



Independent Parallel Runway Visual Approach in Beijing Capital Airport

SUMMARY



- Basic Concepts of Visual Approach
- The Promoting Process Of Visual Approach (including The Preparation)
- The Implementation Process Of Visual Approach
- The Experience And Lessons Gained Within The Process.

The promoting process of Visual Approach in Beijing

历程

On 26th July 2008, CAAC issued the temporary provisions for visual separation and visual approaches.

On 1st August 2008, visual separations have been provided at Capital Airport and Tianjin International Airport for a test run.

Consulting with the North China regional management bureau of CAAC and several major airlines.

On 28th October 2014, radar vector for visual approach was implementing at Beijing International Airport .

Basic Concepts of Visual Approach

The pilot must, at all times, have either the landing runway or the preceding aircraft in sight.

VISUAL APPROACH

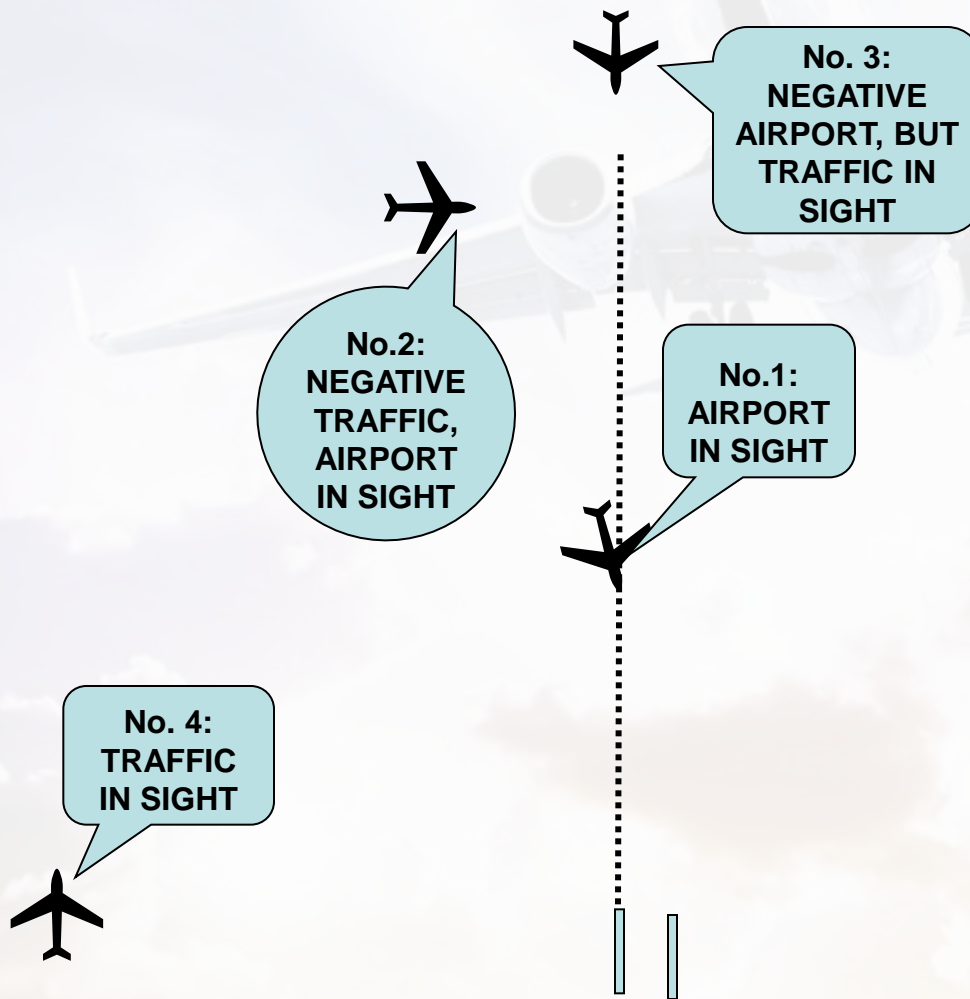
An approach conducted on an instrument flight rules (IFR) flight plan which authorizes the pilot to proceed visually and clear of clouds to the airport.



