

ABSTRAK

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Judul Laporan Akhir : Analisis Pengendalian *Batch Cell* di *Station Screening*
Terhadap Kualitas *Electrical Test* pada *Battery Pack*
Type Limo7

(2026: xii + 105 Halaman, 34 Gambar, 24 Tabel + 4 Lampiran)

Perkembangan industri kendaraan listrik meningkatkan kebutuhan akan produk baterai yang berkualitas dan konsisten. Pada proses produksi *Battery Pack Type Limo7* di PT. Gotion Green Energy Indonesia, pengendalian *batch cell* pada *Station Screening Grouping* diterapkan sebagai bagian dari sistem *quality control* untuk menjaga keseragaman karakteristik *cell* sebelum proses perakitan. Penelitian ini bertujuan menganalisis penerapan pengendalian *batch cell*, kondisi kualitas hasil *Electrical Test*, serta efektivitas pengendalian *batch cell* dalam mendukung kualitas *Electrical Test Battery Pack Type Limo7*. Penelitian menggunakan metode deskriptif kuantitatif dengan pendekatan studi kasus dan teknik *purposive sampling*. Data diperoleh melalui observasi lapangan, dokumentasi, dan diskusi teknis. Analisis dilakukan melalui perhitungan persentase NG, Diagram Pareto, tren harian NG, analisis sampel, investigasi kombinasi *batch*, serta *retest* setelah proses *balancing*. Berdasarkan data produksi bulan Mei 2026, total *output* mencapai 2.566 pack dengan jumlah NG sebanyak 96 pack atau NG rate sebesar 3,74%. Kategori NG terbesar adalah *Charging Static* dan variannya sebanyak 65 kasus (65,66%), diikuti *Capacity* sebanyak 14 kasus (14,14%). Pada periode kritis 26–30 Mei 2026, jumlah NG mencapai 84 kasus atau 87,5% dari total NG bulan Mei dengan NG rate sebesar 18,79%. Hasil penelitian menunjukkan bahwa identitas *batch cell* tidak menjadi satu-satunya penentu kualitas *Electrical Test*. Kombinasi *batch* yang sama dapat menghasilkan status NG maupun OK, sedangkan kombinasi *batch* berbeda tetap dapat memenuhi standar perusahaan. Proses *balancing cell* terbukti mengubah status NG menjadi OK tanpa perubahan identitas *batch*. Peningkatan NG pada periode kritis dipengaruhi oleh belum optimalnya fungsi alarm dan verifikasi otomatis MES, potensi *calendar aging cell*, serta pelaksanaan pengendalian di lapangan. Secara keseluruhan, pengendalian *batch cell* mendukung *traceability*, kestabilan proses produksi, dan kualitas *Electrical Test* sebagai bagian dari sistem *quality control* perusahaan.

Kata Kunci: Batch Sel, Pengujian Kelistrikan, Penyaringan Sel, Kontrol Kualitas, Paket Baterai.

ABSTRACT

Analysis of Batch Cell Control at the Screening Station on the Quality of Electrical Testing of the Limo7 Battery Pack

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The rapid growth of the electric vehicle industry has increased the demand for high-quality and consistent Battery products. In the production process of Battery Pack Type Limo7 at PT. Gotion Green Energy Indonesia, batch cell control at the Screening Grouping Station is implemented as part of the quality control system to maintain cell uniformity before assembly. This study aims to analyze the implementation of batch cell control, evaluate Electrical Test quality, and assess the effectiveness of batch cell control on the Electrical Test quality of Battery Pack Type Limo7. This research employed a descriptive quantitative method using a case study approach and purposive sampling technique. Data were collected through field observations, documentation, and technical discussions. The analysis included NG percentage calculations, Pareto diagrams, daily NG trend analysis, sample analysis, batch combination investigation, and retest evaluation after the cell balancing process. Based on May 2026 production data, total output reached 2,566 packs with 96 NG packs, resulting in an NG rate of 3.74%. The dominant NG category was Charging Static and its variants with 65 cases (65.66%), followed by Capacity with 14 cases (14.14%). During the critical period of May 26–30, 2026, NG cases reached 84 or 87.5% of the monthly total, with an NG rate of 18.79%. The results indicate that batch cell identity is not the sole determinant of Electrical Test quality. The same batch combination can produce both NG and OK results, while different batch combinations can still meet company standards. The cell balancing process successfully changed NG status to OK without altering batch identity. The increase in NG cases during the critical period was influenced by suboptimal MES alarm and automatic verification functions, potential cell calendar aging, and field implementation of control activities. Overall, batch cell control supports traceability, process stability, and Electrical Test quality as part of the company's quality control system.

Keywords: Batch Cell, Electrical Test, Screening Cell, Quality Control, Battery Pack.