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25 July 2025

To: States, Territories and International Organizations

Subject: **Summary of Discussions – Workshop on Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR) Method**
Tulum, Mexico, 16 to 17 June 2025

Action

Required: **To note**


Dear Sir/Madam,

I wish to inform you that the Summary of Discussions of the Workshop Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR) Method is available at:

<https://www.icao.int/NACC/Pages/meetings-2025-acrPCR.aspx>

The workshop provided an opportunity to explain the Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR) Method. The recommendations and findings are detailed in the enclosed summary of discussion. Recommendations and outcomes for States and airport operators are detailed in section 5 of the attached discussion summary.

Accept, Sir/Madam, the assurances of my highest consideration.


Christopher Barks
Regional Director
North American, Central American and
Caribbean (NACC) Regional Office

Enclosure: *As indicated*

<https://oaci.sharepoint.com/sites/NACCRegionalOfficeTeam/Shared Documents/00-Files/NE - External Relations/NE 57-3 - NACC WG TF Meetings/AGATaskForce/2405-AGA-TF-3/ACR-PCRWorkshop/NACC116688AGA-States-ACRPCRWorkshop.docx> / LAG



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office
SUMMARY OF DISCUSSIONS

Workshop on Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR) Method
Tulum, Mexico, 16 to 17 June 2025

SUMMARY OF DISCUSSIONS

Date	16 to 17 June 2025
Location	Felipe Carrillo Puerto International Airport in Tulum, Mexico
Opening Ceremony	The Workshop was attended by 72 delegates from 11 States/Territories and one International Organizations from the NAM/CAR Regions and two from the SAM Region. The list of participants is shown in the Attachment .

1. References

- Annex 14, Aerodromes, Vol. 1 – Aerodrome Design and Operations.
- Aerodrome Design Manual (Doc 9157) – Part 2 (Taxiways, Aprons and Holding Bays) y Part 3 (Pavements).
- Advisory AC 150/5380-6C Guidelines and Procedures for Maintenance of Airport Pavements, Federal Aviation Administration (FAA).
- Advisory AC 150/5370-10H Standards for Specifying Airport Construction, FAA.
- Advisory AC 150/5370-11B Use of Non-destructive Testing in the Evaluation of Airport Pavements, FAA.

2. Objectives

2.1 The ACR-PCR Workshop aimed at supporting States and airport operators in Central America and the Caribbean in transitioning to the ACR-PCR method (Amendment 15 to ICAO Annex 14, Volume I), a significant improvement over the old Aircraft Classification Number- Pavement Classification Number (ACN-PCN) system for assessing and reporting airport pavement strength.



3. Introduction

3.1 The ACR-PCR system was introduced following Amendment 15 to ICAO Annex 14, Volume I, effective 20 July 2020, with full implementation was expected for November 2024. This four-year transition period was established to allow States and airport operators to adapt from the outdated ACN-PCN method, developed in the 1980s, to the more robust and accurate ACR-PCR framework.

3.2 The legacy ACN-PCN approach, although revolutionary at the time, relied on simplified empirical methods that failed to accurately account for modern aircraft gear configurations and advanced pavement materials. The ACR-PCR method corrects these limitations by employing mechanistic-empirical analysis based on Layered Elastic Analysis (LEA), using stress, strain, and deflection data to calculate pavement response and damage.

3.3 The ACR represents the relative pavement effect of an aircraft, while the PCR expresses the structural capacity of a pavement to accommodate aircraft traffic without operational restrictions. The foundational principle remains unchanged:

- If $ACR \leq PCR$, unrestricted operations are allowed.
- If $ACR > PCR$, restrictions may apply.

3.4 Key requirements include:

- aircraft manufacturers must calculate and publish ACR values following ICAO guidance
- airport operators are responsible for determining and publishing PCR values, based on either technical studies (preferred) or operational experience
- ICAO offers flexibility for States, while also providing a model methodology in the *Aerodrome Design Manual*, Part 3 – Pavements.

3.5 United States FAA's FAARFIELD software (v2.1 and higher), which is one of the primary free tools for performing PCR calculations, integrates traffic data, pavement structural characteristics, and material properties. The software calculates Cumulative Damage Factor (CDF) for each aircraft type, determines critical aircraft, and assigns PCR values based on technical evaluation. Optional increases of up to 25% may be reported for elevated PCR values.

3.6 During the workshop two case studies were developed — one for flexible and one for rigid pavements — to demonstrate full ACR-PCR computations. In the flexible pavement example, FAARFIELD modelled an asphalt runway with specific subgrade and layer characteristics, calculating a PCR of 690/F/C/C/X/T. In the rigid pavement case, the system evaluated a concrete-surfaced runway with a final PCR of 920/R/D/W/T.

3.7 A practical analysis of Airport A revealed non-compliance with ICAO overload traffic thresholds: aircraft with ACRs exceeding the published PCR accounted for more than 5% of total movements, signalling the need for corrective measures such as aircraft weight restrictions, reduced operations, or pavement rehabilitation.

4. Workshop Schedule and Activities

4.1 The workshop webpage is located at:

<https://www.icao.int/NACC/Pages/meetings-2025-acrpcr.aspx>

5. Outcomes/Recommendations for States/airport operators

- **Transition Enforcement:** Ensure that the ACR-PCR system fully replaces ACN-PCN, especially in airport databases and NOTAMs.
- **Overload Monitoring:** Implement clear criteria for managing aircraft with ACRs exceeding PCR and maintain compliance with ICAO's <10% overload threshold and 5% annual frequency limit.
- **Regulatory Consistency:** Harmonize local PCR determination practices with ICAO's model procedure, enhancing global standardization.

6. Accomplishments

- **Broad Regional Participation:** the Workshop gathered 69 participants from 16 States/Territories and international organizations in the NAM/CAR Regions and 2 from the SAM Region, promoting regional collaboration on ACR-PCR implementation.
- **Hands-on Technical Training:** participants completed two practical case studies — flexible and rigid pavements — using FAARFIELD software, strengthening their understanding of ACR-PCR calculations.
- **Clear Guidance on Roles and Regulations:** the Workshop clarified the requirements under Amendment 15 to Annex 14, Volume I, and reinforced the responsibilities of States, airport operators, and manufacturers in the ACR-PCR process.
- **Awareness of Compliance Limits:** a case study (Airport A) highlighted the need to monitor aircraft operations against PCR values, stressing the importance of meeting ICAO's overload thresholds and taking corrective measures when needed.



North American, Central American and Caribbean Office (NACC)
Oficina para Norteamérica, Centroamérica y Caribe (NACC)

Workshop on Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR) Method – General Information / Taller sobre el Método de Notificación y publicación del nuevo Método del Índice de clasificación de aeronaves – Índice de clasificación de pavimentos (ACR-PCR)

Tulum, Mexico, 16 to 17 June 2025 / Tulum, México, 16 al 17 de junio de 2025

ATTACHMENT/ADJUNTO

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