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| MERCHANT & GOULD P.C.      |             |                      | EXAMINER            |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO23552@merchantgould.com



### **DETAILED ACTION**

1. The office action is in response to application filed on 1-17-23. Claims 21-40 are pending in the application and have been examined.

#### **Notice of Pre-AIA or AIA Status**

2. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

#### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

4. Claims 21-40 are rejected under 35 U.S.C. 102 (a) (2) as being anticipated by US 10,879,727 to Cooper (“Cooper”).

5. Regarding claim 21, Cooper discloses (Figs. 16, 18 and Col. 54, lines 8-24) a method of disconnecting a load (16) from a power source (From Genset/Transfer Switch) in a power distribution system, the method comprising: receiving power from a power source (From Genset/Transfer Switch) at an input of a load shed

module (load control 88), the power having an alternating current (AC) voltage (par. 0161); determining a frequency of the AC voltage at the input (connection 87) using a controller (frequency measurement 90 & microprocessor 37 in load control circuit 25c, see fig. 18); and disconnecting a load (via current control 44, power turned off, Col. 54, lines 8-24) from the power source using a switch (current control circuit 44) when the frequency of the AC voltage is outside of a frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range); the controller and the switch being housed within a housing of the load shed module (fig. 16, both 25c and 44 are within their enclosures and installed inside 88, see also col. 55, lines 45-60).

6. Regarding claim 22, Cooper discloses using the controller to determine whether the power source is a utility power source (Power grid 12) or a backup power source (Generator 13, fig. 16, col. 20, lines 29-35) as a function of the frequency of the AC voltage.

7. Regarding claim 23, Cooper discloses monitoring the AC voltage and reconnecting the load to the power source when the frequency of the AC voltage is within the frequency range (frequency measurement circuits 90 responsive to the frequency of the incoming power).

8. Regarding claim 24, Cooper discloses the frequency range is a frequency threshold with a low frequency limit, wherein frequencies above the low frequency limit are within the frequency range; and wherein frequencies below the low frequency limit are outside of the frequency range (Col. 54, lines 8-24).

9. Regarding claim 25, Cooper discloses determining that the frequency of the AC voltage is outside of the frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range); and monitoring the frequency of the power source for a time period (Col. 16, lines 57, grid power remains off for 5 seconds); wherein disconnecting the load from the power source (fig. 4) when the frequency of the AC voltage is outside of a frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range) further comprises disconnecting the load from the power source when the frequency of the AC voltage remains outside of the frequency range after the time period is lapsed (Col. 2, lines 66-67, connection and disconnection of power from the power source to the load is in general controlled by one more switch).

10. Regarding claim 26, Cooper discloses determining the frequency of the AC voltage comprises: generating a feedback (user input and user feedback module 39) signal (control signals 85) corresponding to the AC voltage present at the input using a sensor (sensors 21); and receiving the feedback signal with the controller.

11. Regarding claim 27, Cooper discloses a load shed module configured to be connected between a transfer switch (fig. 4, 15) and a load (16), the load shed module comprising: an input (load control 88) configured to receive an electrical connection from the transfer switch; an output (Load switch) configured to provide an electrical connection for the load; a switch (current control circuit 44) between the input and the output (fig. 4), wherein the switch receives a control signal (control signals 85) that selectively controls the switch; a controller (frequency measurement 90 & microprocessor 37 in load control circuit 25c) to supply the control signal (control signals 85), wherein the controller is operable to open the switch when the frequency of an alternating current (AC) voltage at the input is below a frequency threshold (Col. 35, lines 44-46, power frequency makes more than normal excursions, if even momentary, below a given frequency threshold); and a housing within which the switch and the controller are housed (fig. 16, both 25c and 44 are within their enclosures and installed inside 88, see also col. 55, lines 45-60).

12. Regarding claim 28, Cooper discloses the frequency threshold is a lower frequency threshold (Col. 35, lines 44-46, power frequency makes more than normal excursions, if even momentary, below a given frequency threshold) and a second frequency threshold is an upper frequency threshold; and wherein the controller is operable to open the switch when the frequency of the AC voltage is above the second frequency threshold (Col. 35, lines 30-42).

13. Regarding claim 29, Cooper discloses the controller is operable to determine whether the power source is a utility power source (Power grid 12) or a backup power source based on the frequency of the AC voltage.

14. Regarding claim 30, Cooper discloses the controller determines that the power source is a backup power source if the frequency of the AC voltage is outside a frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range).