VISUAL APPROACH is not an instrument approach procedure.

There is no missed approach

Clearing for a visual approach



No.1 – able to visual approach, pilot responsible for obstacle clearance

No.2 – able to visual approach, pilot responsible for obstacle clearance, controller needs to ensure the standard separation with the preceding aircraft until pilot reports having the preceding aircraft in sight

No.3 – able to visual approach, pilot responsible for obstacle clearance and spacing with the preceding aircraft

No.4 – to better control the flight path of aircraft, it will be better not to issue visual approach clearance until the aircraft is already on base, then clear the aircraft visual with a heading to final

Different requirements for different spacing runways

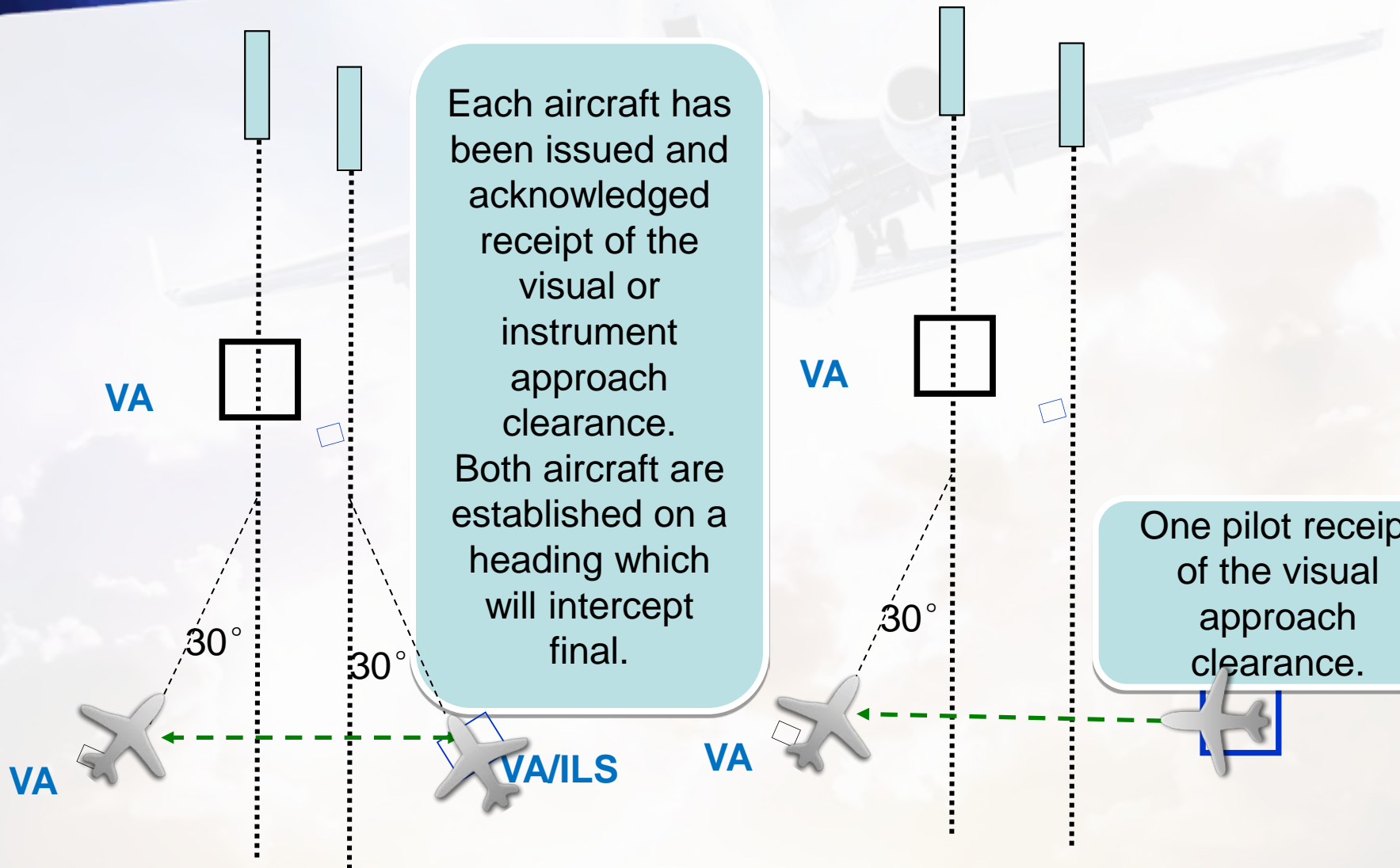
Different spacing of parallel runways (D)	$D < 760\text{m}$	$1310\text{m} > D \geq 760\text{m}$	$D \geq 1310\text{m}$
Separation with aircraft on the adjacent final (prior to one pilot receipt of the visual approach clearance)	Standard separation is provided by ATC	Standard separation is provided by ATC	Standard separation is provided by ATC
Separation with aircraft on the adjacent final (after one pilot receipt of the visual approach clearance)	Visual Separation (* do not permit a heavy/B757 or heavier aircraft to overtake another aircraft on the adjacent final)	not necessary to apply any other type of separation (* Each aircraft has been issued and acknowledged receipt of the visual or instrument approach clearance **Flight paths do not intersect *** Both aircraft are established on a heading which will intercept final)	not necessary to apply any other type of separation (*Flight paths do not intersect)
Intercept angle		not greater than 30 degrees	not greater than 30 degrees

