



International Civil Aviation Organization

**The First Meeting of the APANPIRG ATM Sub-Group  
(ATM /SG/1)**

Bangkok, Thailand, 20 – 24 May 2013

**Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)**

**GLOBAL OPERATIONAL DATA LINK DOCUMENT (GOLD)**

(Presented by the Secretariat)

**SUMMARY**

This paper presents GOLD Edition 2.0 for review and consideration by the meeting.

This paper relates to –

**Strategic Objectives:**

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

**Global Plan Initiatives:**

- GPI-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-3 Harmonization of level systems
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-10 Terminal area design and management
- GPI-11 RNP and RNAV SIDs and STARs
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-13 Aerodrome design and management
- GPI-14 Runway operations
- GPI-15 Match IMC and VMC operating capacity
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-18 Aeronautical information
- GPI-19 Meteorological Systems
- GPI-20 WGS-84
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure
- GPI-23 Aeronautical radio spectrum

## **1. Introduction**

1.1 The GOLD ad-hoc working group was established by the ICAO NAT and APAC Regions in order to consolidate and harmonise the regional data link guidance documents.

1.2 The 1<sup>st</sup> Edition of the GOLD was issued in 2010 and approved for application by the NAT and APAC Regions. Since then, FOM used in the APAC Region was replaced with GOLD. Later on the GOLD was accepted by the CAR, SAM, AFI and parts of the EUR Region where FANS 1/A is used. The EANPG COG in 2011 assigned a task to the GOLD ad-hoc working group to incorporate the Link 2000+ operational guidance material into the GOLD Edition 2.0 as an effort towards global convergence and harmonisation of data link operations.

## **2. Discussion**

2.1 Since publication of Edition 1.0, the GOLD ad-hoc working group's activities included the following in line with the APANPIRG, NAT SPG and EANPG directives:

- a) Soliciting proposals for amendments to the GOLD among participating regions and airspace users;
- b) Coordinating proposed amendments across the Regions;
- c) Providing interpretation and further clarification to GOLD guidelines, as necessary;
- d) Facilitating implementation of standardized data link operations, post-implementation monitoring, and corrective actions; and
- e) Incorporation of the Link2000+ operational guidance material.

It was recalled that since then the following milestones of the GOLD work programme were completed:

- a) 10-14 October 2011 – GOLD/4 in Paris, France
- b) 21 October 2011 – GOLD v1.1 Working Draft
- c) 9 May 2012 – GOLD Web 4.1
- d) 14 May 2012 – GOLD v1.2 Working Draft
- e) 10-15 June 2012 – GOLD/5 in Miami, Florida USA
- f) 30 June 2012 – GOLD v1.3 Working Draft
- g) 17 October 2012 – GOLD Web 5.1
- h) 4 November 2012 – GOLD v1.4 Working Draft
- i) 18 January 2013 – GOLD v1.4.1 Working Draft
- j) 27 Jan- 4 Feb 2013 - GOLD/6 meeting in Phoenix, Arizona USA.
- k) 15 February 2013 – GOLD V. 15 Working Draft
- l) 26 April 2013 – GOLD Edition 2.0

2.2 120 participants from 27 States and 56 different organisations assisted in the development of Edition 2.0. International organisations including IATA, IFATCA, IFALPA, IBAC, CANSO, Eurocontrol, and EASA also participated in this work.

2.3 GOLD/6 discussed the remaining issues stemming from working draft v 1.4.1 and agreed on v 1.5 of the GOLD. Version 2.0 of the GOLD (which is provided in the **Appendix A** to this working paper) was released on 26 April 2013 taking into account the comments that had been received. CNS SG and ATM SG of APANPIRG are expected to review and endorse GOLD Version 2.0 and recommend APANPIRG adoption.

2.4 The main changes versus Edition 1.0 are summarized as follows:

- a) Edition 2.0 applies to all airspace;
  - i. *Where procedural separations are applied*
  - ii. *Where ATS surveillance services are provided*
- b) Applies to FANS 1/A, ATN B1 and FANS 1/A ATN B1 aircraft and ground systems;
  - i. *Generalized Chapter 2 data link description*
  - ii. *Common procedures (for most part) in Chapter 4-6*
- c) Addresses High Level Safety Conference (HLSC) recommendations;
  - i. *For ADS-C conformance monitoring*
  - ii. *CPDLC failure procedure*
- d) Added advanced air traffic services supported by data link;
  - i. *CPDLC for ATC-initiated re-route procedure (NAT originated)*
  - ii. *CPDLC for ADS-B in trail procedure (ITP)*
- e) Clarified position reporting requirements in ADS-C environments, e.g. reporting revised time estimates;
- f) Additional guidance on RCP – RSP and post-implementation monitoring;
- g) Updated Appendix E, Region / State specifics, with new look, to include European Region.

2.5 In total more than 1000 comments were submitted and more than 900 were resolved. The meeting agreed that the remaining unresolved issues would be considered as part of future amendments and that they would not preclude the adoption of Edition 2.0. It was in particular noted that Edition 2 would fully address the task assigned by the EANPG to merge and harmonise the FANS 1/A and Link2000+ guidance material. In this vein, the Link2000+ originating material was incorporated in the main body of the document. Where some regional differences still remained, these were included in Appendix E of the GOLD which was also amended to group differences per ICAO Region. It was expected that the Link 2000+ originating material would be superseded by the GOLD, 2nd Edition, upon its endorsement by EANPG. In concluding, the meeting agreed to recommend the following:

- a) Edition 2.0 could be adopted by the respective PIRGs as a basis for implementation of data links operations;
  - i. *North Atlantic – NAT SPG – Jun 2013*
  - ii. *Asia – Pacific – APANPIRG – July 2013*

- iii. *European – EANPG - Nov 2013*
- iv. *South American – SAM/IG– Oct 2013?*
- v. *African – Indian Ocean – APIRG – Mar 2014?*

- b) Edition 2.0 would supersede the Link2000+ originated guidance material;
- c) States should be invited to promulgate Edition 2.0 to the service providers and operators to use as a guidance material assisting in implementation of data links;
- d) PIRGs should be informed about outstanding issues for future amendments of the GOLD;
- e) The GOLD ad-hoc working group should be kept on stand-by to address any potential future amendments to the GOLD, as required;
- f) That the ICAO OPLINKP should be invited to discuss possible solutions to elevate the status of the GOLD to become a global level document;

### **3. Action by the Meeting**

3.1 The meeting is invited to:

- a) note the information provided;
- b) review and comment on v 2.0 of the GOLD as provided at **Appendix A**; and
- c) endorse the following draft Conclusion that will be discussed and originate from the CNS/SG:

#### **Draft Conclusion 17/xx – Adoption of Global Operational Data Link Document (GOLD) V.2**

That, the Global Operational Data Link Document (GOLD) Version 2 provided in the **Appendix XX** to the Report be adopted.

*APPENDIX A – Working Draft of Global Operational Data Link Document (GOLD) v2.0*

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