

CASE STUDY

Optimizing Stability for the Masinloc Generation Expansion

The Masinloc Generation Project enlisted EPE for a comprehensive dynamic study on the National Grid Corporation of the Philippines (NGCP) system. The study's primary objective was to assess the impact of expanding the Masinloc coal-fired power plant by introducing 2 x 300 MW units alongside a 10 MW Battery Energy Storage System (BESS).

CHALLENGE

During the dynamic study, the project encountered a significant challenge. The addition of the 2 x 300 MW units caused system instability, resulting in a voltage collapse. Despite the integration of the 10 MW BESS, persistent instabilities necessitated further analysis and measures to address the challenges associated with the expansion.



SOLUTION

EPE's approach included a thorough dynamic system study, assessing the consequences of adding the 2 x 300 MW units and the 10 MW BESS under various system conditions. Grid compliance study and testing services were also conducted to evaluate stability and voltage collapse risks.

Recognizing the limitations of the 10 MW BESS in fully mitigating instabilities, EPE provided additional measures to enhance the overall stability of the NGCP system.

RESULTS

The study revealed critical insights into the challenges of the expansion project. Despite the partial mitigation achieved by the 10 MW BESS, the results indicated the need for supplementary measures to address instabilities associated with the 2 x 300 MW units. EPE's recommendations aimed to optimize the overall stability and reliability of the NGCP system within the framework of the Masinloc Generation Project.