ABSTRACT

Apron capacity is the ability of the apron to handle the number of aircraft movements and flight activities. Kualanamu International Airport is an international airport serving Medan City, North Sumatra and is located in Deli Serdang Regency, 26 km east of Medan city center. Kualanamu International Airport experiences an increase in the number of movements of both passengers and aircraft every year, with the continued increase in the number of passenger movements and aircraft movements every year at this airport, it will automatically affect the capacity of each facility operated within the airport, one of these facilities is the Apron which is a place for aircraft to carry out ground handling activities after and before use. Ground handling activities carried out include refueling, loading baggage, passengers, and catering, cleaning the aircraft cabin, and short repairs. This study was conducted to determine the number of movements during peak hours, apron capacity and the number of parking stand needs both in the existing year (2019) and in the planned year, namely 2028. Forecasting the number of aircraft movements was carried out using the Time Series Method with aircraft movement data for the last 5 years (2019-2023) obtained from PT. Angkasa Pura Aviasi. The peak hour ratio pattern in the existing year was obtained using the Pignataro Method and then this was used to determine the number of aircraft movements in the planned year by multiplying the ratio pattern obtained by the number of annual aircraft movements from the forecast. The results obtained were then compared with the existing apron capacity and analyzed whether the apron capacity could still serve aircraft movements in the planned year or not. From the results of the analysis carried out, the apron capacity in the existing year was still able to serve aircraft movements until the planned year (2028).

Keywords: Apron, Pignataro Method, Peak Hours, Forecasting.