1310m > D ≥ 760m

D ≥ 1310m

Each aircraft has been issued and acknowledged receipt of the visual or instrument approach clearance. Both aircraft are established on a heading which will intercept final.

One pilot receipt of the visual approach clearance.



VECTOR FOR VISUAL APPROACH

**A vector for a visual approach
may be initiated if :**



The visibility is 5 km or greater

The reported ceiling at the airport of intended landing is at least 150 meters above the MVA
(Minimum Vectoring Altitude)

Reference: FAA 7110.65

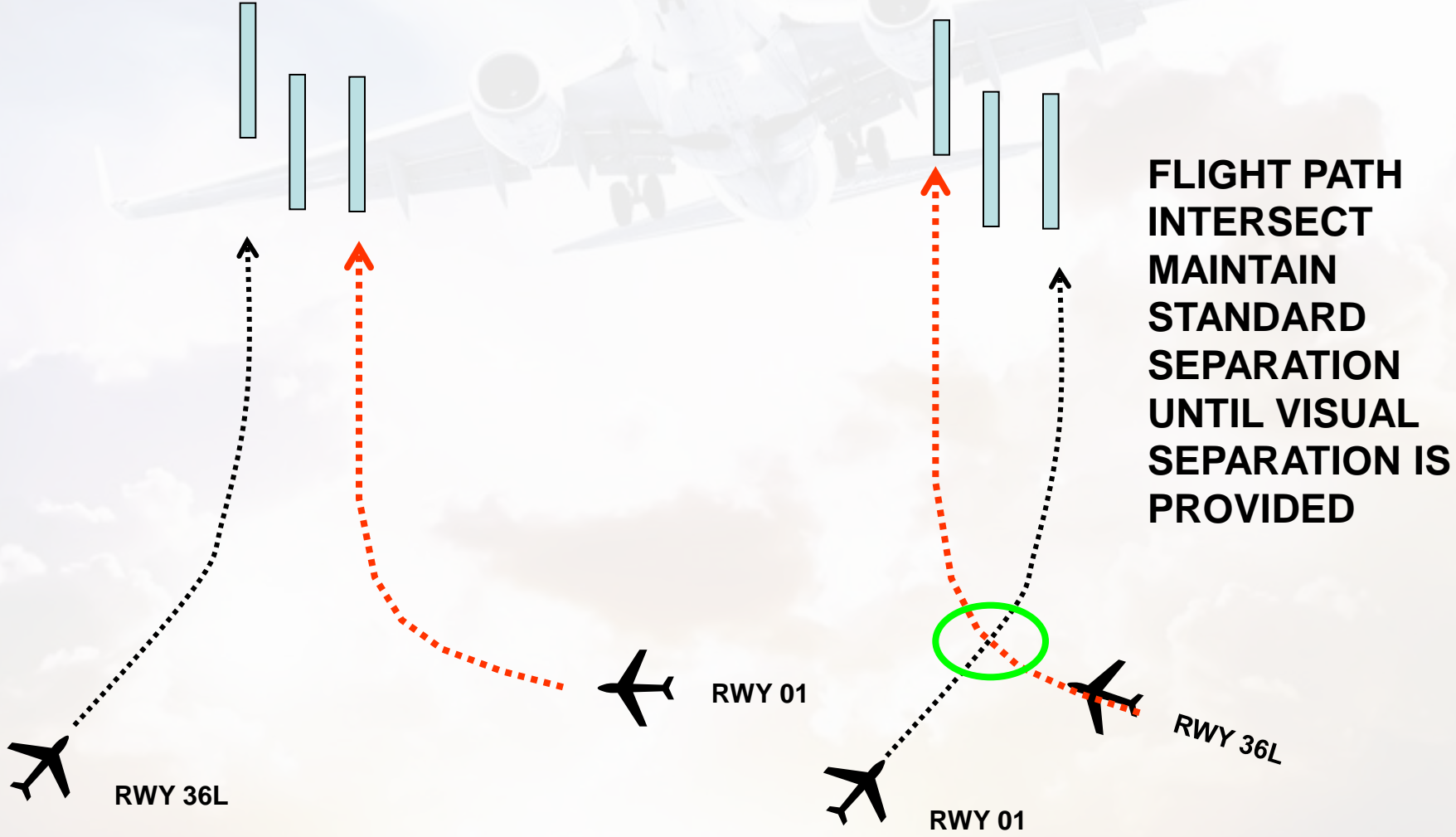
- 3. Parallel runways separated by 4,300 feet or more.
- (a) When aircraft **flight paths** do not intersect, visual approaches may be conducted simultaneously, provided standard separation is maintained until one of the aircraft has been issued and the pilot has acknowledged receipt of the visual approach clearance.
- (b) Visual approaches may be conducted simultaneously to other runways, provided the conditions of subpara (a) are met.
- (c) Provided the aircraft flight paths do not intersect, when the provisions of subparas (a) and (b) are met it is not necessary to apply any other type of operation with aircraft on the adjacent final approach course.
- (d) Each aircraft shall be vectored along a heading which will allow the aircraft to intercept the extended centerline of the runway at an angle not greater than 30 degrees.

FLIGHT PATH – A line, course, or track along which an aircraft is flying or intended to be flown.

TRACK – The actual flight path of an aircraft over the surface of the earth.

- **NOTE–**
- **1.** *The intent of the 30 degree intercept angle is to reduce the potential for overshoots of the extended centerline of the runway and preclude side-by-side operations with one or both aircraft in a “belly-up” configuration during the turn. Aircraft performance, speed, and the number of degrees of the turn are factors to be considered when vectoring aircraft to parallel runways.*
- **2.** *Variations between heading assigned to intercept the extended centerline of the runway and aircraft ground track are expected due to the effect of wind and course corrections after completion of the turn and pilot acknowledgment of a visual approach clearance.*

