Sixth Meeting of the Aerodromes Safety, Planning and Implementation Group

ASPIG/6 (Muscat, Oman, 27 - 29 May 2024)

Global Reporting Format (GRF) Implementation in the MID Region

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Presentation Overview

01 Reminder : Global reporting Format Methodology

02 MID Region GRF Implementation Challenges and Milestones

03 Current MID region Conclusion on GRF Implementation

04 Action by the Meeting

01

Reminder : Global reporting Format Methodology

- Runway Safety: A global safety priority
- Runway excursions: highest risk category
  - Top contributing factor: Poor braking action
  - Leading factor: Contaminated Runway

- Mitigation by ICAO's Global Reporting Format (GRF)
  - World-wide implementation agreed
  - Applicability date: **5 November 2020 extended to 4 November 2021** (Ref: **SL AN 2/33-20/73**)

REMINDER: GRF Benefits

- Accurate reporting on runway surface conditions at the appropriate time.
- Runway Condition Report (RCR) will be used by the flight Crew to calculate the operational performance of the aeroplane during landing and take-off.
- Reduce the risk related to Runway Excursion.

REMINDER: GRF Benefits

GRF: Runway Condition Report (RCR)

A standardized common terminology and phraseology for the description of runway surface conditions that can be **objectively** used by aerodrome operator inspection personnel, air traffic controllers, aircraft operators and flight crew.

REMINDER: GRF Benefits

GRF: Stakeholder responsibilities

- **Aerodrome operators** assess the runway surface conditions, including contaminants, for each third of the runway length, and report them by means of a uniform runway condition report (RCR).

- **Aeronautical information services (AIS)** provide the information received in the RCR to end users (SNOWTAM).
- **Air traffic services (ATS)** convey the information received via the RCR and/or special air-reports (AIREP) to end users (voice communications, ATIS, CPDLC).

- **Aircraft operators** utilize the information in conjunction with the performance data provided by the aircraft manufacturers to determine if landing or take-off operations can be conducted safely and provide runway braking action special air-reports (AIREP).

01

Reminder : Global reporting Format Methodology

Table II-1-5. Runway condition assessment matrix (RCAM)

Runway condition assessment matrix (RCAM)			
Assessment criteria		Downgrade assessment criteria	
Runway condition code	Runway surface description	Aeroplane deceleration or directional control observation	Pilot report of runway braking action
6	• DRY	---	---
5	• FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** • SLUSH • DRY SNOW • WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	***−15°C and Lower outside air temperature:*** • COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
3	• WET ("slippery wet" runway) • DRY SNOW or WET SNOW (any depth) ON TOP OF COMPACTED SNOW ***More than 3 mm depth:*** • DRY SNOW • WET SNOW ***Higher than −15°C outside air temperature[1]:*** • COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	***More than 3 mm depth of water or slush:*** • STANDING WATER • SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	• ICE [2]	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	• WET ICE [2] • WATER ON TOP OF COMPACTED SNOW [2] • DRY SNOW or WET SNOW ON TOP OF ICE [2]	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

RCAM: Runway Condition Assessment Matrix

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RCAM : Two Scenarios faced by Airports

- Airports exposed to snow and ice to be fully prepared to use the global reporting format (fully equipped, fully trained).

- Airports are not be exposed to snow and ice and thereby have no need to use the full global reporting format other than for Wet/Water conditions;.

RCAM: Runway Condition Assessment Matrix

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RCAM — WET and DRY only (based on PANS-Aerodromes (Doc 9981))

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RCAM: Downgrade Assessment Criteria

