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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/019,303	11/21/2023	8291243	GRA243	7420

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GOLDBERG SEGALLA LLP
8000 Maryland Suite 640
St. Louis, MO 63105

EXAMINER

WORJLOH, JALATEE

ART UNIT	PAPER NUMBER
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3992

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PAPER

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.



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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/019,303 .

PATENT UNDER REEXAMINATION 8291243 .

ART UNIT 3992 .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	Control No. 90/019,303	Patent Under Reexamination 8291243	
	Examiner JALATEE WORJLOH	Art Unit 3992	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

- a. ☐ Responsive to the communication(s) filed on _____.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

b. ☐ This action is made FINAL.

c. ☒ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter.
Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**
If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|--|---|
| 1. ☐ Notice of References Cited by Examiner, PTO-892. | 3. ☐ Interview Summary, PTO-474. |
| 2. ☐ Information Disclosure Statement, PTO/SB/08. | 4. ☐ _____. |

Part II SUMMARY OF ACTION

- 1a. ☒ Claims 1,3-6,9-11,15-16 and 18-19 are subject to reexamination.
- 1b. ☒ Claims 2,7-8,12-14 and 17 are not subject to reexamination.
2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
3. ☐ Claims _____ are patentable and/or confirmed.
4. ☒ Claims 1,3-6,9-11,15-16 and 18-19 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ The drawings, filed on _____ are acceptable.
7. ☐ The proposed drawing correction, filed on _____ has been (7a) ☐ approved (7b) ☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the certified copies have
1 ☐ been received.
2 ☐ not been received.
3 ☐ been filed in Application No. _____.
4 ☐ been filed in reexamination Control No. _____.
5 ☐ been received by the International Bureau in PCT application No. _____.
* See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: _____

cc: Requester (if third party requester)

NON-FINAL ACTION

INTRODUCTION

This is the *ex parte* reexamination of claims 1, 3-6, 9-11, 15-16, 18, and 19 of U.S. Patent No. 8,291,243 ('243 patent) for which a substantial new question of patentability has been deemed to exist.

NOTICE OF PRE-AIA OR AIA STATUS

The present application is being examined under the pre-AIA first to invent provisions.

REFERENCES CITED IN REQUEST

- U.S. Patent 7,274,975 to Miller ("Miller");
- U.S. Patent No. 7,246,014 to Forth et al. ("Forth");
- U.S. Publication No. 2003/0036820 to Yellepeddy ("Yellepeddy"); and
- U.S. Patent No. 7,177,728 to Gardner ("Gardner").

PATENT OWNER STATEMENT

No Patent Owner Statement was filed.

INFORMATION DISCLOSURE STATEMENT

Regarding IDS submissions MPEP 2256 recites the following: "Where patents, publications, and other such items of information are submitted by a party (patent owner or requester) in compliance with the requirements of the rules, the requisite degree of consideration to be given to such information will be normally limited by the degree to which the party filing the information citation has explained the content and relevance of the

information." Accordingly, the IDS submissions have been considered by the Examiner only with the scope required by MPEP 2256.

CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 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 –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5, 9-11, 15, and 18 are rejected under pre-AIA 35 U.S.C. 102 (b) as being anticipated by Miller.

1. A method for adapting the power consumption of a computational device in response to environmental conditions, comprising:

Paragraph [0001] – systems and methods for optimizing the control of energy supply and demand in residences and businesses.

Paragraph [0005]- an integrated control device manages the supply of energy from various sources (e.g. electric grid, battery, photovoltaic cells, fuel cells) and the demand for energy from consumption devices (e.g. hot water heaters, HVAC systems, and appliances). An optimization algorithm determines based on various factors when to activate the energy sources and when to activate the consumption devices.

Paragraph [0006] – the algorithm takes into account such factors as the supply of charge on batteries, the dynamic price of electricity, weather forecasts, and others in order to schedule and activate energy supplies and computation devices. Devices that can be scheduled for

flexible turn-on times (e.g. washing machine or dishwasher) are scheduled for periods in which cheap energy supply is projected to be available.

Also see paragraphs Abstract, [0024], [0102], [0108] and [0121].

acquiring operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input;

Paragraph [0029]- control center 108 may transmit pricing information (e.g., current price of electricity) so that controller 104 may make decisions regarding the control and distribution of electricity according to various principles of the invention.

Paragraph [0043]- In step 312, external information regarding such variables as current grid prices; fuel prices; grid voltage; current/forecasted weather, demand-side management (DSM) requests (e.g., a request from a utility under an established demand 36 response program for subscribing customers to reduce demand or supply power from a user controlled source at a specific hour), and commands received from central control center 108 are monitored.

