SIP/2012/ASBU/Dakar-WP/16D

Aviation System Block Upgrades
Module N° B0-80/PIA-1

Improved Airport Operations through Airport-CDM

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

Module N° B0-80

Summary	Implement collaborative applications that will allow the sharing of surface operations data among the different stakeholders on the airport.
Main Performance Impact	KPA-02 capacity; KPA-04 – Efficiency; KPA-05 – Environment
Operating Environment/Phases of Flight	Aerodrome, Terminal
Applicability Considerations	Local for equipped/capable fleets & already established airport surface infrastructure.
Global Concept Component(s)	AO – Airport Operations IM – Information Management
Global Plan Initiatives (GPI)	- GPI-8 Collaborative airspace design and management -GPI-18 Aeronautical information - GPI-22 Communication infrastructure
Pre-Requisites	NIL

Global Readiness Checklist		Status
	Standards Readiness	Est. 2013
	Avionics Availability	Ready
	Ground System Availability	Est. 2013
	Procedures Available	Est. 2013
	Operations Approvals	Est. 2013

Module N° B0-80 - Baseline

- The baseline will be operations without airport collaboration tools and operations.

- **The following baseline elements are not included in the Module but mapped to this Module**

  - **Aerodrome certification**

  - **Aerodrome emergency planning**

  - **Airport planning**

  - **Heliport operations**

  - **Data link applications (such as D-VOLMET, D-ATIS, D-FIS)**

- A-CDM

  - Is a set of improved processes supported by the interconnection of various airport stakeholders' information systems.

  - A-CDM can be a relatively simple, low cost programme.

  - Makes airspace users, ATC and airport operations better aware of their respective situation and actions on a given flight

Capacity	-Enhanced use of existing infrastructure of gate and stands (unlock latent capacity)
	- Reduced workload, better organisation of the activities to manage flights
Efficiency	-Increased efficiency of the ATM system for all stakeholders.
	- For aircraft operators: improved situational awareness (aircraft status both home and away), enhanced fleet predictability & punctuality, improved operational efficiency (fleet management) & reduced delay; Reduced taxi time; Reduced Fuel burn; Lower aircraft engine run time
Environment	- Reduced Carbon Emissions
CBA	The business case has proven to be positive due to the benefits that flights and the other airport operational stakeholders can obtain.

Module N° B0-80 – Necessary Procedures (Air & Ground)

- The existing procedures need to be adapted to the collaborative environment in order to provide full benefits.

- These changes will affect the way the pilot, controller, airlines operations and ATFM unit will exchange information and manage the departing queue.

- **Avionics**
  - No airborne equipment is required.

- **Ground Systems**
  - CDM does not require specific new functionalities.
  - The difficulty is more to interconnect ground systems depending on the systems in place locally, but experience proves that industrial solutions/support exist. Where available, shared surveillance information may enhance operations.

- Training in the operational standards and procedures are required for this module

- Likewise, the qualifications requirements are identified in the regulatory requirements in Section 6 which form an integral part to the implementation of this module

- Regulatory/Standardization: Updates required to the following current published criteria:

  - ICAO Doc 4444, *Procedures for Air Navigation Services — Air Traffic Management;*

  - ICAO CDM Manual.

- Approval Plans: Updates are required

Module N° B0-80 – Reference Documents

- **Standards**
  - ICAO CDM Manual (being finalised)
  - European Union, OJEU 2010/C 168/04: Community Specification ETSI EN 303 212 v.1.1.1: European Standard (Telecommunications series) Airport Collaborative Decision Making (A-CDM)
  - EUROCAE ED-141: Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems
  - EUROCAE ED-145: Airport-CDM Interface Specification
  - ICAO CDM Manual (being finalised)
  - European Union, OJEU 2010/C 168/04: Community Specification ETSI EN 303 212 v.1.1.1: European Standard (Telecommunications series) Airport Collaborative Decision Making (A-CDM)
  - EUROCAE ED-141: Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems
  - EUROCAE ED-145: Airport-CDM Interface Specification

- **Procedures**
  - TBD

- **Guidance Material**
  - EUROCONTROL A-CDM Programme documentation, including an A-CDM Implementation Manual
  - FAA NextGen Implementation Plan 2011

Module N° B0-80 Implementation - Benefits and elements

Improved Airport Operations through Airport-CDM

Benefits - Main Key Performance Areas (KPA)					
KPAs	Access	Capacity	Efficiency	Environment	Safety
Applicable	N	Y	Y	Y	N

Elements:

Aerodrome certification, Aerodrome emergency planning, Airport planning, Heliport operations, Data link applications (such as D-VOLMET, D-ATIS, D-FIS) (Not included in the Module)

Airport –CDM such as CDQM supported by Interconnection of various partners' information systems To be reflected in ANRF