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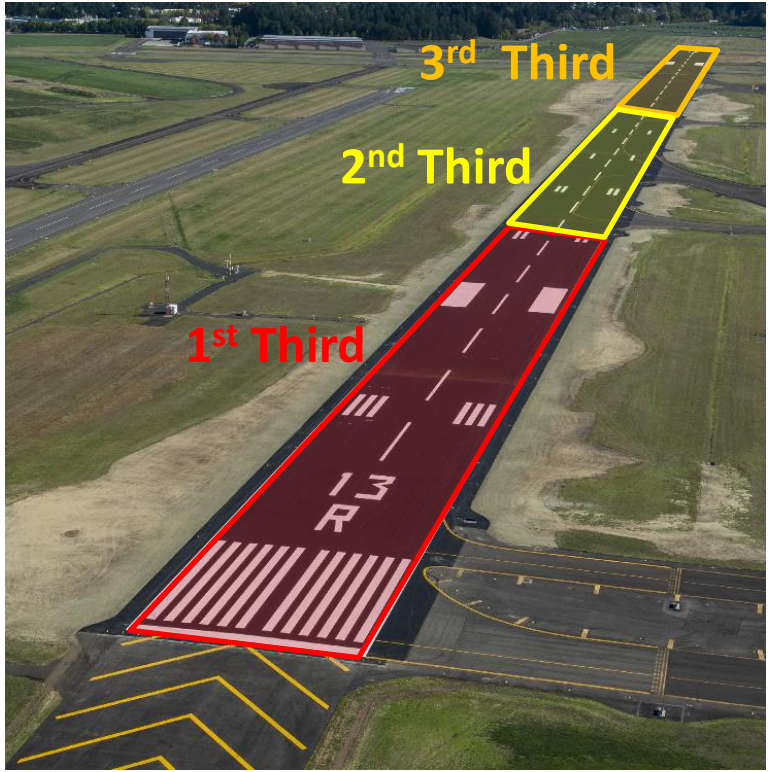
- **Aeroplane Deceleration or Directional Control Observation**

- **Pilot report on braking action/ special air-report (AIREP)**

- An assigned RWYCC 5, 4, 3 or 2 shall not be upgraded.
- An assigned RWYCC 1 or 0 can be upgraded.
- Upgrading of RWYCC 1 or 0 using the appropriate procedures shall not be permitted to go beyond a RWYCC 3.

GRF: Airport Operator responsibility

- For each third of the runway length the Airport Operator assesses the:
  - % coverage of the contaminant
  - Depth of the contaminant
  - Type of the contaminant



GRF in Practice

5	• FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** • SLUSH • DRY SNOW • WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.
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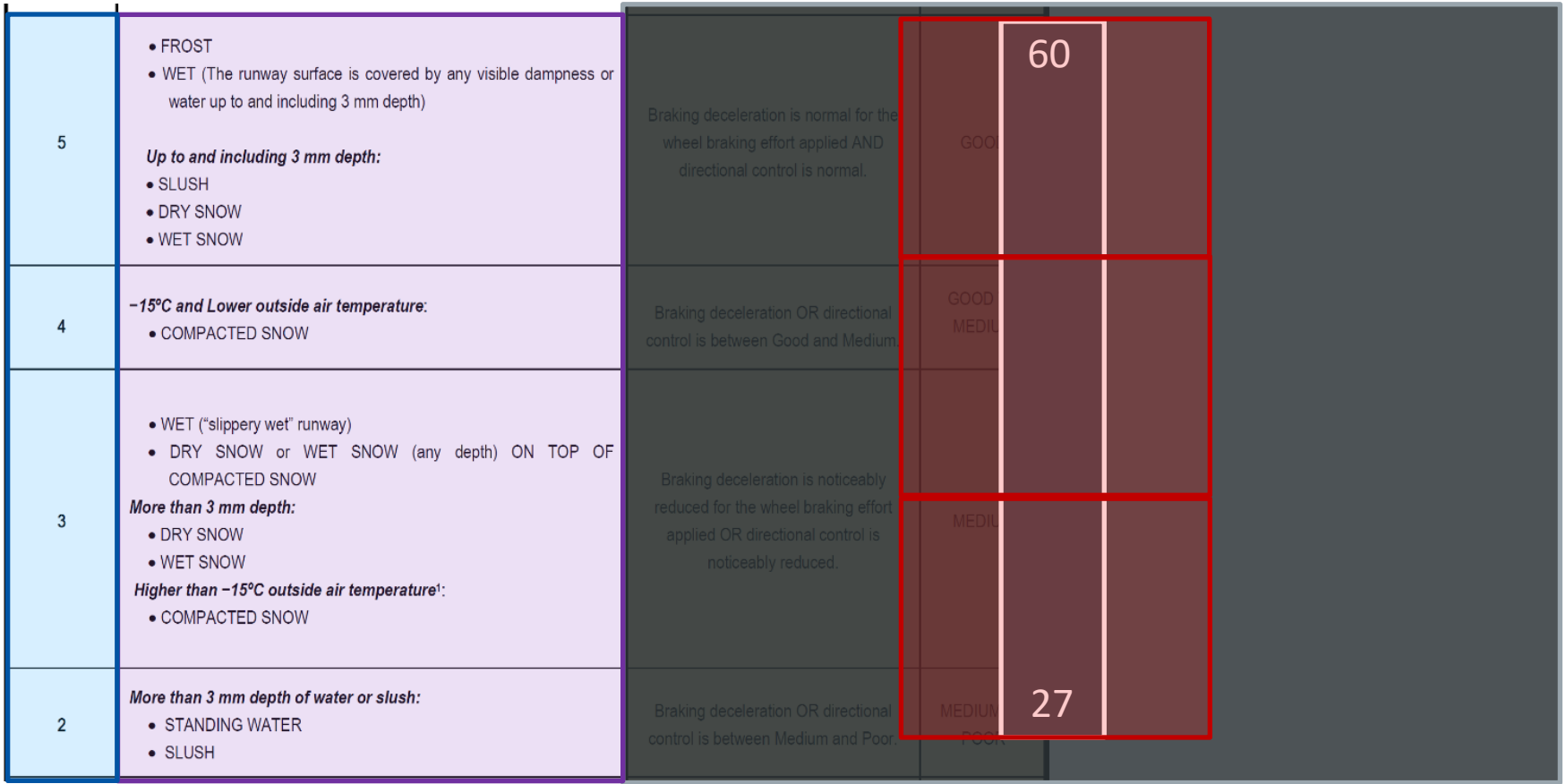

