

ABSTRAK

Perkembangan teknologi informasi memberikan dampak signifikan di berbagai sektor, termasuk dalam monitoring jaringan distribusi listrik. PT PLN (Persero) UID S2JB saat ini masih menggunakan *Excel* untuk mencatat dan memantau laporan gangguan jaringan listrik berulang, sehingga proses pengolahan data menjadi kurang efektif dan efisien. Penelitian ini bertujuan untuk merancang dan membangun sebuah sistem monitoring gangguan berbasis *website* guna meningkatkan kecepatan, akurasi, dan efisiensi dalam pencatatan, penyimpanan, serta visualisasi data gangguan. Data yang diolah dalam penelitian ini meliputi laporan gangguan jaringan distribusi listrik dari bagian operasi dan pemeliharaan PT PLN (Persero) UID S2JB. Proses pengembangan sistem dilakukan menggunakan metode waterfall, meliputi tahap analisis kebutuhan, perancangan sistem, implementasi, pengujian, hingga pemeliharaan. Hasil pengembangan menunjukkan bahwa sistem berbasis web ini mampu mempermudah petugas dalam input data gangguan, mempercepat pencarian data, dan menyediakan visualisasi interaktif untuk memantau status serta pola gangguan secara *real-time*. Selain itu, fitur analisis pola gangguan mempermudah pengambilan keputusan dalam menentukan prioritas penanganan. Secara keseluruhan, implementasi sistem ini berhasil menggantikan proses sebelumnya, sehingga mampu meningkatkan efisiensi operasional, mendukung pengambilan keputusan yang lebih tepat sasaran, dan berkontribusi terhadap peningkatan keandalan pasokan listrik di wilayah Sumatera Selatan, Jambi, dan Bengkulu.

Kata Kunci: Sistem Monitoring, Gangguan Jaringan Listrik, *Website*, PT PLN (Persero), UID S2JB, *Waterfall*

ABSTRACT

The development of information technology has a significant impact on various sectors, including in monitoring the electricity distribution network. PT PLN (Persero) UID S2JB is currently still using Excel to record and monitor reports of repeated power grid disruptions, so that the data processing process becomes less effective and efficient. This research aims to design and build a website-based disturbance monitoring system to improve the speed, accuracy, and efficiency in recording, storing, and visualizing disturbance data. The data processed in this study includes reports of electricity distribution network disruptions from the operation and maintenance department of PT PLN (Persero) UID S2JB. The system development process is carried out using the waterfall method, including the stages of needs analysis, system design, implementation, testing, and maintenance. The results of the development show that this web-based system is able to make it easier for officers to input intrusion data, speed up data search, and provide interactive visualizations to monitor the status and patterns of disturbances in real-time. In addition, the interference pattern analysis feature makes it easier to make decisions in determining treatment priorities. Overall, the implementation of this system has succeeded in replacing the previous process, thereby improving operational efficiency, supporting more targeted decision-making, and contributing to improving the reliability of electricity supply in the South Sumatra, Jambi, and Bengkulu regions.

Keywords: *Monitoring System, Power Network Disruption, Website, PT PLN (Persero), UID S2JB, Waterfall*