

TEL : 82-32-880-0256  
 FAX : 82-32-889-5905  
 AFS : RKRRYNYX  
 E-mail : aisd@molit.go.kr  
 Web: http://ais.casa.go.kr

Ministry of Land, Infrastructure and Transport  
 Office of Civil Aviation

11, Doum 6-ro, Sejong-si, 30103, Republic of KOREA

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## RUNWAY CAPACITY ENHANCEMENT AT INCHEON INTERNATIONAL AIRPORT

### 1. Introduction

- 1.1 As part of runway capacity enhancement initiative at Incheon International Airport, High Intensity Runway Operation(HIRO) will be implemented. This AIC provides advance notification of useful information to operators for their necessary dissemination of the information to flight crews.

### 2. High Intensity Runway Operation (HIRO)

- 2.1 To achieve maximum landing per hour and reduce go-around due to occupied runway by preceding landing aircraft, runway occupancy times are to be reduced to a minimum.
- 2.2 HIRO will be in force when runway surface condition is dry and adverse weather condition is not present. When HIRO are in force, ATC will inform via ATIS (Phrase: High Intensity Runway Operation in force. Minimum Runway Occupancy Time Required) or RTF.
- 2.3 During HIRO in force, pilots are strongly requested to use the following preferred rapid exit taxiways and vacate the landing runway within 60 seconds of timeframe. Aircraft unable to comply with these procedures should notify ATC as early as possible.

Due to absence of rapid exit taxiway around midpoint of runway, pilots are encouraged to apply proper deceleration technique take into account the following distance information of rapid exit taxiway to avoid decelerating to safe taxi speed on midpoint of landing runway, which result in longer runway occupancy time.

RWY	Rapid Exit Taxiway	Distance from Threshold
15L	<b><u>C2</u></b>	7 381 ft / 2 250 m
	C1, D1	8 418 ft / 2 566 m
15R	<b><u>B3</u></b>	7 381 ft / 2 250 m
	B2	7 381 ft / 2 250 m
33L	<b><u>B5</u></b>	7 381 ft / 2 250 m
	B6	8 418 ft / 2 566 m
33R	<b><u>C4</u></b>	7 381 ft / 2 250 m
	C5, D6	8 418 ft / 2 566 m
16	<b><u>N3</u></b>	6 725 ft / 2 050 m
	N2	8 366 ft / 2 550 m
34	<b><u>N5</u></b>	6 725 ft / 2 050 m
	N6	8 366 ft / 2 550 m

Note : Preferred rapid exit taxiways are in bold and underlined.

- 2.4 Pilots are encouraged to make reference the following rapid exit taxiway configuration information to decide proper exit taxi speed.

Design Speed	Radius	Exit Angle	Straight Distance on RET
50 kt	550 m	30°	290 m

- 2.5 After landing, aircraft are not to stop on rapid exit taxiway to awaiting instructions from ATC but should continue taxi via the following taxi procedures, unless otherwise instructed by ATC.

RWY	Preferred RET	Standard Taxi Procedures
15L	C2	During HIRO in force, all landing aircraft(except cargo flight) should continue taxi to TWY J then hold short of RWY 15R on TWY J
15R	B3	During HIRO in force, all landing aircraft(except cargo flight) should continue taxi via TWY B to appropriate Transfer of Control Point(TCP) of parking gate/stand. (refer SMGCS - Arrival Taxi Route Chart)
33L	B5	During HIRO in force, all landing aircraft(except cargo flight) should continue taxi via TWY B to appropriate Transfer of Control Point(TCP) of parking gate/stand. (refer SMGCS - Arrival Taxi Route Chart)
33R	C4	During HIRO in force, all landing aircraft(except cargo flight) should continue taxi to TWY K then hold short of RWY 33L on TWY K
16	N3	During HIRO in force, all landing aircraft should continue taxi via TWY M to appropriate Transfer of Control Point(TCP) of parking gate/stand. (refer SMGCS - Arrival Taxi Route Chart)
34	N5	During HIRO in force, all landing aircraft should continue taxi via TWY M to appropriate Transfer of Control Point(TCP) of parking gate/stand. (refer SMGCS - Arrival Taxi Route Chart)

### 3. Reduced Runway Separation Minima(RRSM)

- 3.1 Reduced Runway Separation Minima(RRSM) will be applied between a departing aircraft and a succeeding landing aircraft or between two successive landing aircraft.
- 3.2 RRSM will be applied when the following conditions exist:
- (a) Visibility of at least 5 km and ceiling not lower than 1 000 ft;
  - (b) During daylight hours from 30 minutes local after sunrise to 30 minutes before local sunset;
  - (c) No unfavorable surface wind conditions (including significant tailwind/turbulence or wind-shear etc.);
  - (d) The braking action shall not be adversely affected by runway contaminants;
  - (e) The second aircraft will be able to see the first aircraft clearly and continuously until it is clear of runway

- 3.3 Landing clearance may be issued to an arriving aircraft while the runway is still occupied provided that there is reasonable assurance that the following separation distance will exist when the arriving aircraft crosses the runway threshold:

(a) **Landing following Landing**

Preceding aircraft has landed and has passed at least 2 400 m from the threshold of the landing runway, is in motion and will vacate the runway without backtracking;

(b) **Landing following Departure**

Preceding aircraft is/will be airborne and has passed at least 2 400 m from the landing runway threshold.

- 3.4 ATC will provide traffic information when issuing the landing clearance. The following ICAO standard phraseology examples will be used:

- "(Call sign), PRECEDING B747 VACATING RUNWAY/ABOUT TO VACATE/LANDING ROLL, CLEARED TO LAND."
- "(Call sign), DEPARTING A321 AHEAD ABOUT TO ROTATE, CLEARED TO LAND."

#### **4. Final Approach Spacing and Speed Restrictions**

- 4.1 Pilots should note that successful implementation of minimized inter-arrival spacing relies heavily on cooperation between pilots and ATC.
- 4.2 When HIRO are in force, inter-arrival spacing will be based on calculated runway occupancy time. ATC will expect all landing aircraft to vacate the runway within 60 seconds and apply corresponding inter-arrival spacing between arrival aircraft.
- 4.3 In order to improve Air Traffic Controller ability to deliver consistent prescribed inter-arrival spacing, new speed control restriction procedures will be applied. ATC typically will apply the following speed restrictions in SEOUL TMA;
- Initial approach phase: 220 kt or higher
  - Base leg/Heading to final approach: 180 kt - 220 kt
  - Established on final approach: 160 kt - 180 kt
  - Final approach to 5 DME: 160 kt
- 4.4 These speeds are applied for ATC separation purposes. When a new ATC instruction (non-speed related) is being issued(eg. ILS approach clearance), **pilots shall continue to maintain the previously allocated speed until 5 DME from GP(for ILS Approach) or 5 NM from RWY THR(for other than ILS approach)**. Aircraft unable to comply with these speed instructions must inform ATC as early as possible and state what speed can be used. These speed restrictions are essential for smooth and safe operations at high traffic loads. If an aircraft does not comply with these speed instructions, the aircraft may have to be excluded from the planned approach sequence.

#### **5. Application**

The contents of this AIC will be incorporated into AIRAC AIP AMDT NR 8/17(effective: 1600 UTC 13 SEP 2017)