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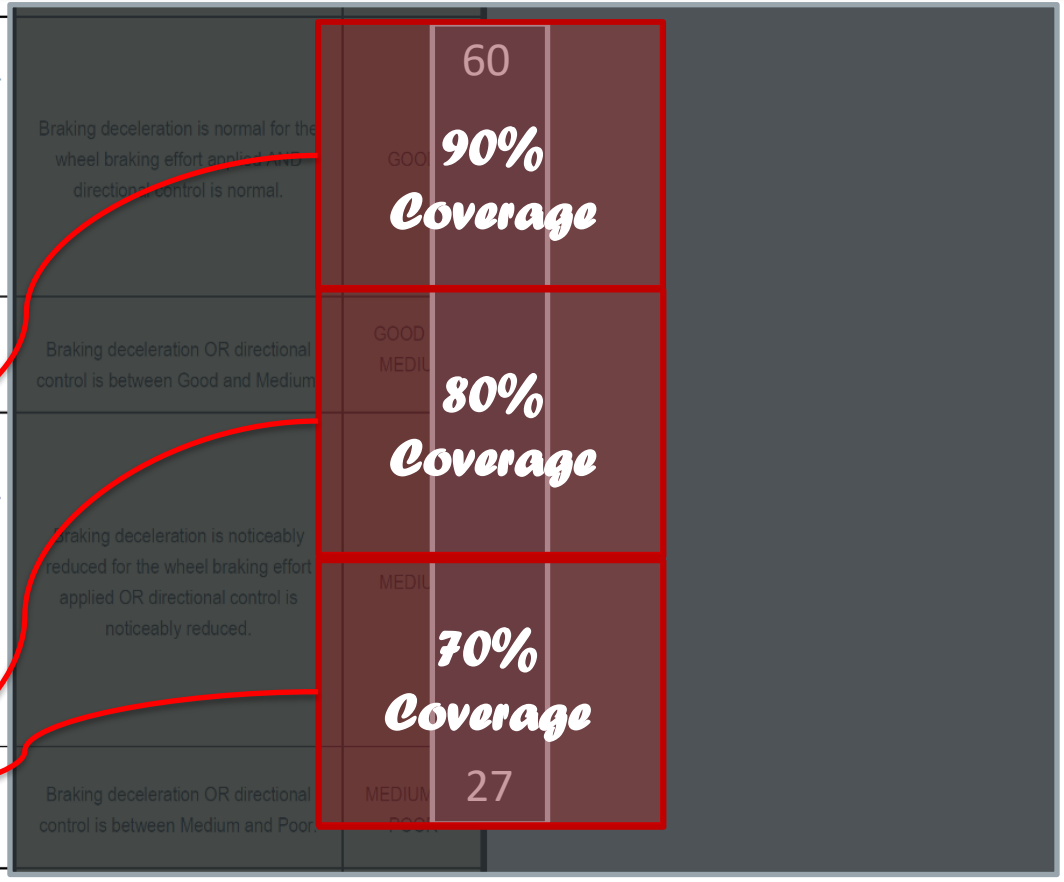

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Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD	3
Braking deceleration OR directional control is between Good and Medium	GOOD MEDIUM	2
Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM	2
Braking deceleration OR directional control is between Medium and Poor.	MEDIUM POOR	27

