

Research On The Decision Of State Maintenance For Transmission Line Based On Set Pair Analysis

Authors:

SHIYANG ZHU and

LE WANG

Abstract: Overhead transmission lines are important parts of a power system; their operation state directly affects the reliability level of the entire power system. With the in-depth development of state maintenance work for power grids, correctly evaluating the reliability of overhead transmission lines is the key to successful maintenance. A maintenance decision model for transmission lines is established in this study based on set pair analysis to achieve human financial control and low maintenance efficiency. Full consideration is provided to the influence of environmental factors, and a theoretical basis for transmission line maintenance decision is established.

Keywords: Overhead transmission line, state maintenance, set pair analysis, reliability

References

1. Han D. J., White A. (1995): Transformer Design for High Reliability [J]. The reliability of transmission and distribution equipment, (406): 29-31.
2. Van Schijndel A., Wetzer J. M. (2006): Forecasting Transformer Reliability [J]. IEEE conference on electrical insulation and dielectric phenomena, 577-582.
3. Md. Mafijul Islam Bhuiyan, Petr Musilek, et al. (2010): Evaluating Thermal Aging Characteristics of Electric Power Transmission Lines [J]. Electrical and computer engineering (CCECE), 2010 23rd Canadian Conference, 1-4.
4. Aggarwal R. K., Johns A. T., Jayasinghe J.A.S.B. (2000): An Overview of Thecondition Monitoring of Overhead Line [J]. Electric power system research, 6:22.
5. Harly W., Sokolov J. (2000): Contribution of Panel on Modern Maintenance Techniques for Enhancing the Reliability of Insulation of Power Transmission Systems. CIGRE-Report Pi-06, 87-91.
6. Wang H., Phara H. (1999): Some Maintenance Models and Availability with Imperfect Maintenance in Production Systems [J]. Annals of operations research, 91(3): 306.
7. GuoWeiyue. (2006): Preventing Measures of Bird Interference with Transmission Lines and Substation Equipment in U. S [J]. Electric Power, 39(8): 82-84.