

turbine set consists of a trailer containing the natural gas turbine and electric power generator combined with the Electronic Equipment and Control Room. The turbine sets 105 and 107 are supplied with natural gas on site and as their turbines spin they generate electric power. Examples of output of electricity range in potential from around 4180 V to around 15 kV. Any well known, natural gas powered turbine suitable to provide this amount or another similar potential of electricity is included in this disclosure. The two turbine sets 105 and 107 are electrically independent and run in tandem so that in case one loses power due to an overload, the other will not shut down leading to sand slurry hardening down-hole. In the embodiment shown in FIG. 1, there are ten total trailers, two turbine sets 105 and 107 taking up eight trailers and two trailers for the switchgears 109 and 111, but this configuration can be modified depending on the application.

[0036] The transformers 117 step down the voltage from 13.8 kV to 600 V and provide it to the pump trailers 119. The pump trailers 119 include electric motors (not shown), which in one example operate at 600 V each. The auxiliary trailers 113 and 115 can take the electricity at 13.8 kV from the switchgears 109 and 111 and provide 600 V to sand equipment 121, hydration unit 123, blender 125, crane 127, wireline tool trailer 129 and wireline truck 131. The auxiliary trailers 113 and 115 also include transformers for stepping down the voltage. Thus in an example, the fracturing system 100 provides electricity to wireline equipment 103 that can be used to conduct wireline operations in a wellbore, examples of which are provided in more detail below. It should be pointed out however, that the supply of electricity from the system 100 is not limited to wireline equipment 103, but can include any third party consumer of electricity.

[0037] A further embodiment of the present invention includes a novel design for the switchgears 109 and 111. Switchgears in an electrical system typically include a combination of