



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: Implementation of CNS/ATM Systems**

**IMPLEMENTATION OF DATA LINK DEPARTURE CLEARANCE, D-ATIS and  
D-VOLMET SERVICES IN INDIA**  
(Presented by Airports Authority of India)

**SUMMARY**

This paper presents the implementation of data link departure clearance, D-ATIS and D-VOLMET services in India, inviting airline operators for participation in availing data link services to reduce R/T congestion.

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-6 Air traffic flow management
- GPI-9 Situational awareness
- GPI-12 Functional integration of ground systems with airborne systems
- 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-22 Communication infrastructure

**1. INTRODUCTION**

- 1.1 India has implemented Data Link Departure Clearance, D-ATIS and D-Volmet Services to enhance ATM operational efficiency in the provision of Air Traffic Services. The intent of this data link service is to provide an efficient and reliable Departure Clearance (DCL) services at Mumbai, Delhi, Kolkata, Chennai, Bangalore and Hyderabad, D-ATIS messages from more than 55 airports and D-VOLMET messages from Mumbai and Kolkata airport, thereby reducing the workload for both pilots and Air Traffic Controllers.

- 1.2 ATC will continue to provide a standard R/T service for Departure Clearance on the notified VHF and VOLMET service shall be available via notified HF for those operators not participating in the data link service.
- 1.3 AIP supplement 27 of 2012 has been promulgated to familiarize users with the requirements and operational procedures for the use of the data link services for DCL, D-ATIS and D-VOLMET.

## 2. **DISCUSSION**

### 2.1 Brief Description of DCL, D-ATIS ,D-VOLMET and Operators Equipment

#### 2.1.1 Departure Clearance (DCL)

Using DCL, the pilot sends a Request for Departure Clearance Downlink (RCD) and receives a Departure Clearance Uplink (CLD) from ATC which contains the cleared destination, cleared runway, type of departure and route, squawk code, departure time, next frequency, current ATIS identifier. The pilot can then send back an acknowledgement: Departure Clearance Read back Downlink (CDA).

#### 2.1.2 Data Link - Automatic Terminal Information Service (D-ATIS)

D-ATIS messages contain operational information required by aircraft before take-off and landing such as runway in use, current weather, airport and facility conditions. The pilot can downlink a message request (RAI) specifying the airport and whether the ATIS is required for Arrival (A), Departure (D), Arrival with automatic update (C) or En route (E). In return, the pilot receives an uplinked ATIS Report (DAI). A Flight Service Message (FSM) can be sent if the usual uplink ATIS Report is inappropriate or the D-ATIS Service is not available at the requested airport.

#### 2.1.3 Data Link - Meteorological Information for Aircraft in Flight (D-VOLMET)

The D-VOLMET service enables the delivery of the VOLMET information to the cockpit in the text format through transmission of VOLMET information via data link. The D-VOLMET data-link service is also referred as “En Route ATIS”.

#### 2.1.4 Operators Equipment Requirement

Aircraft equipped with Aircraft Communications Addressing and Reporting System (ACARS) equipment and compliant with AEEC 623 (Airlines Electronic Engineering Committee) may utilize DCL, D-ATIS and D-VOLMET over data link with connectivity to their airlines’ host computers via SITA Network.

### 2.2 **Benefits:**

- 2.2.1 **Reduction** in pilots’ workload: D-ATIS/ D-VOLMET information is now available for the pilot in a printed format, without having to listen to the frequency and write down the entire information.
- 2.2.2 **Improved** reliability: the data- link service eliminates the potential misunderstandings due to the poor quality of VHF voice.