Also see Fig. 3 and related text.

analyzing the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and

Paragraph [0043]- [0047]:

In step 312, external information regarding such variables as current grid prices; fuel prices; grid voltage; current/forecasted weather, demand-side management (DSM) requests (e.g., a request from a utility under an established demand 36 response program for subscribing customers to reduce demand or supply power from a user controlled source at a specific hour), and commands

received from central control center 108 are monitored. The current energy source configuration is determined (step 313), including such things as what power sources are available and how much energy is stored in storage devices.... The baseline demand forecast 304 and baseline production capacity forecast 305 provide a detailed picture of the potential supply of power by source and demand by use of energy. Essentially these frame an optimization problem which can be solved. Embodiments of the invention can determine how to modify demand by turning off unneeded services and/or delaying others, how to deploy various sources to meet demand, and how to distribute power to the grid to achieve the lowest possible cost of service (which may be negative if the home or business is able to produce more power than it consumes in a time period).

Paragraph [0076] – the controller performs an instantaneous calculation of comparative cost and selects the optimal order of dispatch.

Paragraph [0057] – The time of day rates is designed to reflect the marginally higher cost of power production at the peak demand periods of morning and early evening. At these times utilities must dispatch power from their least efficient units, when cost is lower, they need power only from the most efficient units.

Also see Fig. 3 and 7.

a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.

Paragraph [0031]- During normal operation, power from one or more of the power sources can be used to charge storage units 105 and 106 and/or to meet demand in addition to electric grid

115. During power outages or brownouts from grid 115, these additional power sources (as well as storage units 105 and 106) can be used to meet energy demand. Additionally, surplus power can be sold back to the power grid based on optimization of supply and demand calculations as explained in more detail herein.

Paragraph [0038]- [B]atteries could alternatively be recharged later in the day from the power grid, when electrical costs are lower.”

Paragraphs [0108]-[0109]- FIG. 10 shows the energy and load impact of deferring energy use from these controllable loads. FIG. 10 shows an energy process (e.g. dish washing) which is initiated in the morning. In FIG. 10, element 1001 is the originally scheduled time for a service (e.g., washing the breakfast dishes). . . This is a relatively expensive time, as utility rates are high and solar production is low. Element 1002 is a better time—solar production exceeds the ability to sell to the grid, so the marginal value of the power is zero. Performing the service in zone 7 gets it done at no cost, but still in time for the family's arrival home after work .

Paragraph [0111]- Accounting for a user's preferences (e.g., dishes must be clean in time for dinner.

Paragraph [0115] – the system calculates when the services can be performed at the lowest cost.

Also see Paragraphs [0112]-[0114]; Figs. 10 and 12.

3. The method of claim 1, further comprising the computational device automatically increasing the current amount of consumption of electric power from the power grid system by the computational device from a current reduced electric power consumption level in response to not determining the indication of the high demand for electric power from the power grid system by analyzing the operating environmental condition data.

Paragraph [0031]- During normal operation, power from one or more of the power sources can be used to charge storage units 105 and 106 and/or to meet demand in addition to electric grid 115. During power outages or brownouts from grid 115, these additional power sources (as well as storage units 105 and 106) can be used to meet energy demand. Additionally, surplus power can be sold back to the power grid based on optimization of supply and demand calculations as explained in more detail herein.

Paragraph [0038]- [B]atteries could alternatively be recharged later in the day from the power grid, when electrical costs are lower.

Also see paragraphs [0068]-[0074],[0076], Fig. 8.

5. The method of claim 1, wherein the analyzing the operating environmental condition data determines indication of the high demand for electric power if the operating environmental condition data indicates an unusual weather condition that may result in heavy demand for power from the power grid system.

Paragraphs [0038] and [0039]- In one variation, the system can determine based on the date (e.g., June 21) and the weather forecast (e.g., sunny) that likely production from solar panels will be high, and decide to sell power from the batteries to the grid (when the rate is high) with the expectation that the batteries can be recharged later in the day when the family is not home and energy usage is minimal. The batteries could alternatively be recharged later in the day from the power grid, when electrical costs are lower. Certain variations of the invention consider weather when forecasting demand for electrical power and the supply from energy sources whose production capacity is weather dependent, such as PV panels.

Paragraphs [0160]-[0162]-The daily service profile is an estimate of load over the course of the forecasting period. In preparing the daily service profile, demand (measured in kW) can be

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estimated at 15 minute intervals for the forecast period. There are two preferred methods for doing this. The first method is based on past usage patterns. This is shown in FIG. 13.... In addition, patterns will be defined for sunny days, cloudy days, partly cloudy days, and rainy days. Using engineering principles, (e.g. a building energy model like DOE-2) an estimate can be made of the load for 15 minute intervals for the next 24 hours (step 1302)... The next step is to select a pattern for use for the next 24 hours (step 1303). If the day is a weekday and sunny, for example, a sunny weekday pattern should be elected.

Also see Fig. 13.

9. The method of claim 1, further comprising determining the indication of the high demand for electric power from the power grid system in response to data in the operating environmental condition data that comprises at least one of: a spot price value of electricity; and a rate of change of a price of electricity.

See claim 1 above.