Flight paths do not intersect

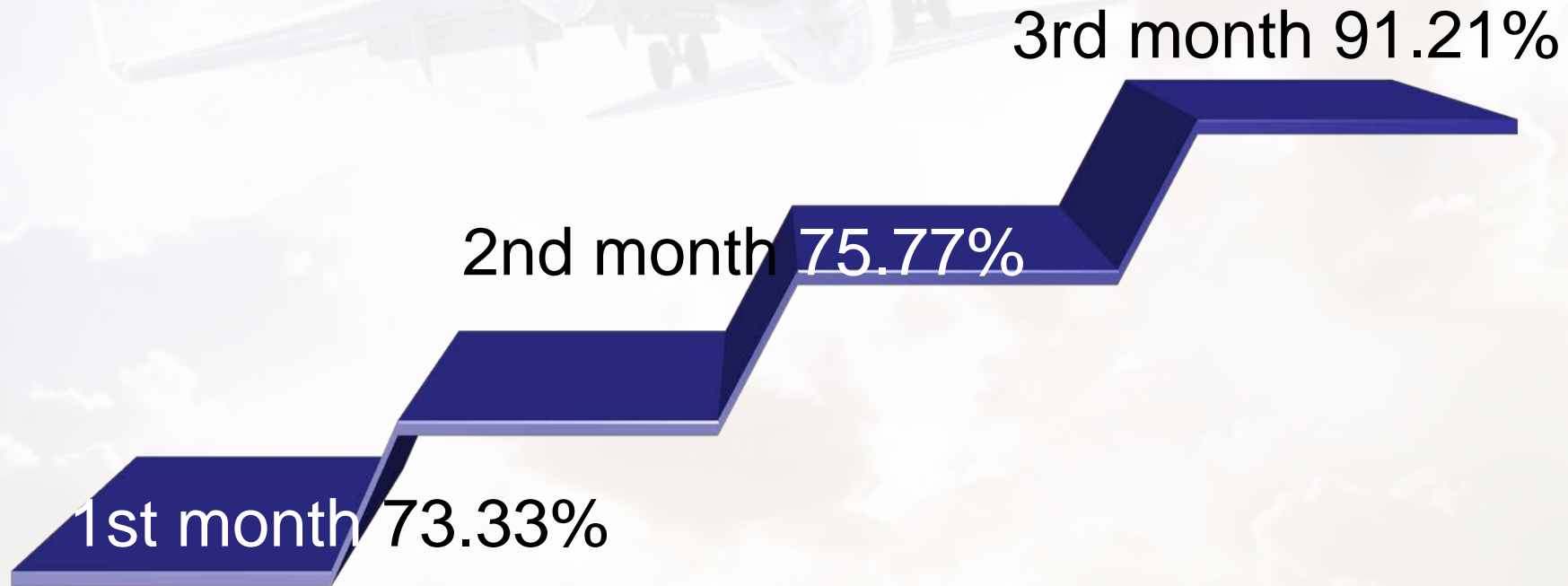


After the implementation of Visual Approach

- During the first three months period, **2398** flights have conducted visual approach
- **467** flights have reported unable to comply
- percentage of implementation is **84%**
- **6** aircraft have conducted missed-approach procedure or go-around.

