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(54) **ELECTRICAL GENERATOR FOR ROTATING STRUCTURE**

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(57) **ABSTRACT**

An electrical generator assembly including a central rotatable shaft (12) having a winding assembly (26) mounted thereto for rotation therewith, a rotatable permanent magnet assembly (28) surrounding the winding assembly (26) adjacent thereto and in use cooperating therewith to induce a current in the winding assembly (26), and a drive system (38, 138, 238, 338, 438) drivingly interconnecting the central shaft (12) and the permanent magnet assembly (28), the drive system (38, 138, 238, 338, 438) defining a relative rotational speed between the permanent magnet assembly (28) and the winding assembly (26) which is greater than an absolute rotational speed of the winding assembly (26). A method of powering an electrical system (22) on a rotating rotor blade (18) supported by a rotating mast (12) is also discussed.

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