

system includes electric wireline units, crane trucks, and workshop trailers, with the goal of reducing or eliminating reliance on diesel motors. The invention also includes a self-contained closed circuit power grid for providing clean and quiet electricity to all equipment on site.

[0034] Certain embodiments of the present invention include a set of natural gas powered turbines that produces electricity to power electric motors and pumps used in hydraulic fracturing operations for providing pressurized fracturing fluid. In an example, the invention can include the following features: turbine engine generators fueled by natural gas to supply electricity to electric motors that power hydraulic fracturing pumps in a hydraulic fracturing operation; transformers to step the electricity to the needed voltage of the motors; a power distribution panel to supply power out to other fracturing equipment such as the wireline unit, crane truck, workshop trailer, and other components of the system; new receptacles so that the wireline equipment can be connected quickly and efficiently; and cables that are detachable at both ends for fast move in rig up as well as fast rig down and move out. Further electric motors and pumps are lighter and therefore it is desirable to have a fracturing system that runs on electricity that is taken from an existing power grid or generated from turbines that run on natural gas.

[0035] Figure 1 shows in schematic form an example of a fracturing system 100 at a well site with a power generation system 101, fracturing equipment 102, and wireline equipment 103. In this example, the power generation system 101 contains 10 total trailers with two natural gas powered turbine sets 105 and 107 that have two turbines apiece, but can have more, and each turbine is accompanied by an Electronic Equipment and Control Room (EER). In the illustrated example, the turbine sets 105 and 107 provide electrical power to switch gears 109 and 111, which in turn monitor and control electrical power provided to transformers 117. A single