INTISARI

Bandar Udara Internasional Jenderal Ahmad Yani memiliki dua terminal, yaitu terminal selatan dan terminal utara. Dengan adanya pengembangan pada terminal utara, maka terdapat *taxiway* baru untuk mendukung kegiatan penerbangan di bandar udara tersebut. Tugas akhir ini bertujuan untuk menganalisis geometri dari *runway* eksisting dan *exit taxiway* yang terdapat di terminal bagian utara sesuai dengan persyaratan yang diterbitkan oleh ICAO (*International Civil Aviation Organization*) dan FAA (*Federal Aviation Administration*).

Analisis geometri *runway* didasarkan pada empat jenis pesawat rencana, yaitu B737-800 *with winglets,* B737-900ER *with winglets*, A320-200 *with sharklet,* dan A330-300, sedangkan untuk analisis letak *exit taxiway* didasarkan pada jenis pesawat yang paling sering beroperasi di Bandar Udara Internasional Jenderal Ahmad Yani. Khusus untuk pesawat jenis A330-300, analisis dilakukan untuk mengetahui kemampuan Bandar Udara Internasional Jenderal Ahmad Yani apabila digunakan sebagai bandar udara embarkasi haji. Analisis geometri panjang *runway* dilakukan dengan menggunakan metode *Take Off Runway Length* dan *Landing Length Requirement*. Analisis geometri letak *exit taxiway* dilakukan dengan menggunakan metode ICAO *Three Segment Method* dan *Landing Length Requirement*.

Hasil analisis panjang *runway* dengan metode *Take Off Runway Length* menunjukkan bahwa *runway* eksisting tidak memenuhi untuk pesawat B737-800 *with winglets,* B737-900ER *with winglets* dan A330-300 apabila didasarkan pada perhitungan *Aeroplane Reference Field Length*. Lokasi *exit taxiway* eksisting belum memberikan persentase fungsional yang baik. 77,6% pesawat yang mendarat diharuskan melakukan *turn around* sebelum memasuki area *apron*, sehingga direkomendasikan untuk melakukan perubahan letak dan jenis *exit taxiway* untuk memaksimalkan kinerja *runway* dalam mendukung kegiatan operasional pendaratan maupun lepas landas pesawat.

Kata kunci: Bandar Udara, Geometri, Landas Pacu, Landas Hubung Keluar

ABSTRACT

Ahmad Yani Internasional Airport has two terminals, namely the south terminal and the north terminal. The north terminal was operating in 2019. With the development of the north terminal, there is a new taxiway to support flight activities at the airport. This final project aims to analyze the geometry of the existing runway and exit taxiway in the northern terminal in accordance with the requirements issued by ICAO (International Civil Aviation Organization) ans FAA (Federal Aviation Administration).

The runway geometry analysis is based on four types of critical aircraft, namely B737-800 with winglets, B737-900ER with winglets, A320-200 with sharklet, and A330-300, while the exit taxiway location analysis is based on the type of aircraft that most often operates in the airport. Especially for the A330-300 type aircraft, the analysis was carried out to determine the capability of Ahmad Yani International Airport when used as a hajj embarkation airport. Runway length geometry analysis is carried out using the Take Off Runway Length and Landing Length Requirement methods. Geometry analysis of the exit taxiway location was carried out using the ICAO Three Segment Method and the Landing Length Requirement.

The results of the runway length analysis using the Take Off Runway Length method show that the existing runway does not support the B737-800 with winglets, B737-900ER with winglets and A330-300 aircraft if it is based on the calculation of the Airplane Reference Field Length. Existing taxiway exit locations have not provided a good functional percentage. 77,6% of aircraft are required to make a turn around to enter the apron area, so it is recommended to change the location and type of exit taxiway to maximize runway performance in supporting aircraft landing and takeoff operations.

Keyword: Airports, Geometric, Runway, Exit Taxiway