Transients in VSC-HVDC connected offshore wind power plant

The focus of this paper is transient phenomena in VSC-HVDC connected offshore wind power plants (WPPs). With the help of a case study modelled in PSCAD simulation software, energisation events are analysed in the time domain. A comparison with more well-known results obtained at energisation of AC connected WPPs indicates that significant differences arise as the energy involved in the switching event increases, due to the presence of the HVDC converter control. The influence of the offshore HVDC converter control gain in the most critical cases is assessed empirically and explained qualitatively.

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