60

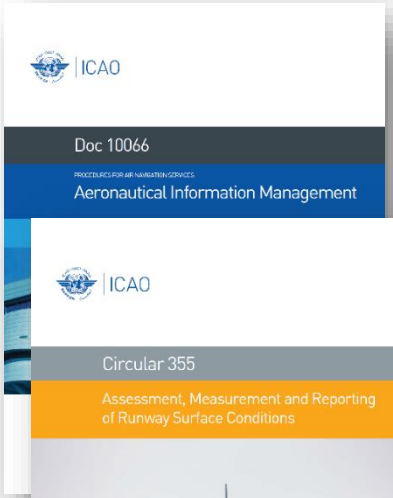
RWYCC 3/2/2

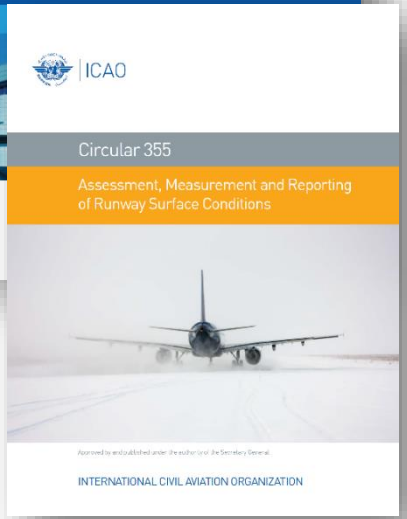
Runway condition Report (RCR)

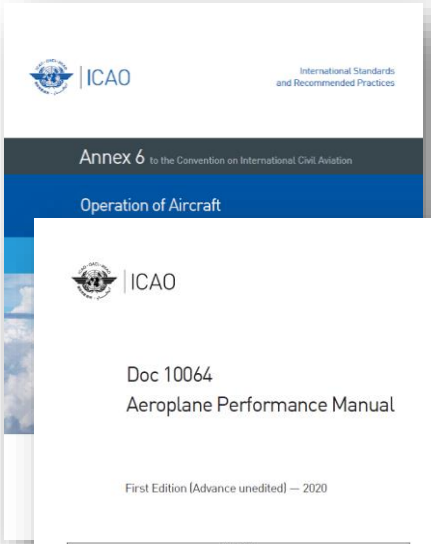
- The RCR consists of two sections:
  - **Aeroplane take-off and landing performance calculations**; and
  - **Situational awareness** of the surface conditions on the runway, taxiways and aprons.

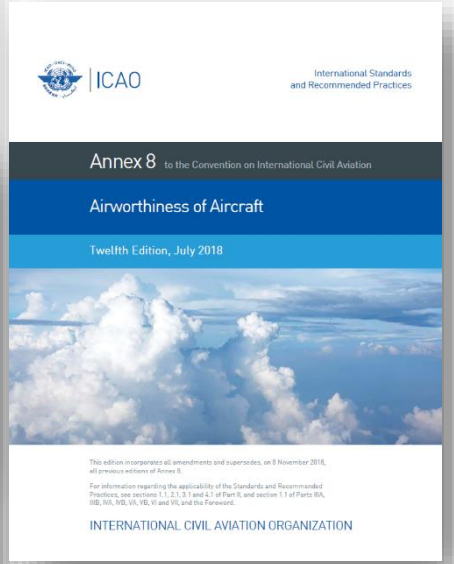
ICAO UNITING AVIATION

ICAO Provisions on GRF









02

MID Region GRF Implementation Challenges and Milestones

States Updates

03

Current MID region Conclusion on GRF Implementation

PIRG-RASG CONCLUSION 1/2: MID REGION GRF IMPLEMENTATION ACTION PLAN

That, States be urged to:

a) nominate a National GRF implementation Focal Point to coordinate the implementation activities at the National level;

b) provide the ICAO MID Office with the contact details of their nominated GRF Focal Points by end of February 2021; and

c) provide regular progress reports/updates on the subject to the ICAO MID Office using the MID Region GRF Implementation Plan Template/Milestones at ***Appendix 3.2C.***

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04

Action by the meeting:

The meeting may wish to agree on the following Draft Conclusion replacing and superseding the previous related PIRG-RASG Conclusion 1/2 :

DRAFT CONCLUSION 6/4:GRF IMPLEMENTATION IN THE MID REGION

That, with reference to the Action Millstones sample on the GRF Implementation at ***Appendix A****, and in order to monitor the Implementation of the GRF Methodology in the MID Region, States be urged to provide,* ***by Q3 of the current Year****, to the ICAO MID Office with their progress of their Aerodromes GRF Deployment Plan, using the Template at* ***Appendix B****.*

Thank You!

