

REFERENSI

- [1] “UIKL Sulawesi.” [Online]. Available: https://www.uikl-sulawesi.co.id/index.php/control/celebes_system. [Accessed: 01-Jul-2020].
- [2] N. W. Miller, M. Shao, S. Venkataraman, C. Loutan, and M. Rothleder, “Frequency response of California and WECC under high wind and solar conditions,” *IEEE Power Energy Soc. Gen. Meet.*, pp. 1–8, 2012.
- [3] E. Ela, M. Milligan, and B. Kirby, “Operating Reserves and Variable Generation,” *Contract*, no. August, pp. 1–103, 2011.
- [4] North American Electric Reliability Corporation, “NERC Balancing and Frequency Control,” 2011.
- [5] N. W. Miller, M. Shao, S. Pajic, and R. D’Aquila, “Western Wind and Solar Integration Study Phase 3: Frequency Response and Transient Stability,” *NREL Tech. Rep.*, no. December, pp. 1–213, 2014.
- [6] A. Fernández-Guillamón, E. Gómez-Lázaro, E. Muljadi, and Á. Molina-García, “Power systems with high renewable energy sources: A review of inertia and frequency control strategies over time,” *Renew. Sustain. Energy Rev.*, vol. 115, no. July, p. 109369, 2019.
- [7] J. Eto *et al.*, “Use of Frequency Response Metrics to Assess the Planning and Operating Requirements for Reliable Integration of Variable Renewable Generation,” no. December 2010, p. LBNL-4142E, 2010.
- [8] P. Daly, D. Flynn, and N. Cunniffe, “Inertia considerations within unit commitment and economic dispatch for systems with high non-synchronous penetrations,” *2015 IEEE Eindhoven PowerTech, PowerTech 2015*, 2015.
- [9] Kementerian Energi dan Sumber Daya Mineral, “Aturan Jaringan Sistem Tenaga Listrik Jawa-Madura-Bali,” 2007.
- [10] R. Doherty, G. Lalor, and M. O’Malley, “Frequency control in competitive electricity market dispatch,” *IEEE Trans. Power Syst.*, vol. 20, no. 3, pp. 1588–1596, 2005.
- [11] H. Chavez, R. Baldick, and S. Sharma, “Governor Rate-Constrained OPF for Primary Frequency Control Adequacy,” vol. 29, no. 3, pp. 1473–1480, 2014.
- [12] G. Stein, “Frequency Response Technical Sub-Group Report,” *Natl. Grid*, no. November, pp. 1–34, 2011.
- [13] J. F. Restrepo and F. D. Galiana, “Unit Commitment With Primary Frequency Regulation Constraints,” *Power*, vol. 20, no. 4, pp. 1836–1842, 2005.

