PLANNING ANALYSIS OF OVERLAY THICKNESS ON NUSAWIRU AIRPORT RUNWAY PAVEMENT

Alfa Fauzi Rahman[1], Hendra[2], Pengki Irawan[3]
Department of Civil Engineering, Faculty of Engineering, Siliwangi University
Siliwangi Street No. 24 Tasikmalaya, West Java, Indonesia
Email: 217011004@student.unsil.ac.id

ABSTRACT

Runway overlay planning is the process of determining the need for resurfacing on runway pavement that has decreased functional or structural performance, which can affect the comfort and safety of flight operations. This research aims to analyze the need for thick resurfacing of the Nusawiru Airport runway pavement due to increased aircraft traffic and decreased structural performance. The analysis was carried out using the Federal Aviation Administration (FAA) method and the FAARFIELD application to determine pavement thickness and service life. Research data includes aircraft traffic, aircraft specifications, existing pavement conditions, and subgrade California Bearing Ratio (CBR) values. The analysis stages include traffic projections using the Compound Annual Growth Rate (CAGR) method, determining the planned aircraft based on the Equivalent Annual Departure (EAD), and evaluating pavement performance using the Cumulative Damage Factor (CDF) approach. The research results show that the existing pavement is still adequate for current operational conditions, but is not able to support the planned aircraft load optimally, so additional overlay layers are required. The addition of this layer meets FAA criteria and increases the Pavement Classification Number (PCN) value according to the planned aircraft load. Thus, the overlay can increase safety, operational efficiency and service life of the Nusawiru Airport runway

Keyword : *Runway, Overlay, FAA, FAARFIELD, CDF, PCN*

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[1]*Student of Civil Engineering Department, Faculty of Engineering, Siliwangi University*
[2]*Supervisor of Final Project 1, Civil Engineering Lecturer, Siliwangi University*
[3]*Supervisor of Final Project 2, Civil Engineering Lecturer, Siliwangi University*