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(54) Title: METHODS TO PROVIDE ELECTRIC POWER FROM RENEWABLE ENERGY EQUIPMENT TO AN ELECTRICAL LOAD

(57) Abstract: An HVDC system comprising an AC/DC converter sub-system electrically connected to a renewable energy equipment and a VSC sub-system is provided. A method comprises operating the renewable energy equipment to function as a voltage source to energize an HVDC link between the AC/DC converter sub-system and the VSC sub-system; operating the VSC sub-system as a voltage source to energize at least one electrical load electrically connected thereto; if it is determined that the power production rate of the renewable energy equipment is not within a designated parameter, operating the equipment to follow the VSC sub-system such that controlling the AC electric power output influences the power production rate. If it is within the designated parameter, operating the VSC sub-system to follow the renewable energy equipment such that the VSC sub-system adjusts the properties of its AC electric output to match the properties of the electric power generated by the renewable energy equipment.