- [14] H. Gu, R. Yan, T. K. Saha, and E. Muljadi, "System Strength and Inertia Constrained Optimal Generator Dispatch Under High Renewable Penetration," *IEEE Trans. Sustain. Energy*, vol. 11, no. 4, pp. 2392–2406, 2019.
- [15] L. Badesa, F. Teng, and G. Strbac, "Optimal scheduling of frequency services considering a variable largest-power-infeed-loss," *arXiv*, 2020.
- [16] N. Nguyen-Hong and Y. Nakanishi, "Frequency-Constrained Unit Commitment Considering Battery Storage System and Forecast Error," *Int. Conf. Innov. Smart Grid Technol. ISGT Asia 2018*, no. 1, pp. 1171–1176, 2018.
- [17] M. Shahidehpour, W. F. Tinney, and Y. Fu, "Impact of security on power systems operation," *Proc. IEEE*, vol. 93, no. 11, pp. 2013–2025, 2005.
- [18] N. Farrokhseresht, H. Chavez, and M. R. Hesamzadeh, "Economic impact of wind integration on Primary Frequency Response," *2015 IEEE Eindhoven PowerTech, PowerTech 2015*, 2015.
- [19] G. Zhang and J. McCalley, "Optimal power flow with primary and secondary frequency constraint," *2014 North Am. Power Symp. NAPS 2014*, 2014.
- [20] H. Ahmadi and H. Ghasemi, "Security-constrained unit commitment with linearized system frequency limit constraints," *IEEE Trans. Power Syst.*, vol. 29, no. 4, pp. 1536–1545, 2014.
- [21] G. Zhang, E. Ela, and Q. Wang, "Market Scheduling and Pricing for Primary and Secondary Frequency Reserve," *IEEE Trans. Power Syst.*, vol. 34, no. 4, pp. 2914–2924, 2019.
- [22] N. Nguyen-Hong and Y. Nakanishi, "Frequency-Constrained Unit Commitment Considering Battery Storage System and Forecast Error," *Int. Conf. Innov. Smart Grid Technol. ISGT Asia 2018*, no. 1, pp. 1171–1176, 2018.
- [23] D. Husam and P. Al-Hudri, "Security-Constrained Unit Commitment Pada Sistem Jawa-Madura-Bali," Universitas Gadjah Mada, 2020.
- [24] E. Y. Pramono and S. Isnandar, "Criteria for integration of intermittent renewable energy to the Java Bali Grid," *Int. Conf. High Volt. Eng. Power Syst. ICHVEPS 2017 - Proceeding*, vol. 2017-Janua, pp. 91–94, 2017.
- [25] G. B. Wood, Allen J.; Wollenberg, Bruce F.; Sheble, *Power Generation Operation and Control*. New York: Wiley, 2014.
- [26] M. Tkiouat and I. Abdou, "Unit Commitment Problem in Electrical Power System: A Literature Review," *Int. J. Electr. Comput. Eng.*, vol. 8, no. 3, pp. 1357–1372, 2018.
- [27] California ISO, "What the duck curve tells us about managing a green

grid,” p. 4, 2016.

- [28] F. M. R. Aditya, L. M. Putranto, Sarjiya, E. N. Putra, E. Y. Pramono, and Marwah, “PV Operation on the Low Demand Condition in the Java-Bali System,” *2019 11th Int. Conf. Inf. Technol. Electr. Eng. ICITEE 2019*, vol. 7, pp. 3–8, 2019.
- [29] Sarjiya *et al.*, “Wind and Solar Power Plant Modelling and Its Impact to the Jawa-Bali Power Grid,” pp. 274–279, 2020.
- [30] M. S. Sehedra and O. B. Dudurych, “Issues of inertia response and rate of change of frequency in power systems with different penetration of variable speed wind turbines,” *Proc. - EPNet 2016, Electr. Power Networks*, pp. 1–4, 2017.
- [31] N. W. Miller, K. Clark, M. Shao, and G. E. Energy, “Frequency Responsive Wind Plant Controls : Impacts on Grid Performance,” *2011 IEEE Power Energy Soc. Gen. Meet.*, pp. 1–8, 2011.
- [32] H. Ahmadi and H. Ghasemi, “Maximum penetration level of wind generation considering power system security limits,” *IET Gener. Transm. Distrib.*, vol. 6, no. 11, pp. 1164–1170, 2012.
- [33] A. Dixon, *Modern Aspects of Power System Frequency Stability and Control*. Elsevier Inc., 2019.
- [34] Y. Wen, W. Li, G. Huang, and X. Liu, “Frequency Dynamics Constrained Unit Commitment with Battery Energy Storage,” *IEEE Trans. Power Syst.*, vol. 31, no. 6, pp. 5115–5125, 2016.
- [35] N. I. Yusoff, A. A. M. Zin, and A. Bin Khairuddin, “Congestion management in power system: A review,” *3rd Int. Conf. Power Gener. Syst. Renew. Energy Technol. PGSRET 2017*, vol. 2018-Janua, no. March 2018, pp. 22–27, 2017.
- [36] K. Van Den Bergh, E. Delarue, and W. D’haeseleer, “DC power flow in unit commitment models,” *TME Work. Pap. Environ.*, no. May, pp. 1–38, 2014.
- [37] G. Morales-españa, S. Member, J. M. Latorre, and A. Ramos, “Tight and Compact MILP Formulation for the Thermal Unit Commitment Problem,” vol. 28, no. 4, pp. 4897–4908, 2013.
- [38] K. Phraba, *Power System Stability And Control*. McGraw Hill, 1994.
- [39] K. E. N. M. Erik Ørum, Mikko Kuivaniemi, Minna Laasonen, Alf Ivar Bruseth Erik Alexander Jansson, Anders Danell, “Nordic Report: Future System Inertia,” *Nord. Rep.*, pp. 1–58, 2015.
- [40] North American Electric Reliability Corporation, “Fast Frequency Response Concepts and Bulk Power System Reliability Needs,” no. March, 2020.

