6. CONCLUSIONS

This work represents hybrid electrical power system model. Due to the integration of fuel cell, P-V power and wind power with main grid large amount of fault currents will come. That fault current creates a major disturbance to power system so introduce Resistive type superconducting fault current limiter (R-SFCL) into the power system network. Here R-SFCL works very effective manner, under normal operating conditions R-SFCL works as superconductor during abnormal conditions it acts as resistor then fault currents are limited. R-SFCL is a very effective device to reduce harmonics, fault currents and compensate the voltage levels.

REFERENCES

[1] Jamasb T, Nuttall WJ, Pollitt MG. (2006). Future electricity technologies and systems. Michael Pollitt.

[2] Guo F, Tang Y, Shi J, Ren L. (2013). Reducing the fault current and overvoltage in a distribution system with distributed generation units through an active type SFCL. IEEE Transactions on Applied Superconductivity 24(3): 1-5.

[3] Xin Y. (2015). Review on superconducting fault current limiters. South. Power Syst. Techno. 9(3): 1–9.

[4] Mounsour DEA. (2014). Effect of fault resistance on the behavior of superconducting fault current limiter in power system. Power and Energy (PECON) IEEE International Conference 212-216.

[5] Pei X, Smith AC. (2016). Experimental testing and development of improved modelling for multistrand resistive SFCL. IEEE Transactions on Applied Superconductivity 26(4): 1-5.

[6] Blair SM, Booth CD, Burt GM, Bright CG. (2013). Application of multiple resistive superconducting fault-current limiters for fast fault detection in highly interconnected distribution systems. IEEE Trans. Power Del. 28(2): 1120–1127.

[7] Ghanbari T, Farjah E. (2012). Unidirectional fault current limiter: An efficient interface between the microgrid and main network. IEEE Transactions on Power System 0885-8950.

[8] Kim SY, Kim JO. (2011). Reliability evaluation of distribution network with DG considering the reliability of protective devices affected by SFCL. IEEE Trans. Appl. Supercond 21(5): 3561–3569.