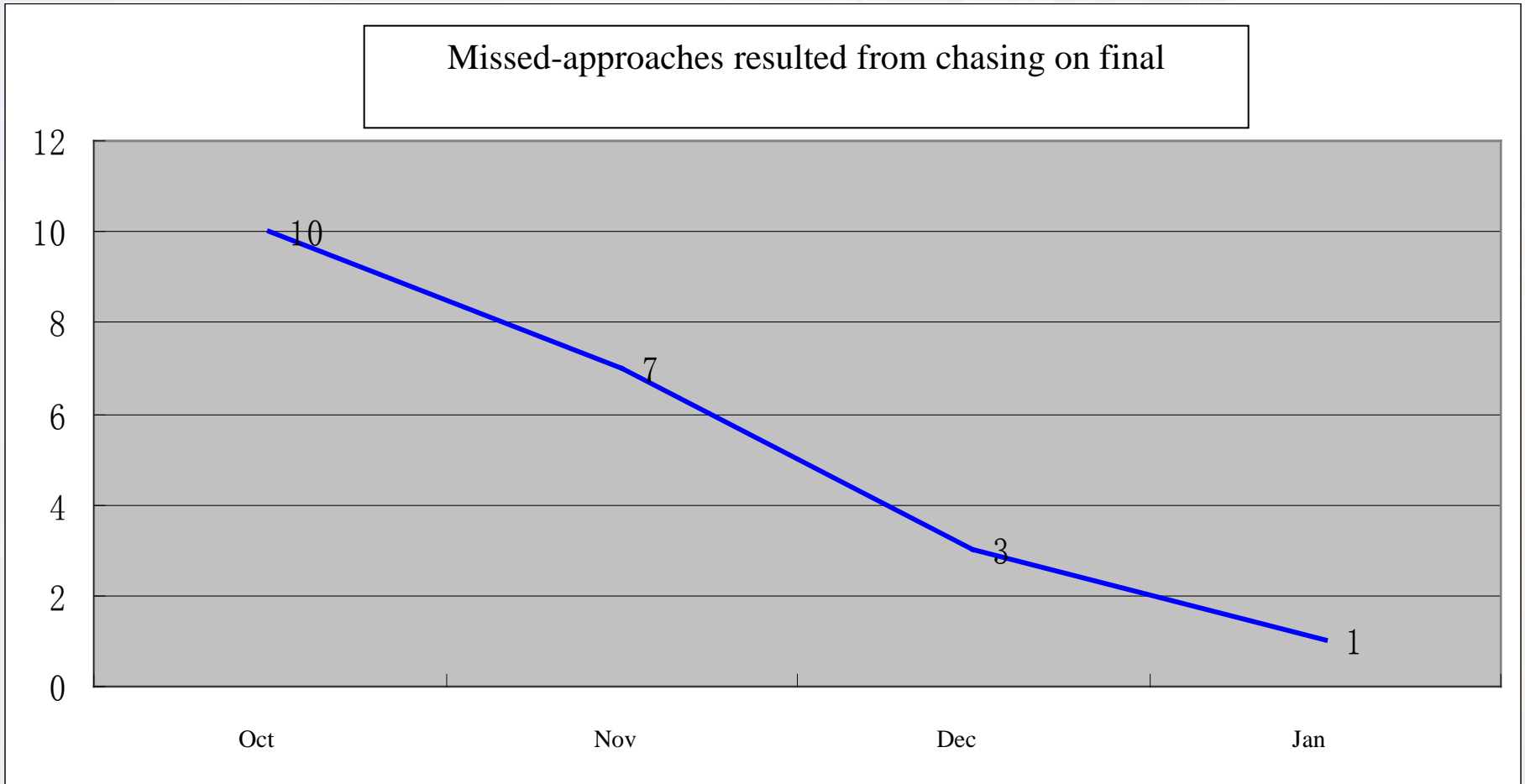
The percentage of implementation

- Is getting Higher