- [41] G. Chown, J. Wright, R. van Heerden, and M. Coker, "System inertia and Rate of Change of Frequency (RoCoF) with increasing non-synchronous renewable energy penetration, Innovation in the Power Systems industry," *CIGRE Sci. -Engineering*, vol. 11, no. June, pp. 1–134, 2018.
- [42] S. C. Johnson, D. J. Papageorgiou, D. S. Mallapragada, T. A. Deetjen, J. D. Rhodes, and M. E. Webber, "Evaluating rotational inertia as a component of grid reliability with high penetrations of variable renewable energy," *Energy*, vol. 180, pp. 258–271, 2019.
- [43] G. Ódor and B. Hartmann, "Power-law distributions of dynamic cascade failures in power-grid models," *Entropy*, vol. 22, no. 6, pp. 1–19, 2020.
- [44] J. H. Eto, J. Undrill, C. Roberts, P. Mackin, and J. Ellis, "Frequency Control Requirements for Reliable Interconnection Frequency Response," no. February, pp. 1–116, 2018.
- [45] EirGrid and SoNi, "RoCoF Modification Proposal – TSOs' Recommendations," no. September, pp. 1–15, 2012.
- [46] M. Milligan *et al.*, "Operating Reserves and Wind Power Integration: An International Comparison," *9th Annu. Int. Work. Large-Scale Integr. Wind Power into Power Syst.*, no. October 2010, pp. 1–19, 2010.
- [47] P. Kundur, *Power System Stability*, vol. III. 1994.
- [48] M. H. Albadi and E. F. El-Saadany, "Comparative study on impacts of wind profiles on thermal units scheduling costs," *IET Renew. Power Gener.*, vol. 5, no. 1, pp. 26–35, 2011.
- [49] J. Rogers, S. Fink, and K. Porter, "Examples of Wind Energy Curtailment Practices," *Natl. Renew. Energy Lab.*, no. July, pp. 1–11, 2010.
- [50] Wind Energy Ireland, "Blog: 'Dispatch Down' and the fight against climate change," 2019. [Online]. Available: <https://windenergyireland.com/latest-news/2526-dispatch-down-and-the-fight-against-climate-change>. [Accessed: 05-Feb-2021].
- [51] C. Wallace, "Mixed integer programming heuristics," *ProQuest Diss. Theses*, p. 93, 2010.
- [52] C. Problem and S. Cps, "Tutorial on CPLEX Linear Programming LP with CPLEX," 2019.
- [53] T. Athay and R. Podmore, "A Practical Method for the Direct Analysis of Transient Stability," no. 2, pp. 573–584, 1979.
- [54] IESR, "Technical Report: A Roadmap for Indonesia's Power Sector: How Renewable Energy Can Power Java-Bali and Sumatera," 2019.
- [55] M. Taylor, P. Ralon, H. Anuta, and S. Al-Zoghoul, *Renewable Power Generation Costs in 2019*. 2020.

[56] PT PLN (Persero), “Pola Operasi PLTB Sidrap 70 MW.”