

Abstract: The paper presents modifications to the existing standard decentralised two-level state-estimation approach which imposes conditions on tie power-flow line and boundary-bus power-injection measurements. These conditions are resolved by introducing a modified two-level state-estimation approach which implements modifications to the existing standard approach. The modified approach has no additional requirements at all, except for the observability of the overall system which is an important constraint for any state estimator. A decomposition C-code routine is developed to evaluate the performance of the new concepts associated with the proposed approach. A simple DC PSSE network is applied to demonstrate different concepts associated with the proposed approach.