude for 5NM. After that climb to 14000FT and maintain this altitude for 5 more miles, when the climb is unrestricted to the cruising flight level.
- The new envisaged procedure will allow the aircraft to climb from 1000FT to the cruising flight level without restrictions.

Step 7 – Run IFSET (Cont.)

Operations 2

- Airport BBBB (ADEL 3000FT) is known by the restrictions to approaches due to obstacles that impose restrictions to a continuous descend operation.
- At this airport, B767 is the dominant aircraft type with 100 **operations** daily, but A340 also operates at a rate of 40 daily operations. A380 and A330 operate at 10 movements daily each. The rest of the operations are composed by B737-800 at a rate of 80 movements a day. The other operations of small aircraft are not representative. All aircraft will benefit of the new approach procedure.
- To feed the runway dedicated to approach the single approach procedure is described as: **After levelling for 10NM**, descend from 10000FT to 7000FT, level for 5NM then descend from 7000FT to 3000FT.
- The new envisaged procedure will allow the aircraft to descend continuously from 10000FT to 3000FT after the 15NM levelling at 10000FT.

Step 7 – Run IFSET (Cont.)

Operations 3

- The conventional route linking cities A and B has 338NM of extension. After restructuring the airspace through the implementation of RNAV routes between the two cities, the new route will be reduced to 288NM.
- At this route, B737-800 at a rate of 80 operations daily is the dominant aircraft, but E-195 also operates at a rate of 70 daily operations, B767 has 60 operations daily, A340 also operates at a rate of 30 daily operations. A330 operates at a rate of 20 daily movements. Small business jets, of different types respond for 15 operations on a daily basis and only 10 are RNAV approved. The other operations are not representative.
- Except for the regional jets, which have as optimum flight level 31000FT, the other aircraft types all compete for FL350.

Step 8 – GIS Status, an example

- Calculate the percentage of airports for which CCOs and CDOs are implemented currently
- On the GIS map (next slide) click on your State and change the color as follows
  - 0-50% Red
  - 50-75% Orange
  - 75-100% Green

Step 9 – GIS – CCO/CDO Current Status

Step 10 – Remarks

- Your suggestions to improve the contents of ASBUs and the workshop are welcome.

ASBU BLOCK 0 MODULES AND CORRESPONDING BENEFITS

ASBU BLOCK 0 MODULES and BENEFITS

Modules of ASBU Block 0	Access	Capacity	Efficiency	Environment	Safety
B0-65/PIA-1	●	●	●	●	●
B0-70/PIA-1		●			
B0-75/PIA-1	●	●	●	●	●
B0-80/PIA-1		●	●	●	
B0-15/PIA-1		●	●		
B0-25/PIA-2		●	●		●
B0-30/PIA-2				●	●
B0-105/PIA-2		●	●	●	●

The eleven KPAs/Benefits are shown in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, five have been selected for reporting, which are Access /Equity, Capacity, Efficiency, Environment and Safety.

ASBU BLOCK 0 MODULES and BENEFITS

Modules of ASBU Block 0	Access	Capacity	Efficiency	Environment	Safety
B0-10/PIA-3	●		●	●	
B0-35/PIA-3	●	●	●	●	●
B0-84/PIA-3		●			●
B0-86/PIA-3		●	●	●	●
B0-85/PIA-3			●		●
B0-102/PIA-3					●
B0-101/PIA-3			●		●
B0-05/PIA-4			●	●	●
B0-20/PIA-4			●	●	●
B0-40/PIA-4		●	●		●

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