15. Regarding claim 31, Cooper discloses the controller is configured to determine the frequency of the AC voltage at the input; and wherein after determining that the frequency of the AC voltage at the input is below the frequency threshold range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or

otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range), the controller monitors the frequency for a time period before opening the switch (power source monitor 49).

16. Regarding claim 32, Cooper discloses the controller is operable to close the switch when the frequency of the AC voltage at the input is above the frequency threshold (Col. 17, lines 66, Col. 18, When grid power is available the generator & transfer switch controller 14 operates (via) control signal connections shown by arrowed lines).

17. Regarding claim 33, Cooper discloses the controller is operable to: monitor the frequency of the AC voltage at the input after closing the switch; and reopen the switch if the frequency falls below the frequency threshold (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range).

18. Regarding claim 34, Cooper discloses a load shed module configured to be connected between a transfer switch (fig. 4, 15) and a load (16), the, the load shed module comprising: an input (load control 88) configured to receive an alternating current (AC) voltage from the transfer switch; an output (Load switch) configured

to provide an electrical connection for the load; a controller (frequency measurement 90 & microprocessor 37 in load control circuit 25c), wherein the controller is operable to: determine whether the AC voltage is from a utility power (utility power grid 12) source or a backup power source (Generator 13, fig. 16) based on a frequency of the AC voltage at the input (sensing the frequency of the AC power produced by the generator by 25c); and open a switch to shed the load (Col. 26, lines 58-66 and Col. 57, lines 41-43 and when the frequency detector set to detect degrees or levels of frequency change, with some loads being disconnected in order to shed the loads) when the AC voltage is from the backup power source (Col. 54, lines 9-12, which is coupled to power from the genset which is supplied via a transfer switch and controlling the power supplied to a load 16 with a current control 44); and a housing within which the switch and the controller are housed (fig. 16, both 25c and 44 are within their enclosures and installed inside 88, see also col. 55, lines 45-60)

19. Regarding claim 35, Cooper discloses the controller is configured to determine that the AC voltage is from the utility power source if the frequency of the AC voltage is within a frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range).

20. Regarding claim 36, Cooper discloses the controller is configured to determine that the AC voltage is from the backup power source if the frequency of the AC voltage is outside of the frequency range (Col. 54, lines 19-21, load control circuit 25c will operate to sense the power frequency (and/or voltage or other parameter) via 87 or otherwise and when the genset enters an overload condition, the frequency of the AC voltage will be outside of a normal frequency range).

21. Regarding claim 37, Cooper discloses the controller is operable to retain the load when the AC voltage is from the utility power source (Col. 9).

22. Regarding claim 38, Cooper discloses the controller is operable to: monitor the frequency of the AC voltage at the input; and reconnect the load if the frequency of the AC voltage at the input (connection 87) indicates that the backup power source is operating under nominal operating parameters (Col. 10, lines 3-5, capabilities of the power source and the type of load to be connected (including one or more parameter of each), the priority or importance of the load to be connected).

23. Regarding claim 39, Cooper discloses the load shed module further comprises: a sensor (sensors 21) configured to generate a feedback signal (user input and user feedback module 39) corresponding to an AC voltage present at the input (12); and wherein the determination of whether the AC voltage is from the utility power source or the backup power source is based on the feedback signal.

24. Regarding claim 40, Cooper discloses the switch is between the input and the load (fig. 16).

### **Response to Arguments**

25. Applicant's argument filed on 1-17-23 with respect to claims 21-40 has been fully considered, but the applicants' arguments are not persuasive, as they are directed to the wrong Cooper embodiment. The Applicants' citations to figure 4 do not show any error in the art rejections citing figures 16 and 18. Figure 4 is a separate embodiment than figures 16/18, as it shows a centralized controller (25a). Figures 16/18 clearly show a load shed module ("load coupler" 80, 88) with additional components than the load switches of figure 4. The load couplers include a local controller and switch that are housed within the coupler/module housing. The figure 16/18 local controller also disconnects a load when a frequency is out of range (col. 54, lines 8-24) without the use of a centralized controller.

Further, it should be noted that Cooper clearly teaches that the controller and the switch being housed within a housing of the load shed module (fig. 16, col. 55, lines 45-60)

The Applicants' citations to figure 4 do not rebut the art rejection citing figures 16 and 18. The art rejection is maintained. Finally, the box around the coupler (80, 88)

is a housing which can protect the electrical devices from short circuit and contamination.

### **Conclusion**

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ESAYAS G YESHAW whose telephone number is (571)270-1959. The examiner can normally be reached Mon-Sat 9AM-7PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule

an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared Fureman can be reached on 5712722391. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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