

An Overview of Photovoltaic Power Plant (PV) Connection to HVDC Grid

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Abstract:

Solar energy is considered one of the most important alternative and renewable energies for the production of electricity, so that solar power plants work to produce direct current, which is then converted into alternating current through DC-AC converters and linked to power transmission networks of alternating current. But since most of the large solar PV plants are built in areas far from the load, the world is moving today to transfer power directly from solar panels to high voltage HVDC grid, due to the advantages that HVDC provides such as lower transmission loss, low cost and higher efficiency compared to HVAC. In this paper we present an overview of recent studies dealing with Photovoltaic Power Plant Connection to HVDC Grid and the comparison between these systems.

Keywords: Photovoltaic solar power plants (PV), HVDC Grid, DC to DC converter, electric power transmission HVDC.