

It is noted that from Table 2,3, and 4 the changes in active and reactive power at any conditions the voltage stability indicators L-indicator and Z_{Th} indicator are increase and the stability of the system are decrease.

VIII. CONCLUSION

A method for computation static voltage collapse proximity indicator VCPI, FVSI and Z_{Th} indicator are presented. Some case studies conducted on typical power networks have also been presented. These networks represented by two buses connected by transmission line and IEEE 6-buses system. This paper presented a new formula to get change in voltage and its angles based on the change on active and reactive powers. This formula is used to calculate L-index, FVSI- index and Z_{Th} - index directly without need to compute load flow in each time. Therefore, this formula depends only to compute base case load flow for one time to find the initial steady state condition. This study is important to prevent a possible voltage collapse with simple calculations of voltage stability indicator.

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APPENDIX

Bus	V (kV)
1	241.5 $\angle 0^{\circ}$
2	241.6 $\angle -3.1^{\circ}$
3	246.1 $\angle -3.3^{\circ}$
4	227.6 $\angle -4.2^{\circ}$
5	226.7 $\angle -5.3^{\circ}$
6	231 $\angle -5.9^{\circ}$

Generator	P (Mw)	Q (Mvar)
1	107.9	16
2	60	74.4
3	60	89.6

load	P (Mw)	Q (Mvar)
4	70	70
5	70	70
6	70	70