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RELIABILITY EVALUATIONS OF POWER SYSTEMS INCLUDING WIND POWER GENERATION

BY

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Abstract. A technique of reliability evaluation for power system with conventional and wind power generation is developed. The main aspect of this paper is an equalization of the conventional generators with wind power generators, having in view the same system adequacy performance. The adequacy of power system, with different numbers and types of conventional and wind power generators, is evaluated with two popular indices in generating capacity planning, namely the loss of load expectation (LOLE) and the loss of energy expectation (LOEE).

Key words: power generation reliability; wind power generation; loss of load probability.