## REFERENCES

- [1] IEEE Std. 80-2013, IEEE Guide for Safety in AC Substation Grounding, New York, NY: IEEE.
- [2] IEEE: 81: 2012, IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System.
- [3] Manual on," Grounding of A C Power Systems," Publication No 311, C.B.I.P. New Delhi.
- [4] I.S.3043-1987, Indian Standard Code of Practice for Grounding.
- [5] IEEE 142-2007 Recommended Practice for Grounding of Industrial and Commercial Power Systems.
- [6] Hans R.Seedher, J.K.Arora, "Estimation of two layer soil Parameter using finite wenner Resistivity Expression", IEEE Transaction on Power Delivery, Vol.7 No.3, July, 1992.
- [7] Gary Gilbert, "Soil modelling techniques", International Journal of Materials Science and Applications. Vol. 1, No. 1, pp. 8-13., 2012.
- [8] M.Nessereddine, J.Rizk, M.Nagrial, A.Helleny, "Estimation of apparent soil resistivity for two - layer soil structure," International Journal Of Energy And Environment, Volume 4, Issue 4, pp.573-580, 2013.
- [9] Rodney Urban, Karl Mardira, Session Three:Accurate "Soil Resistivity Testing for Power System Grounding", Grounding, Lightning & Surge Protection Forum – IDC Technologies.

- [10] Ioannis F. GONOS, Vassiliki T. Kontargyri, Ioannis A. Stathopulos, Antonios X. Moronis, Anastasios P. Sakarellos, Nikolaos I. Kolliopoulos, "Determination Of Two Layer Earth Structure Parameters" XVII International Conference on Electromagnetic Disturbances EMD'2007, Poland.
- [11] Adekitan I. Aderibigbe, Fakolujo A. Olaosebikan," Alogorithm for Determining the Parameters of a Two- Layer Soil Model", World Academy of Science, Engineering and Technology International Journal of Electrical, Computer, Electronics and Communication Engineering Vol:8, No:11, 2014.
- [12] J.Ma, F.P. Dawalibi , R.D.Southey, "Effects of the Changes in IEEE Std. 80 on the Design and Analysis of Power System Gounding", Safe Engineering Services & technologies ltd.,2002.
- [13] R.D.Southey, F.P. Dawalibi, "Improving the Reliability of Power systems with More accurate Grounding System Resistance Estimates", Safe Engineering Services & technologies ltd., 2002.
- [14] F.P. Dawalibi, N.Mitskevitch, "Analysis and Validation of the Performance of Grounding Gystems Buried in Soil Structures Containing heterogeneous volumes", Safe Engineering Services & technologies ltd.,2003.
- [15] Maneesh Kumar, Gagandeep Singh, "Design of Grounding System for an Electrical Substation: An Overview", International Journal of Scientific & Engineering Research, Volume 5, Issue 11, November – 2014.
- [16] Grzegorz Karnas, Grzegorz Masłowski, Robert Ziemba, Stanisław Wyderka, Kamil Filik, " Analysis of a Simple Grounding System Installed in a Multilayer Soil", Zeszyty Naukowe Politechniki Rzeszowskiej Nr 287, Elektrotechnika z. 32, 2012.

- [17] J. A. Laver and H. Griffiths, " The Variability of Soils in Grounding Measurements and Grounding System Performance, Rev. Energ. Ren. : Power Engineering (2001) 57-61.
- [18] Att Phayomhom, Somporn Sirisumrannukul, Tirapong Kasirawat, and Arwut Puttarach, "Safety Design Planning of Ground Grid for Outdoor Substations in MEA's Power Distribution System", ECTI transactions on Electrical Engg., Electronics, and Communications vol.9, no.1 February 2011.
- [19] Dwarka Prasad, Dr. H.C Sharma, " Soil Resistivity and Grounding System", International Journal of Management, IT and Engineering, Volume 2, Issue 9, September, 2012.
- [20] M. Nassereddine, J. Rizk, and G. Nasserddine," Soil Resistivity Data Computations; Single and Two - Layer Soil Resistivity Structure and Its Implication on Grounding Design," World Academy of Science, Engineering and Technology Vol:7 2013.
- [21] O.E.Gouda1, G. M.Amer, T. M.EL-Saied, "Factor Affecting the Apparent Resistivity of Multi-Layer Soil", Proceedings of the XIVth International Symposium on High Voltage Engineering, Singhua University, Beijing, China, 2005.
- [22] Mosleh Maiet AI-Harthi ,Sherif Salama Mohamed Ghoneim ," Measurement the Earth Surface Potential for Different Grounding System Configurations Using Scale Model ",International Journal of Electrical Engineering & Technology (IJEET), Vol 3, Issue 2, July-September,pp. 405-416, 2012.
- [23] S M Sherif, G Ghonei, A kamel, S Shoush. "Analytical Methods for Earth Surface Potential Calculation for Grounding Grids ",International Journal of Engineering & Computer Science 2013, 13(3), pp. 1-7.

