



TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 2: Aerodrome operations – improving airport performance

2.1: Airport capacity

LOW VISIBILITY PROCEDURES UPGRADE - IMPLEMENTING PRACTICAL SOLUTIONS TO LARGE-SIZED AIRPORTS

(Presented by the Republic of Korea)

1. INTRODUCTION

1.1 The low visibility procedures (LVPs) applied to large-sized airports like Incheon Airport in the Republic of Korea give excessive restriction to aircraft, vehicles and personnel in apron areas when visibility conditions are better than conditions in manoeuvring areas comparatively during air traffic control (ATC) LVPs in effect at a runway visual range (RVR) 550 m or cloud ceiling of 200 ft.

1.2 In order to resolve this restriction, the Incheon Airport established practical LVPs in 2009.

2. IMPLEMENTING LOW VISIBILITY PROCEDURES INTO TWO PHASES

2.1 The purpose of the LVPs is to establish standard guidelines and control procedures of the aircraft, vehicles and personnel in low visibility conditions.

2.2 The Incheon Airport has established and operated the LVPs since 2001 and changed the basic commencement value of an RVR from 350 m to 550 m for ATC CAT II/III operations in 2009. As cloud ceiling 200 ft additionally applied as a standard of beginning the LVPs since April 2011, the operations-turns of the LVPs have grown more than 80% than before. The change of the procedure standard is found to be the main reason of this rapid increase.

2.3 As the result of this change, the aircraft, vehicles and personnel in apron areas, in the range of 4 100 000 square meters where the better and clearer visibility conditions exists than manoeuvring areas, often used to be controlled excessively while the LVPs were in operation. Thus, the

Incheon Airport has initiated newly amended LVPs, which apply different basic criteria of an RVR to manoeuvring and apron areas respectively from November 2011.

2.4 The Incheon Airport LVPs are divided into two phases according to the areas and applied as follows.

2.4.1 Overview

Phase-In	Manoeuvring areas	Apron areas
Preparation phase	All aircraft, vehicles and personnel regardless of boundary of areas shall recognize preparation phase.	
1st phase	Shall be applied to all aircraft vehicle and personnel in only manoeuvring areas.	Normal operation or 1 st phase LVPs is not applicable before the commencement of 2 nd phase.
2nd phase	Shall be applied to all aircraft vehicle and personnel in both manoeuvring and apron areas.	

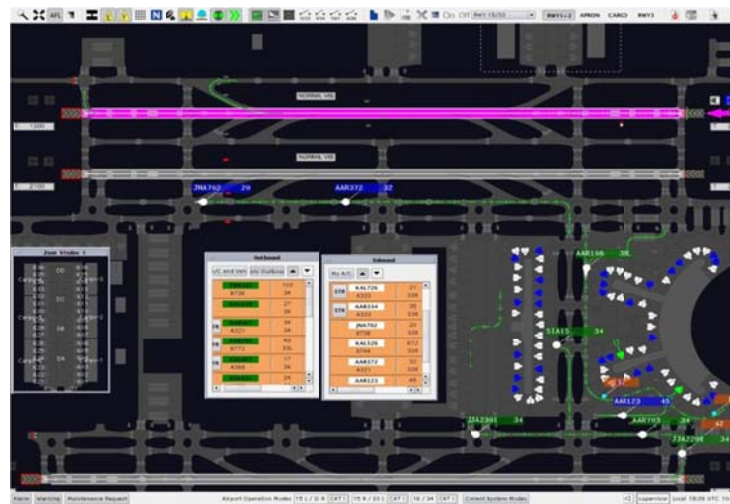
Application range of LVPs

2.4.2 Preparation phase

- a) When any one RVR out of all touch-down zones is expected to be below 550 m or cloud ceiling is expected to be below 200 feet.

2.4.3 LVPs operations in effect

- a) 1st phase: When any one RVR out of all RVRs is observed to be below 550 m or cloud ceiling is observed to be below 200 feet.
- b) 2nd phase: When any one RVR out of all RVRs is observed to be below 400 m.
- c) Advanced surface movement and guidance control system (A-SMGCS) shall be operated by ATC personnel to control, monitor and guide surface movements from runways to boarding gates and vice versa. It has an on/off automatic lights function which provides an individual taxi route to each aircraft on the ground. It also shows aircraft IDs and other various traffic information through interface with the ASDE radar and flight information management system (FIMS) which has been developed by the Incheon International Airport Corporation independently and also plays a part of the A-CDM role in a limited way.



A-SMGCS HMI installed at Incheon Aerodrome Control Tower

2.4.4 LVPs termination

- a) 2nd phase: When all RVRs are observed to be more than 400 m and expected to be sustained over it.
- b) 1st phase: When all RVRs are observed to be more than 550 m and expected to be sustained over it, or cloud ceiling is observed to be more than 200 feet and expected to be sustained over it.

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