



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE  
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND  
METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG**

Bangkok, Thailand, 23 – 27 July 2012

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**Agenda Item 4: Aeronautical Mobile Service (AMS)**

3) other AMS related issues

**DATALINK SERVICE (DCL AND D-ATIS) OF THE  
INCHEON INTERNATIONAL AIRPORT**

(Presented by Republic of Korea)

**SUMMARY**

This paper presents Incheon International Airport's PDC (DCL) and D-ATIS Operational Performance.

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-7 Dynamic and flexible ATS route management

GPI-17 Data link applications

GPI-21 Navigation systems

GPI-22 Communication infrastructure

GPI-23 Aeronautical radio spectrum

**1. Introduction**

1.1 Incheon International Airport (IIA)'s PDC (DCL) and D-ATIS operation performance will be described briefly.

1.2 Dedicated datalink communication links have been set up with the SITA AIRCOM Service to enable aircraft to access D-ATIS and DCL service via VHF datalink. DCL and D-ATIS are connected with SITA network through FEP server in Gimpo International Airport. DCL and D-ATIS systems are operating for 24-Hours at IIA.

**Agenda Item 4 (3)**

23/07/12

- 1.3 Differences between PDC and DCL
  - 1.3.1 DCL system uses datalink for all phases of DCL procedures vs PDC uses datalink for part of phases of DCL.
  - 1.3.2 In general DCL is recognized as ATS vs PDC recognized as part of AOC.
  - 1.3.3 Generally DCL system sends Clearance to pilot directly by using the datalink vs PDC system sends that to Airline’s host by using the ground network.
  - 1.3.4 DCL : Request (Pilot) → Send (Controller) → Read-back (Pilot)
  - 1.3.5 PDC : Request (Pilot) → Send (Controller → AOC) → Send (AOC → Pilot) → Read-back (Pilot)
  
- 1.4 DCL Procedure
  - 1.4.1 Pilot initiates DCL procedures by making RCD and sending it to controller.
  - 1.4.2 DCL system displays the received Message to controller and sends FSM to pilot after receive the correct RCD.
  - 1.4.3 Controller makes a clearance message (CLD) and sends it to pilot.
  - 1.4.4 Pilot sends read – back message (CDA) after receiving the clearance message.
  - 1.4.5 If there are no differences between cleared message (CLD) and read-back message then DCL system automatically sends FSM to confirm the RCD.
  
- 1.5 D-ATIS Procedure
  - 1.5.1 Pilot requests ATIS information by sending RAI to D-ATIS system in the ground.
  - 1.5.2 D-ATIS system automatically sends ATIS information to pilot.
  
- 1.6 Abbreviations used are as follows.
  - PDC : Pre Departure Clearance
  - DCL : Departure Clearance
  - D-ATIS : Digital - Airport Terminal Information System
  - RCD : DCL Request
  - CLD : DCL Cleared Message
  - CDA : DCL Read-back Message
  - FSM : Flight System Message
  - RGS : Remote Ground Station
  - RAI : Request ATIS Report (for downlink message)
  - DAI : Deliver ATIS Information (for uplink message)

**2. Discussion**

- 2.1 DCL Usage
  - 2.1.1 DCL Usage per year

Year	2001	2008	2011	2012.1~7.14
RCD	1,674	46,269	76,455	43,180

- 2.1.2 Monthly usage of DCL (RCD, CLD, CDA have been increased every month.)

Month	2006.9	2008.11	2012.6
RCD	1,876	3,972	6,896

- 2.1.3 Airline’s Usage of DCL(RCD Basis)  
KAL 80% AAR 18% ETC 2%

2.1.4 DCL Received per RGS(Remote Ground Station)  
ICN 50% ICN1 33% ICN2 6% SEL(Seoul) 10%

- 2.2 DCL Advantage
  - 2.2.1 Improve safety and reduce latency
  - 2.2.2 Reduce VHF congestion in terminal area

- 2.3 D-ATIS Usage
  - 2.3.1 D-ATIS Usage per year

Year	2001	2008	2011	2012.1~7.14
DAI	6,464	394,876	588,558	363,706

2.3.2 Monthly usage of D-ATIS(RAI, DAI have been increased every month.)

Month	2006.9	2008.11	2012.6
DAI	21,036	34,179	58,913

2.3.3 Airline’s Usage of D-ATIS(RAI Basis)  
KAL 56% AAR 32% JAL 3% CPA 2% ETC 3%

2.3.4 D-ATIS Received per RGS  
ETC 33% ICN 16% ICN1 15% SEL 10% XXB 8% XXC 7% POR1 4%  
KWJ(Kwangju) 3%

- 2.4 D-ATIS Advantage
  - 2.4.1 Pilot uses text information as weather and terminal conditions.
  - 2.4.2 Improve safety and reduce workload
  - 2.4.3 Pilot gets ATIS information anywhere from RGS.

- 2.5 Systems in Progress
  - 2.5.1 DCL and D-ATIS improvement plan is currently in progress and systems will be changed in 2015.

**3. Action by the Meeting**

- 3.1 The meeting is invited to:
  - a) note the information contained in this paper; and
  - b) discuss any relevant matters as appropriate.

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Contact:  
[hillji@airport.kr](mailto:hillji@airport.kr)