Missed-approaches resulted from chasing on final

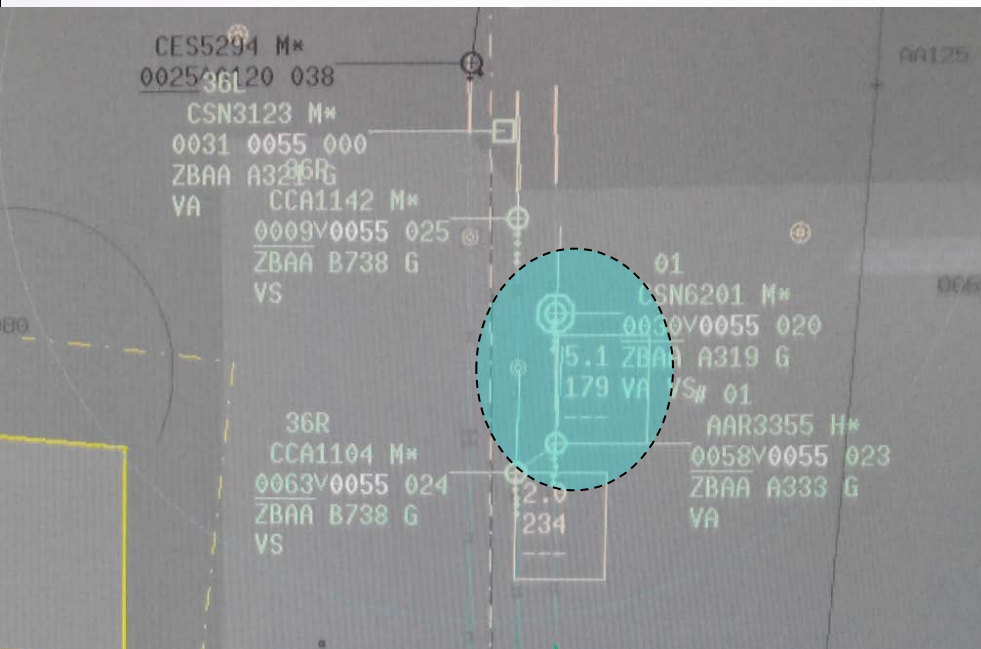
- have been reduced month by month.



