

ABSTRAK

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Program Studi : Teknik Elektro
Judul : Analisis audit energi pada sistem tata udara Gedung Rumah Sakit Umum Prasetya Bunda Kota Tasikmalaya

Perkembangan peralatan rumah sakit yang cukup pesat memicu peningkatan kebutuhan energi listrik yang digunakan sehingga berpotensi pemborosan, konsumsi energi listrik di gedung Rumah Sakit Umum Prasetya Bunda sebesar 72% digunakan pada sistem tata udara. Maka itu sistem tata udara berpeluang besar dilakukan analisis efisiensi energi yang bertujuan untuk memperoleh penghematan energi listrik tanpa mempengaruhi tingkat kenyamanan. Penghematan energi listrik dilakukan dengan menggunakan metode audit energi. Diantaranya yaitu pertama audit energi awal dilakukan perhitungan nilai intensitas konsumsi energi (IKE) gedung, pada ruangan non AC sebesar 29,14 kWh/m²/Tahun dikategorikan “efisien” sedangkan pada ruangan ber AC sebesar 255,36 kWh/m²/Tahun dikategorikan “boros”. Kedua audit energi rinci dilakukan pengukuran dan analisis pada seluruh aspek sistem tata udara. ketiga peluang penghematan energi yang direkomendasikan yaitu pengurangan jam operasional *air conditioning* khusus ruangan karyawan, penggantian *refrigerant* R22 ke *refrigerant* MC-22 dan penggantian unit AC ke jenis AC inverter terbaru. Penghematan konsumsi energi listrik yang paling efisien sebesar 107911,1 kWh per tahun, sehingga dapat diketahui nilai IKE pada ruangan ber AC setelah dilakukan audit energi menjadi 166,29 kWh/m²/Tahun dikategorikan standar “cukup efisien”.

Kata kunci: *Air Conditioning*, Audit Energi, Intensitas Konsumsi Energi, Peluang Hemat Energi

ABSTRACT

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The rapid development of hospital equipment has triggered an increase in the need for electrical energy used so that it has the potential to be wasteful, the consumption of electrical energy in the Prasetya Bunda General Hospital building by 72% is used in the air conditioning system. Therefore, the air conditioning system has a great opportunity to conduct an energy efficiency analysis that aims to obtain electrical energy savings without affecting the level of comfort. Electrical energy saving is done by using the energy audit method. Among them are 1. the initial energy audit is carried out to calculate the value of the energy consumption intensity (IKE) of the building, in a non-AC room it is 29.14 kWh/m²/year, it is categorized as efficient, while in an air-conditioned room it is 255.36 kWh/m²/year. categorized as wasteful 2. A detailed energy audit conducted measurements and analysis on all aspects of the air conditioning system 3. recommended energy saving opportunities, namely reducing air conditioning operating hours specifically for employee rooms, replacing refrigerant R-22 to refrigerant MC-22 and replacing AC unit to type The latest inverter air conditioner. The most efficient electricity consumption savings is 107911,1 kWh per year, so it can be seen that the IKE value in an air-conditioned room after an energy audit is 166.29 kWh/m²/year categorized as quite an efficient standard.

Keywords: Air Conditioning, Energy Audit, Energy Consumption Intensity, Energy Saving Opportunities