# Load Flow Analysis of Power System Network in Bhutan

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***Abstract*—This project attempts to model power system networks of Bhutan and carry out load flow analysis in PSS/E software. The load flow analysis was carried out considering one-day data, typically real network data of the monsoon (June 1st, 2018). The primary objectives concerning power flow analysis is** to **determine the magnitude and phase angle of voltage, examining the voltage profile to identify the weakest bus in the network. Real and reactive power of individual bus was also determined to compute total power losses in the system. Moreover, load flow analysis plays a vital role in determining various conditions and state of power system for further studies. In this research, the power system loads are considered as static (Quasi- static-load) while carrying out load flow analysis. Newton Raphson method was used for the load flow analysis.**

**Keywords— Load flow analysis, Newton Raphson, Power loss, PSS/E, Voltage profile, Weakest bus**