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Prospects for Building Mobile Micro-Hydro Powerplants with Information Management Systems

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Abstract : This article analyzes the applicability of known renewable energy technical means as mobile power sources under the field and extreme conditions. The requirements are determined for the parameters of mobile micro-HPP. The application prospectively of the mobile micro-HPP with intelligent control systems is proved for this purpose. Variants of low-speed electric generators for micro HPP are given. Variants of designs for mobile micro HPP are presented with the direct (gearless) transfer of torque from the hydraulic drive to the rotor of the electric generator. Variant of the hydraulic drive for micro HPP is described workable at low water flows. A general structure of the micro HPP intelligent system control is offered that implements the principle of maximum energy efficiency. The legitimacy of construction and application of mobile micro HPP is proved as electrical power sources for life safety of people under the field and extreme conditions.

Keywords : mobile micro-hydro powerplants, information management systems, hydraulic drive, computer science
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