- 2.2.3 **Enhanced** accessibility: D-ATIS/ D-VOLMET information is available worldwide. Outside data-link VHF/HF coverage, the information can be accessed via satellite data-link.
- 2.2.4 **Improved** ATIS information accuracy: The voice ATIS message can be updated more frequently, and the “update contract” of the data- link service enables the pilots to receive the ATIS information each time it is updated.
- 2.3 India has taken all possible measures for the effective implementation of data link services to ensure the services are availed by all the airline operators irrespective of whether the departure is domestic or international.
- ✓ M/s SITA conducted training sessions on the DCL system which included hands on training for all controllers.
  - ✓ User community meeting was conducted prior to the introduction of the system explaining in detail its benefits and the AIP supplement 27/2012. In addition letters explaining the benefits were written to all airlines. A live demonstration was carried out for senior pilots from Air India (Wide body).
  - ✓ Safety assessment for operationalization of DCL operations has been completed and recently, in a special workshop on measures to check R/T congestion, the benefits of DCL system were discussed at length and the feedback from major operators was gathered.
  - ✓ Few airline representatives informed that they were in the process of formulating their SOP for implementation of DCL.
  - ✓ Availability of DCL operations have been put on ATIS broadcast.
- 2.4 (a). The analysis on the utility of data link services by the airlines in three metros for January, 2013 is as follows :

Station With No of International Operators	Date	Total International Movement	DCL facility availed.	DCL facility not availed by ACARS Equipped aircraft	No of aircrafts without ACARS	% Usage of DCL facility by ACARS equipped aircraft	% of aircrafts not having DCL facility
<b>Mumbai 64</b>	8/1/2013	92	15	24	53	38.46	57.60
	16/1/2013	90	15	23	52	39.47	57.78
	22/1/2013	91	18	23	50	43.90	54.94
<b>Delhi 68</b>	28/01/2013	103	21	26	56	44.68	54.37
	31/01/2013	111	21	31	59	40.38	53.15
	-	-	-	-	-	-	-
<b>Chennai 37</b>	8/1/2013	31	8	1	22	88.88	70.96
	15/1/2013	34	10	1	23	90.90	67.64
	24/1/2013	36	09	0	27	100	75

- (b). The analysis on the utility of data link services by the airlines in three metros for April, 2013 is as follows :

Station With No of International Operators	Date	Total International Movement	DCL facility availed.	DCL facility not availed by ACARS Equipped aircraft	No of aircrafts without ACARS	% Usage of DCL facility by ACARS equipped aircraft	% of aircrafts not having DCL facility
<b>Mumbai 64</b>	8/4/2013	86	16	24	46	40	53.48
	15/4/2013	89	18	22	49	45	55.06
	21/4/2013	82	16	23	43	47.56	52.40
<b>Delhi 68</b>	8/04/2013	103	16	29	58	35.6	56.31
	15/04/2013	101	18	30	53	37.5	52.47
	22/4/2013	101	29	17	55	63.04	54.45
<b>Chennai 37</b>	8/4/2013	40	12	0	28	100	70
	15/4/2013	43	9	2	32	81.81	74.41
	22/4/2013	167	9	5	153	64.28	91.61

- 2.4.1 The usage statistics is being compiled and analyzed regularly in all the six metro stations.
- 2.4.2 The above table is showing a sample data collected for two to three days in three metro stations which clearly indicates a very poor response by the airlines in availing the data link services.
- 2.4.3 Most of the low cost airlines including international airlines express reservation over modification of equipment due to the cost on the equipage. Airlines prefer VHF to data link over continental airspace due the above reasons failing to realize that results in R/T congestion.
- 2.4.4 The most disappointing part is that as per the statistics many aircraft which are otherwise equipped with ACARS too were not logging in to get the departure clearance over the data link.
- 2.4.5 A similar paper was presented in SAIOACG/3 Meeting also and IATA was requested to impress upon the member airlines for using DCL but the comparison of sample data for the months of January and April, 2013 shows practically no improvement in usage.

### 3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- note the information contained in this paper;
  - urge airline operators to equip aircraft with [ACARS] data link capability
  - emphasize airline operators for active participation in availing data link services for reducing R/T congestion in the six busy metro airports; and
  - discuss any relevant matters as appropriate.
- .....