

ABSTRAK

EVALUASI INSTALASI LISTRIK MASJID BAITUL MUKMININ DESA MARIANA

(2025: xiv + 47 Halaman + 16 Gambar + 11 Tabel + 10 Daftar Pustaka)

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Penelitian ini bertujuan untuk mengevaluasi sistem instalasi dan konsumsi energi listrik di Masjid Baitul Mukminin sebagai langkah untuk meningkatkan efisiensi energi dan keselamatan instalasi listrik. Evaluasi dilakukan dengan mengidentifikasi beban-beban listrik utama seperti lampu penerangan, kipas angin, pompa air, dan stop kontak, serta menganalisis pola pemakaian energi harian, mingguan, dan bulanan. Selain itu, dilakukan peninjauan terhadap sistem instalasi eksisting, termasuk kondisi kabel, pembagian beban pada panel distribusi, serta kelengkapan sistem proteksi seperti MCB dan ELCB. Hasil evaluasi menunjukkan adanya beberapa potensi perbaikan, seperti pengaturan waktu operasional beban, penggantian perangkat dengan yang lebih hemat energi, serta perbaikan instalasi agar sesuai dengan standar keselamatan listrik. Rekomendasi juga mencakup pemanfaatan sistem monitoring energi dan penggunaan sumber energi alternatif seperti panel surya. Evaluasi ini diharapkan menjadi dasar bagi pengelolaan energi listrik masjid yang lebih efisien, aman, dan berkelanjutan.

Kata kunci: Masjid Baitul Mukminin, evaluasi listrik, konsumsi energi, efisiensi, instalasi listrik

ABSTRACT

EVALUATION OF THE ELECTRICITY INSTALLATION OF THE BAITUL-MUKMININ MOSQUE IN MARIANA VILLAGE

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This study aims to evaluate the electrical installation system and energy consumption at Baitul Mukminin Mosque as an effort to improve energy efficiency and electrical safety. The evaluation includes identifying the main electrical loads such as lighting, ceiling fans, water pumps, and power outlets, as well as analyzing daily, weekly, and monthly energy usage patterns. In addition, the existing electrical system was inspected, including cable conditions, load distribution on the distribution panel, and the availability of protection systems such as MCBs and ELCBs. The results of the evaluation indicate several areas for improvement, including adjusting operating hours of loads, replacing equipment with more energy-efficient alternatives, and ensuring the installation complies with electrical safety standards. Recommendations also include implementing an energy monitoring system and considering the use of alternative energy sources such as solar panels. This evaluation is expected to serve as a basis for more efficient, safe, and sustainable electricity management at the mosque.

Keywords: Baitul Mukminin Mosque, electrical evaluation, energy consumption, efficiency, electrical installation