

DAFTAR PUSTAKA

- [1] P. Kundur, *Power System Stability and Control*. New York, NY, USA: McGraw-Hill, 1994.
- [2] P. Tielens and D. Van Hertem, "The relevance of inertia in power systems," *Renewable and Sustainable Energy Reviews*, vol. 55, pp. 999–1009, Mar. 2016, doi: 10.1016/j.rser.2015.11.016.
- [3] PT PLN (Persero), *Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) 2025–2034*. Jakarta, Indonesia: PT PLN (Persero), 2025.
- [4] PT PLN (Persero), *Laporan Evaluasi Operasi Sistem Tenaga Listrik Sumatera 2025*. Jakarta, Indonesia: PT PLN (Persero), 2025.
- [5] PT PLN (Persero), *Laporan Research Group Discussion: Gangguan Subsistem Aceh 06 September 2024*. Jakarta, Indonesia: PT PLN (Persero), 2024.
- [6] Kementerian Energi dan Sumber Daya Mineral Republik Indonesia, *Aturan Jaringan Sistem Tenaga Listrik Sumatera*, Peraturan Menteri ESDM No. 20 Tahun 2020. Jakarta, Indonesia: Kementerian ESDM, 2020.
- [7] PT PLN (Persero), *Laporan Akhir Studi Desain Enjiniring (DE) Battery Energy Storage System (BESS)*. Jakarta, Indonesia: PT PLN (Persero), 2026.
- [8] IEEE, *IEEE Guide for Design, Operation, and Maintenance of Battery Energy Storage Systems*, IEEE Std 2030.2.1-2019. New York, NY, USA: IEEE, 2019.
- [9] H. Wang, X. Zhang, Y. Sun, and Q. Li, "Frequency constrained energy storage system allocation in power system with high renewable penetration," *Journal of Energy Storage*, vol. 90, p. 111769, Jun. 2024, doi: 10.1016/j.est.2024.111769.
- [10] S. Shams, A. H. Chowdhury, M. M. Islam, M. Shafiullah, T. S. Ustun, S. Nahar, K. M. Muttaqi, and D. Sutanto, "A hierarchical optimization technique for placement of battery energy storage system to improve grid transient stability," *Energy Storage*, vol. 6, no. 4, p. e659, 2024.
- [11] A. Parajuli, K. Chapagain, A. Adhikari, and S. Gurung, "Optimal sizing and placement of battery energy storage systems for enhancement of grid frequency stability," in *Proc. 2023 10th IEEE International Conference on Power Systems (ICPS)*, Cox's Bazar, Bangladesh, Dec. 2023, pp. 1–4, doi: 10.1109/ICPS60393.2023.10428732.
- [12] D. Zhang, G. M. Shafiullah, C. K. Das, and K. W. Wong, "Optimal allocation of battery energy storage systems to improve system reliability and voltage and frequency stability in weak grids," *Applied Energy*, vol. 377, p. 124541, Jan. 2025, doi: 10.1016/j.apenergy.2024.124541.

- [13] J. Lee, S. Han, and D. Lee, "Optimizing the location of frequency regulation energy storage systems for improved frequency stability," *Batteries*, vol. 9, no. 12, p. 592, Dec. 2023, doi: 10.3390/batteries9120592.
- [14] M. I. Pereira and C. Moreira, "Improving stability of reduced inertia transmission systems using BESS and synchronous condensers," in *Proc. 2024 IEEE 22nd Mediterranean Electrotechnical Conference (MELECON)*, Porto, Portugal, May 2024, pp. 443–448.
- [15] U. Datta, A. Kalam, and J. Shi, "Battery energy storage system for transient frequency stability enhancement," in *Proc. 2017 Australasian Universities Power Engineering Conference (AUPEC)*, Melbourne, VIC, Australia, Nov. 2017, pp. 1–5, doi: 10.1109/AUPEC.2017.8282465.
- [16] T. Kerdphol, Y. Qudaih, Y. Mitani, and P. Garasi, "Optimal sizing of battery energy storage system in microgrid system considering load shedding scheme," *International Journal of Smart Grid and Clean Energy*, vol. 4, no. 1, pp. 22–29, Jan. 2015.
- [17] ENTSO-E, *Inertia and Rate of Change of Frequency (RoCoF)*, Version 17. Brussels, Belgium: ENTSO-E, Dec. 2020.
- [18] H. Zibandeh, A. Ghafouri, and T. Nouri, "Voltage-frequency control of isolated renewable based microgrid considering load and generation uncertainties," *SSRN Electronic Journal*, Sep. 2023.
- [19] DIgSILENT GmbH, *Application Example: Battery Energy Storage System (BESS)*. Gomaringen, Germany: DIgSILENT GmbH, 2023.
- [20] DIgSILENT GmbH, *PowerFactory 2021 Python Function Reference*. Gomaringen, Germany: DIgSILENT GmbH, 2021.
- [21] X.-S. Yang and A. H. Gandomi, "Bat Algorithm: A novel approach for global engineering optimization," *Engineering Computations*, vol. 29, no. 5, pp. 464–483, 2012, doi: 10.1108/02644401211235834.
- [22] A. D. Sitompul, R. Irnawan, Y. F. Sidik, and H. Tambunan, "Optimal BESS placement and sizing for frequency stability using Bat Algorithm: A comparative study in the Aceh subsystem," unpublished manuscript, 2026.