- [24] P.Hajebi, A.A.Heidari and A.Mirzaei, "Resistance to earth of grounding grids in two layer soil structure using FEM and GA", PIERS Proceedings Xi'an China, March 2010.
- [25] Hatim Ghazi Zaini, "Calculation of grounding resistance and earth surface potential for two layer model soil", International Journal of Electrical Engineering & Technology, Vol. 3, Isuue 3, October – December 2012.
- [26] Nevil Jose, "Design of earth grid for 33/11 KV GIS substation at a high soil resistivity site using CYMGRD software", International Journal of Engineering Research & Technology, Vol.3 Issue 10, October 2014.
- [27] M G Unde, B E Kushare, "Grounding grid performance of substation in two layer soil- A parametric analysis", International Journal of Engineering Sciences & Emerging Technologies, Vol. 1, issue 2, Feb 2012.
- [28] F.P. Dawalibi, J Ma, R.D.Southey, "Behaviour of grounding systems in multilayer soils : A parametric analysis", IEEE Transaction on Power Delivery, Vol. 9, No 1, January 1994.
- [29] Kaustubh A. Vyas and J.G. Jamnani, "Development of IEEE Complaint Software 'Economical Substation Grounding System Designer' Using MATLAB GUI Development Environment", International Journal on Electrical Engineering and Informatics ,vol. 4, pp. 335-346, 2012.
- [30] Kaustubh A. Vyas, J.G.Jamnani, "Optimal Design of Grounding System for HV/EHV Substations in Two Layered Soil", International Journal of Emerging Technology and Advanced Engineering, vol.2, Issue 5, pp. 383-392, 2012.

- [31] M. Soni, Abraham George, "Cost Effective Grounding Grid Design for Substation", International Journal Scientific & Engineering Research,vol.6, Issue 8, Aug 2012.
- [32] S.Ghoneim, H.Hirsch, A.Elmorshedy, R.Amer "Optimization Technique for Grounding Grids Design ", Journal of Electrical and Electronic Systems Research, vol.1, June 2008.
- [33] Dwarka Prasad, H.C.Sharma, "Parameters Effecting Substation Grounding Grid Resistance", International Journal of Information Technology and Electrical Engineering, vol.4, Issue 1, February 2015.
- [34] Sherif Ghoneim, "Optimal Grounding Grid Design to Suit Safety Conditions ", International Journal of Electrical Electronics and Telecommunication Engineering, vol.44, Issue 2, July 2013.
- [35] Sushma Reddy. K , G.S. Raju, Poonam Upadhyay, " Design of Optimal Grounding Mat for High Voltage Substation ", IEEE transactions on power delivery, 2012.
- [36] M.A. Salam, S.P.Ang, Chrustina AJ and Goh, "Simulation of Grounding Resistance with 70 by 70 feet Grid", IEEE transactions on power delivery, 2010.
- [37] Nitin R. Bhasme, Swapnil. G. Shah, "Design of Earthing System for 400 kV AC substation : A case Study", International Journal of Electrical Engineering, Vol. 7, pp. 227-239, 2014.
- [38] Jinxi.Ma, F.P. Dawalibi, "Grounding Analysis of a Large Electric Power Station", Safe Engineering Services & technologies ltd.,2006.
- [39] Vikram Patel, A.L.vaghamshi, K.A.Sonagra, "Substation Grounding Grid Design Case Study Using Matlab", International Journal for Scientific Research & Development, Vol. 2, Issue 03,2014.

- [40] Dwarka Prasad, H.C. Sharma, "Significance of Step and Touch Voltages," International Journal of Soft Computing and Engineering, vol. 1, Issue 5, November 2011.
- [41] Ersan Senturk , Nurettin Umurkan , Ozcan Kalnderli ," A Study On Numerical Computation of Potential Distribution Around A Grounding Rod Driven In Soil" Department of Electrical Engineering ,Istanbul ,Turkey.,2008.
- [42] A. Raghu Ram, K. Santhosh Kumar, "Analysis of Very Fast Transients in EHV Gas Insulated Subsations" International Journal of Engineering Science and Innovative Technology, vol.1, issue 1, pp18-26, 2012.
- [43] Premalatha Potta, R Balakrishnan, "ETAP Model for Earth Mat Design", Proceedings of International Academic Conference on Electrical, Electronics and Computer Engineering, pp. 84-89, September 2013.
- [44] R Kumar, K Bansal, D K Saini, I P S Paul, "Two Layer soil modeling and optimal designing of Grounding System of High Voltage Air Insulated and Gas Insulated Substation using MATLAB GUI", Water and Energy International,88(1), pp. 21-26, 2015.
- [45] R Kumar, K Bansal, D K Saini, I P S Paul, "Importance and Need of Accurate Modelling of Soil of High Voltage Substation for Optimal Designing of Grounding System", IJEC, 7(1), pp. 29-44, 2015.
- [46] R Kumar, K Bansal, D K Saini, I P S Paul, "Development of Empirical Formulas and Computer Program with MATLAB GUI for Designing of Grounding System in Two Layer Soil Resistivity Model for High Voltage Air Insulated & Gas Insulated Substations" IJST, Volume 9, Issue 28, July, 2016.
- [47] Online help of MATLAB for GUI development available at:

"http://www.mathworks.in/help/techdoc/creating guis/bqz6p81.html".

- [48] Thesis of Gary Gilbert on "High Voltage Grounding System" Presented to the University of Waterloo, Ontario Canada , 2011.
- [49] Thesis of Anders Morstad on "Grounding of Outdoor High Voltage Substation" Presented to Norwegian University of Science and Technology, June 2012.
- [50] Thesis of Mustafa Guclu Aydiner on "Grounding Design Analysis" Presented to Middle East Technical University, February 2009.