

Abstract

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Program Studi : *Master of Civil Engineering*

Judul : *Analysis Implementation Plans of ACR – PCR System at Airport Pavement Airside Facilities Reference Code 4C*

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ICAO determined that the ACR–PCR system will take effect in July 2020 and be effective in November 2024. It is very important for airports with code 4C in Indonesia to make adjustments to optimize the use of pavement assets. The research aims to calculate ACR-PCR, compare it with ACN-PCN, evaluating the airside pavement structure of airport through the application of the ACR-PCR system. Case study analysis of calculations with ICAO–ACR1.32 and FAARFIELD2.0. ACN/PCN and ACR/PCR ratios are classified against pavement strength limitation criteria. Evaluation based on the criteria for fatigue cracking of the asphalt layer and permanent deformation of the subgrade layer. Tjilik Riwut airport runway PCR value 542FBXT, H. AS. Hanandjoeddin 643FCXT, Fatmawati Soekarno 712FCXT and Radin Inten II 850FCXT. Comparison of the ACN/PCN and ACR/PCR ratios shows an increase in pavement capacity of 1,4740. Based on the criteria for fatigue cracking of the asphalt layer and permanent deformation of the PCR subgrade layer at Tjilik Riwut airport 668 and 575 FBXT H. AS. Hanandjoeddin 675 and 560 FCXT, Fatmawati Soekarno 862 and 629 FCXT, Radin Inten II 1027 dan 629FCXT. The structural pavement capacity of PT Angkasa Pura Indonesia airport has the opportunity to be increased in terms of flight frequency.

Keyword : *ACR – PCR Implementation, Ratio Comparison, Structural Capacity*

Abstrak

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Judul : Analisis Rencana Implementasi Sistem ACR - PCR Pada Fasilitas Perkerasan Sisi Udara Bandara Kode Referensi 4C

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ICAO menetapkan sistem ACR-PCR berlaku Juli 2020 dan efektif November 2024. Sangat penting bagi bandara kode referensi 4C di Indonesia melakukan penyesuaian, mengoptimalkan penggunaan aset perkerasan. Penelitian bertujuan menghitung ACR-PCR, membandingkan dengan ACN-PCN dan mengevaluasi struktur perkerasan sisi udara bandara melalui penerapan sistem ACR-PCR. Analisis melalui studi kasus perhitungan dengan ICAO-ACR1.32 dan FAARFIELD2.0. Rasio ACN/PCN dan ACR/PCR diklasifikasikan terhadap kriteria batasan kekuatan perkerasan. Evaluasi berdasarkan kriteria retak lelah lapis beraspal dan deformasi permanen lapis tanah dasar. Nilai PCR *runway* bandara Tjilik Riwut 542FBWT, H. AS. Hanandjoeddin 643FCXT, Fatmawati Soekarno 712FCXT, Radin Inten II 850FCXT. Perbandingan rasio ACN/PCN dan ACR/PCR menunjukkan peningkatan kapasitas perkerasan 1,4740. Berdasarkan kriteria retak lelah lapis beraspal dan deformasi permanen lapis tanah dasar PCR bandara Tjilik Riwut 668 dan 575 FBXT, H. AS. Hanandjoeddin 675 dan 560 FCXT, Fatmawati Soekarno 862 dan 629 FCXT, Radin Inten II 1027 dan 629FCXT. Kapasitas struktur perkerasan bandara PT Angkasa Pura Indonesia memiliki peluang untuk ditingkatkan dari sisi frekuensi penerbangan.

Kata Kunci : Penerapan ACR – PCR, Perbandingan Rasio, Kapasitas Struktural