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ACTION MILESTONES FOR THE ESTABLISHEMNT AND IMPLEMENTATION OF THE ICAO GLOBAL REPORTING FORMAT METHODOLOGY

(to be tailored/customized and detailed by each State)

[STATE NAME]

[State focal point name: xxxxxxxxx]

[State focal point email address: xxxxxxxxx]

Milestone ID	ACTION	ENTITY RESPONSIBLE	TARGET DATE[1]	EFFECTIVE DATE	REMARKS
GRF 1	Review ICAO provisions and guidance and other Organisations guidance (see below)	CAA	**31/01/2021**		
GRF 2	Designate a focal point to coordinate implementation activities at the national level	CAA	**31/01/2021**		
GRF 3	Identify concerned focal points in each entity (CAA, Airport, ANSP, Aircraft operators – include BA, GA and military as applicable)	CAA, Airports, ANSP, Aircraft operators	**31/01/2021**		
GRF 4	Establish an Implementation Coordination Team including staff from the identified stakeholder entities (as appropriate)	CAA	**15/01/2021**		
GRF 5	Coordinate and support the conduct the initial training for the CAA, Airports, ANSP and Aircraft Operators' personnel (e.g. ICAO/ACI/IATA online courses, national awareness workshop, etc.)	CAA	**15/02/2021**		
GRF 6	Identify regulations, standards, procedures and guidance material to be developed/amended	National Focal Point and the Implementation Coordination Team	**15/02/2021**		

[1] Target dates are indicative only and should be replaced by realistic dates determined by individual State

Milestone ID	ACTION	ENTITY RESPONSIBLE	TARGET DATE[1]	EFFECTIVE DATE	REMARKS
GRF 7	Develop a detailed national implementation plan and safety risk assessment. Each entity should also establish its specific implementation plan and safety risk assessment.	CAA, Airports, ANSP, Aircraft operators	**28/02/2021**		
GRF 8	Identify the necessary means and resources for the implementation (human, financial and material resources)	National Focal Point and the Implementation Coordination Team	**28/02/2021**		
GRF 9	Coordinate with Airport Runway Safety Teams	Airports	**28/02/2021**		
GRF 10	Develop and promulgate regulations and standards	CAA	**30/03/2021**		
GRF 11	Develop procedures and guidance material (translate if required)	National Focal Point and the Implementation Coordination Team	**15/04/2021**		
GRF 12	Provide the necessary means and resources for the implementation (human, financial and material resources)	CAA, Airports, ANSP, Aircraft operators	**31/05/2021**		
GRF 13	Conduct On-the-Job Training (OJT) on the implementation	CAA, Airports, ANSP, Aircraft operators	**30/06/2021**		
GRF 14	Perform tests/trials prior to the effective implementation	All	**31/07/2021**		
GRF 15	Applicability date for the new methodology for assessing and reporting runway surface conditions	All	**4/11/2021**		

Notes: ICAO Runway Safety Go-Team Assistance Missions are available to support States and Airports. ACI APEX Safety Reviews are also available to support Airports.

References:

- ICAO GRF web site https://www.icao.int/safety/Pages/GRF.aspx

Appendix B

ICAO Region	State	Aerodrome Location name	Location indicator [ICAO code]	AD GRF Deployed (1=Yes, 0=NO)	Date of Implementation [DD/MM/YYYY]	CAA Latest GRF Deployment Check Date [DD/MM/YYYY]	Aerodrome planning GRF Deployment (1=Yes, 0=NO)	Estimated AD GRF Deployment Date [DD/MM/YYYY]	Effective AD GRF Deployment Date [DD/MM/YYYY]
MID	QATAR	HAMAD INTERNATIONAL	OTHH						
MID	QATAR	DOHA INTERNATIONAL	OTBD						

ICAO Region	State	Aerodrome Location name	Location indicator [ICAO code]	AD GRF Deployed (1=Yes, 0=NO)	Date of Implementation [DD/MM/YYYY]	CAA Latest GRF Deployment Check Date [DD/MM/YYYY]	Aerodrome planning GRF Deployment (1=Yes, 0=NO)	Estimated AD GRF Deployment Date [DD/MM/YYYY]	Effective AD GRF Deployment Date [DD/MM/YYYY]
MID	QATAR	HAMAD INTERNATIONAL	OTHH						
MID	QATAR	DOHA INTERNATIONAL	OTBD						

- END -