



ABSTRAK

Dampak lingkungan yang sangat mendominasi dari pengoperasian sebuah bandar udara adalah kebisingan yang diakibatkan oleh pergerakan dari berbagai jenis pesawat saat melakukan *landing*, *take-off*, dan *holding*. Kebisingan tunggal saat pesawat melintas memiliki nilai yang berbeda tergantung dengan jenis, pergerakan dan *powerplant setting* di tiap pesawat. ECAC (*European Civil Aviation Convergence*) mengeluarkan ECAC.CEAC Doc. 29 4th Edition Vol. 1: *Application Guide* dan Vol.2: *Technical Guide* yang berisi metode standar untuk menghitung nilai kebisingan pesawat di bandar udara yang disebut dengan metode NPD (*Noise-Power-Distance*).

Penelitian ini dikhususkan pada pesawat Airbus A-320 dan Boeing B737-800 yang beroperasi di Bandar Udara Adi Soemarmo dengan dasar dokumen yang diterbitkan oleh AIP (*Aeronautical Information Publication*) Indonesia untuk Bandar Udara Adi Soemarmo.

Hasil penelitian ini menyatakan bahwa saat pergerakan *landing* nilai maksimal kebisingan tunggal pesawat Airbus A-320 dan Boeing B737-800 ialah 98,3 dB dan 101,21 dB, nilai minimum masing-masing pesawat sebesar 57,91 dB dan 72,98 dB serta nilai rata-rata yang didapat ialah 69,14 dB dan 83,17 dB. Saat pergerakan *takeoff* nilai maksimal kebisingan tunggal pesawat Airbus A-320 dan Boeing B737-800 ialah 110,20 dB dan 108,31 dB, nilai minimum masing-masing pesawat sebesar 73,71 dB dan 75,35 dB serta nilai rata-rata yang didapat ialah 83,85 dB dan 85,68 dB.

Kata kunci: kebisingan pesawat, *noise-power-distance*, kontur kebisingan.



ABSTRACT

The dominant environmental impact from airport operation is a noise pollution which caused by movement of the aircraft during landing, take-off and holding. Single noise when aircraft is operated has different valuation based on their type of movement and powerplant setting in each aircraft. *ECAC (European Civil aviation Convergence)* has published *ECAC.CEAC Doc. 29 4th Edition Vol.1: Application Guide* and *Vol.2: Technical Guide* that contents of standard methodology to export valuation of aircraft noise in airport, then called as NPD (Noise-Power-Distance) Methodology.

However in this research, the focus is only for the operation of Airbus A-320 and Boeing B737-800 in Adi Soemarmo Airport based on published document from AIP (*Aeronautical Information Publication*) Indonesia for Adi Soemarmo Airport.

The result showed that during landing, the maximum value of aircraft single noise in Airbus A-320 and Boeing B737-800 are 98,3 Db and 101,21 Db; with minimum value of 57,91 db and 72,98 db of each aircraft type. The average valuation then obtained as 69,14 ddb and 83,17 db on each aircraft. However during take-off, the maximum value of aircraft single noise for Airbus A-320 and Boeing B737-800 are 110,20 db and 108,31 db; with minimum value of each are 73,71 db and 75,35 db. Then the obtained average value for each aircraft are 83,85 db and 85,68 db.

Keywords: aircraft noise pollution, *noise-power-distance*, noise contour