The separation on same and adjacent runway

- have been optimized or reduced.

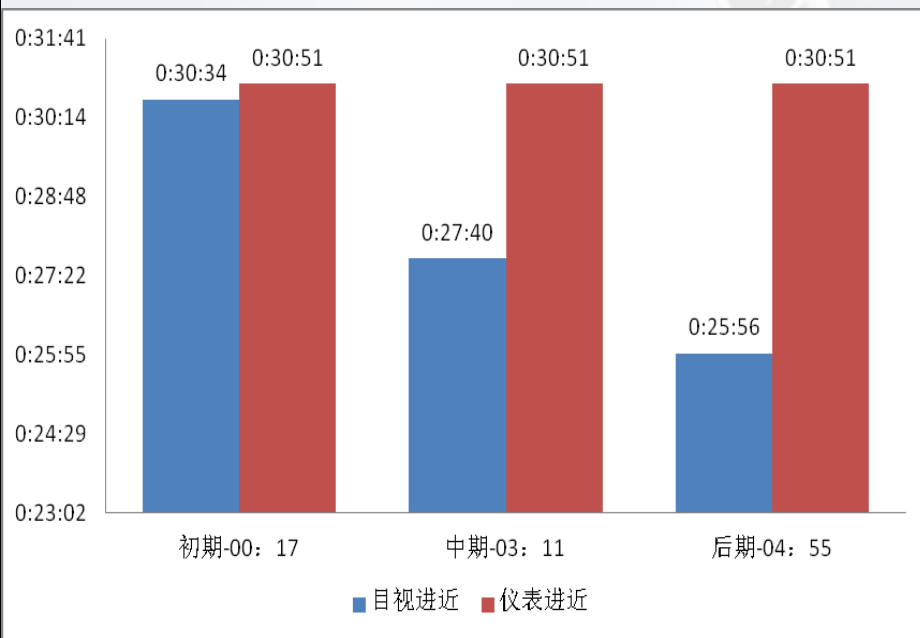
Same Runway



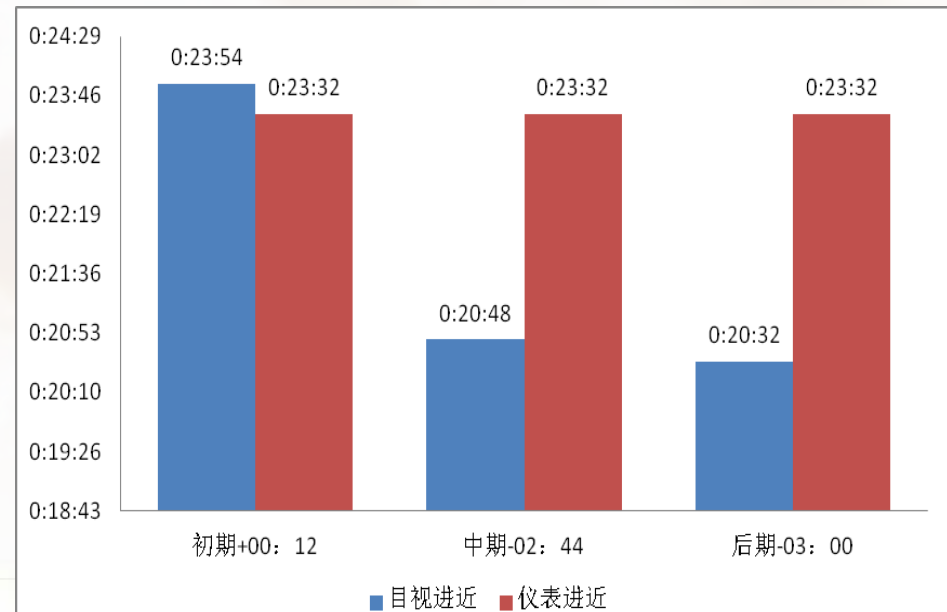
Adjacent Runway

The average arrival flight time

- has been reduced around 3-4 minutes for each arrival point.



Arrival point (GITUM)





谢谢 Thanks