

Technical Considerations of High Voltage Direct Current for Interconnection of Iran Grid to Neighboring Countries

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Abstract : Interconnection between countries provides noticeable economic, technical and environmental benefits. Iran grid has an excellent condition for connection to neighbouring countries. There are two main options including High Voltage Direct Current (HVDC) and High Voltage Alternative Current (HVAC) for interconnection between the grids. At present, all of Iran cross border interconnections are HVAC while HVDC brings more benefits in comparison which should be considered by system planners. This paper presents a comprehensive review of technical considerations of HVDC for interconnection of Iran grid to neighbouring countries. Converter technology, converter transformers, converter valves, filters, and transmission link are studied for a good cognition to HVDC. In addition, a comparison between HVDC and HVAC for transmitting of power is discussed. Finally, a conclusion on HVDC technology and components is drawn out to provide a comprehensive knowledge for system planners.

Keywords : interconnection, HVDC, HVAC, voltage sourced converter, current sourced converter

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