According to another aspect of the invention, an electrical power distribution control method comprises receiving electrical energy from an electrical power distribution system using control circuitry, applying electrical energy of the electrical power distribution system to a load using the control circuitry, monitoring an electrical characteristic of the received electrical energy using the control circuitry, and adjusting the applying at a plurality of moments in time responsive to the monitoring, wherein the adjusting comprises adjusting for a plurality of different lengths of time at the respective moments in time.

According to yet another aspect of the invention, an electrical power distribution control method comprises providing electrical energy from an electrical power distribution system, applying the electrical energy to a plurality of loads coupled with the electrical power distribution system, providing a power management system comprising a plurality of power management devices coupled with respective ones of the loads, and controlling an electrical characteristic of the electrical energy of the electrical power distribution system using the power management system.

According to an additional aspect of the invention, an electrical energy demand monitoring method comprises providing electrical energy from an electrical power distribution system, applying the electrical energy to a plurality of loads coupled with the electrical power distribution system, monitoring an electrical characteristic of the electrical energy, adjusting an amount of the electrical energy applied to at least one of the loads responsive to the monitoring, and calculating a deficit of the electrical energy of the electrical power distribution system responsive to the monitoring.

According to another aspect of the invention, an electrical power distribution control method comprises providing electrical energy using an electrical power distribution system, applying the electrical energy to a load using a power management device, detecting a power oscillation within the electrical power distribution system, and adjusting an amount of electrical energy applied to the load using the power management device and responsive to the detecting.

According to yet another aspect of the invention, a power management device comprises an interface configured to receive electrical energy from an electrical power distribution system and control circuitry configured to control an amount of the electrical energy provided to a load coupled with the power management device, to access a plurality of different values for a threshold at a plurality of moments in time and corresponding to an electrical characteristic of the electrical energy, to monitor the electrical characteristic of the electrical energy with respect to the threshold, and to adjust the amount of the electrical energy provided to the load responsive to the electrical characteristic of the electrical energy triggering a respective one of the values of the threshold.

According to still another aspect of the invention, a power management device comprises an interface configured to receive electrical energy from an electrical power distribution system and control circuitry configured to control an amount of the electrical energy provided to a load coupled with the power management device, to detect a power oscillation within the electrical power distribution system, and to adjust an amount of the electrical energy provided to the load responsive to the detection of the power oscillation.

Referring to FIG. **1**, an electrical power distribution system **10** is shown arranged according to one exemplary illustrative embodiment. System **10** comprises any appropriate electrical energy delivery system configured to deliver residential, commercial, industrial, or other electrical energy from a supply to customers or consumers. The depicted exemplary system **10** comprises an electrical energy supply **12**, a distribution grid **14**, and an exemplary power management system **15** comprising a plurality of power management devices **16**. A plurality of loads **18** are depicted coupled with the electrical power distribution system **10** and are configured to consume electrical energy provided from supply **12**. System **10** may comprise loads **18** in some embodiments (e.g., configurations wherein power management operations are implemented entirely or partially by the load itself).

Supply **12** is configured to provide electrical energy for consumption by loads **18**. Supply **12** may be arranged as one or more generator or other construction configured to supply electrical energy. Generators may be individually taken on-line or off-line, or the output thereof may be adjusted, according to the usage of the electrical energy. In one exemplary implementation, supply **12** is arranged to provide alternating current electrical energy at a system frequency of 60 Hz. System frequency is the frequency of system voltage.

Distribution grid **14** operates to conduct the electrical energy from the supply **12** to appropriate destinations for consumption. In one embodiment, distribution grid **14** may comprise a plurality of different voltage distribution lines and transformers configured to conduct the electrical energy over substantial distances between distant geographical locations. Distribution grid **14** may provide electrical energy at exemplary voltages of 120/240 VAC (residential), 120/208 VAC (commercial), 277/480 VAC (industrial) or other appropriate voltages for usage by customer loads **18** in one example.

Power management devices **16** are configured to selectively apply electrical energy from supply **12** to respective loads **18** as described below. In the exemplary depicted implementation, all of the illustrated loads **18** have associated power management devices **16**. In other configurations, only some of the loads **18** may have associated power management devices **16**.

Power management devices **16** are configured to monitor at least one characteristic of the electrical energy provided from supply **12**. In one embodiment, power management devices **16** are configured to monitor system frequency of the electrical energy and to adjust the amount of electrical energy supplied to the respective load **18** responsive to the monitoring. For example, in one operational implementation, power management devices **16** may reduce an amount of electrical energy supplied to respective loads **18** responsive to detection of a drop in system frequency of the electrical energy provided by supply **12**.

In the exemplary embodiment, power management devices **16** are illustrated separate from loads **18**. In other possible embodiments, power management devices **16** may be proximately located to the respective loads **18**, physically positioned adjacent to the respective loads **18**, embedded within the loads **18** (e.g., providing the power management devices **16** within housings of the loads **18**), etc. It is also possible to implement power management operations described herein (or other operations of control circuitry described below) using control circuitry of the load itself and configured to control operations with respect to the load. These implementations are exemplary and other implementations or operations are possible.

Loads **18** may have any configuration which consumes supplied electrical energy. Loads **18** may also be referred to as appliances, motors, or utilization equipment. In addition, one or more of loads **18** may comprise a plurality of different internal loads. Consumption of electrical energy by such loads **18** may be adjusted by turning off one internal load while leaving another internal load powered. For example, for a given appliance, there may be a control load wherein pro-