

Key Factors for Preventing RIs

***A Case Study of RI
in Beijing Capital International Airport***

Presented to GRSS
By Zhang Zhijun
Director, NTRI, CAMIC
25th May, 2011
Montreal



中国民航管理干部学院

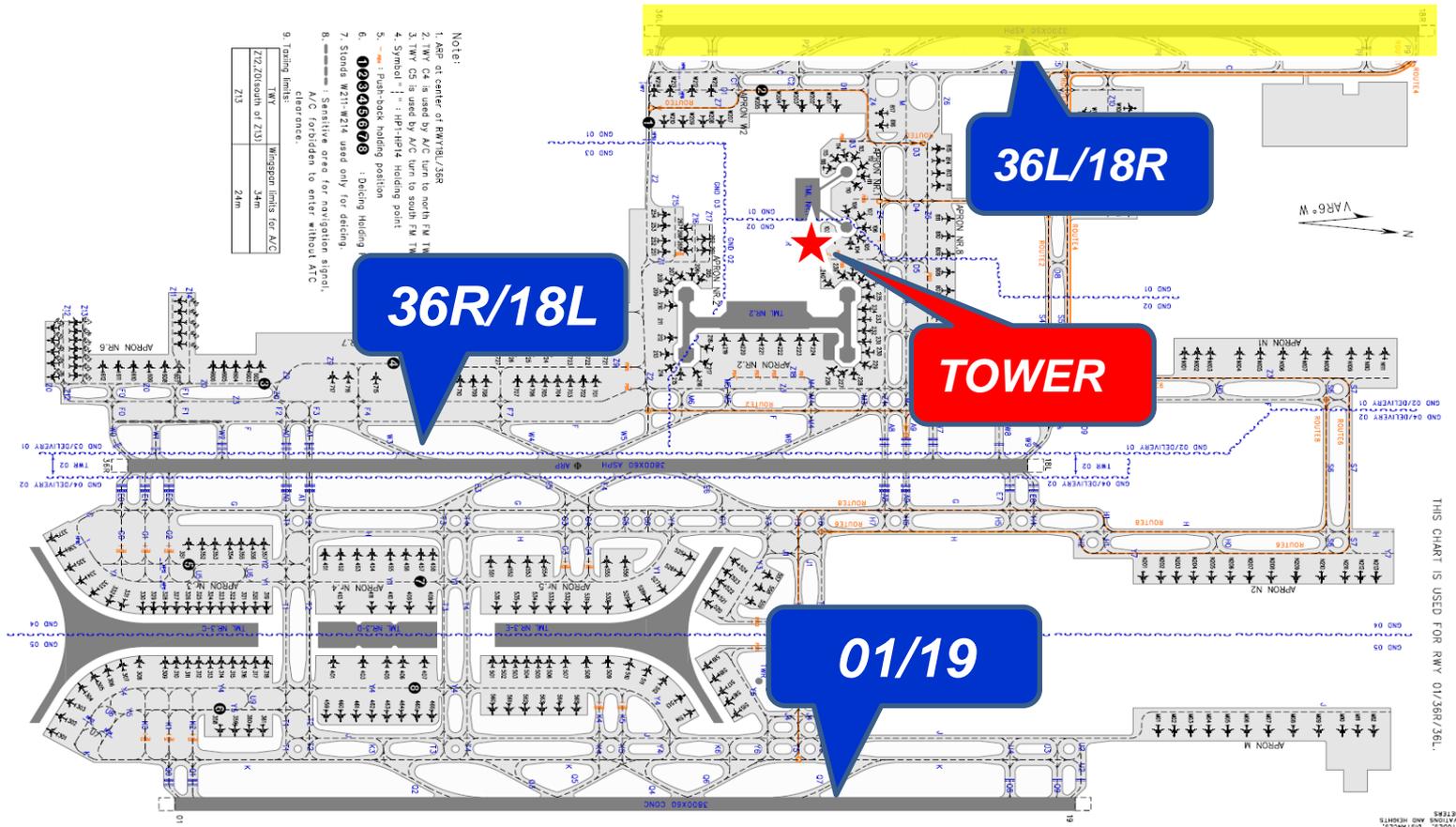
Outlines

- ***Scenario***
- ***Errors and deviations***
- ***Lessons learned***
- ***Conclusions***



Scenario

Layout of Beijing Capital International Airport



中国民航管理干部学院

Civil Aviation Management Institute of China

Scenario

- *2011 10th Feb, Beijing Capital International Airport.*
- *2 vehicles for runway friction test made a incursion to R/W 36L by failure of read-back.*
- *An aircraft waiting for line-up for R/W 36L saw the incursion and reported to give alert while the vehicles were getting on the R/W 36L.*
- *A landing B767 executed a go-around just over the threshold at 51 feet on the alert.*
- *Light snow, visibility 1700m, RVR 1100m to 1300m.*



Errors and deviations

Non-standard call-sign and Call-sign confusions.

- “Tower” vs. “West Tower” and “East Tower”
- “Service” vs. “36L Service” and “36R Service”

Non-standard phraseology

- “Hold short of runway” vs. “Hold short of runway 36R”
- “South end of runway” vs. “South end of runway 36R”



Errors and deviations(cont.)

The read-back and hear-back breakdown

- “Service, 36R approved, report vacating.”(*translation from Chinese*)
- “Service copied.” (*translation from Chinese*)
- No read-back by the driver for key instructions.
- No hear-back by the controller for verification.



Errors and deviations(cont.)

Blindfold ATC instructions

- The East tower controller took it for granted that service vehicles contacting tower was for runway 36R.
- The position of service vehicles were not verified by any means of precise report or ground monitoring before controller's delivering of the clearance for the vehicles to get onto the runway.



Lessons learned

- *Different frequencies should have not been used by aircrafts and vehicles.*
- *Different tower positions should have not used the same frequency regarding the vehicle movements on different runways.*
- *Communication standardization between ATCs and vehicle drivers should be equally emphasized.*



Lessons learned(cont.)

- *Co-ordination procedures between tower positions should be clarified, improved to prevent any confusion.*
- *Effective monitoring measures and procedures should be developed to keep controllers being situational awareness.*



Conclusions

Communication breakdown is a key casual factor for runway incursions. Improving communication is one of the key factors for preventing RIs.

- Using standard radio phraseology should be equally emphasized by pilots, controllers and vehicle drivers.
- Best practices in radio communication recommended by ICAO should be seriously considered and applied by stakeholders.



Conclusions(cont.)

- *Improving operation procedures is another key factors for preventing RIs.*
- *Measures to keep and improve the situational awareness for pilots ,controllers and drivers are core-factors to prevent RIs and severe outcomes.*



Thank you



中国民航管理干部学院

Civil Aviation Management Institute of China