[0043] – current grid prices (“a spot price value of electricity”)

[0006]- dynamic price of electricity

[0057] – plotting the price of electricity from the grid over the course of a day

10. The method of claim 9, wherein the step of the computational device automatically reducing the current amount of consumption of electric power from the power grid system by the computational device comprises running nonessential services only when the spot price value of electricity is low.

See claim 1 above; paragraph [0038], [0048], [0108]-[0114].

Claim 11 is rejected on the same rationale as claim 1 above.

Claim 15 is rejected on the same rationale as claim 1 above.

Claim 18 is rejected on the same rationale as claim 1 above.

Claims 4, 6, 16, and 19 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Miller further in view of Forth.

4. The method of claim 1, wherein the operating environment feed is a really simple syndication feed from at least one of an electricity plant and a weather service.

Paragraph [0006] – the algorithm takes into account such factors as the supply of charge on batteries, the dynamic price of electricity, weather forecasts, and others in order to schedule and activate energy supplies and computation devices. Devices that can be scheduled for flexible turn-on times (e.g. washing machine or dishwasher) are scheduled for periods in which cheap energy supply is projected to be available.

Paragraph [0043]- In step 312, external information regarding such variables as current grid prices; fuel prices; grid voltage; current/forecasted weather, demand-side management (DSM) requests (e.g., a request from a utility under an established demand response program for subscribing customers to reduce demand or supply power from a user controlled source at a specific hour), and commands received from central control center 108 are monitored.

Paragraph [0035] – a communication function 204 interfaces to a web server 207 in order to provide external communication facilities

Paragraph [0029]- control center 108 may transmit pricing information (e.g., current price of electricity) so that controller 104 may make decisions regarding the control and distribution of electricity according to various principles of the invention.

Also see paragraphs [0161] and [0163].

Miller does not expressly disclose the operating environment feed is a really simple syndication feed (RSS). Forth discloses the operating environment feed is a RSS from at least one of an electricity plant and a weather service (abstract – EEM software system collects real-time, near-real time and historical input from various data sources; col. 20, lines 4-11 - service provider can provide channels tuned to specific customers, which include energy management system events, consultants interpretation or comments on energy management events, bills, shadow bills, and relevant energy management news headlines or interesting items the service provider has deemed interesting to their subscriber. Providing these RSS feeds can be part of their financially compensated service.)

The controller of Miller is receiving information from a web server, such as over the Internet, which a person of ordinary skill in the art (POSA) would have recognized that RSS feeds were common method of sending updated information over the Internet. Since Miller receives information (e.g. prices, weather data) via a web server and the data are known to change frequently, it would have been obvious for Miller's controller to obtain the information as an RSS feed. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Miller by including the features of Forth. Applying the known technique of Forth in Miller would have been recognized by those of ordinary skill in the art as resulting in an improved system that would have yielded predictable results.

6. The method of claim 3, further comprising: regularly updating the acquired the operating environmental condition data; if changes are found in the updated environmental condition data, updating an internal state table with new downloaded data from the operating environment feed input;

Paragraph [0043]- A clock 301 acts as a control loop for the process... In step 312, external information regarding such variables as current grid prices; fuel prices; grid voltage;

current/forecasted weather, demand-side management (DSM) requests (e.g., a request from a utility under an established demand response program for subscribing customers to reduce demand or supply power from a user controlled source at a specific hour), and commands received from central control center 108 are monitored.

Paragraph [0161]- the loop which executes every 15 minutes or more frequently if new data are received from the network indicating a change in ambient conditions, utility rates, or other factors or there is substantial change in the load at the house.

Also see paragraphs [0061] and [0159]; Fig. 8.

Miller does not expressly disclose an internal state table. Forth discloses this feature at col. 7, lines 1-12 (The EEM Analysis GUI 115 may include a table 119 that sets forth various types of EEM data. The first column of the table 119 may set forth a plurality of operational units of interest 150, which could be departments, branches, physical locations, and so forth. Each row of the table 119 relates to a respective one of these operational units of interest 150, indicating the status of several categories or key performance indicators 120-125. The key performance indicators 120-125 can be energy cost/unit 120, cost projection 121, self generation 122, power availability 125, power quality 124, emissions 123, or other values based on the user needs and the set-up of the EEM software system 100.). Also, see col. 7, ll. 34-38.

automatically reducing a present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data determines a high electric power demand indication, or increasing the present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data does not determine a high electric power demand indication.

See claims 1 and 3 above.

Paragraph [0043]- A clock 301 acts as a control loop for the process... In step 312, external information regarding such variables as current grid prices; fuel prices; grid voltage; current/forecasted weather, demand-side management (DSM) requests (e.g., a request from a utility under an established demand 36 response program for subscribing customers to reduce demand or supply power from a user controlled source at a specific hour), and commands received from central control center 108 are monitored.

Paragraph [0161]- the loop which executes every 15 minutes or more frequently if new data are received from the network indicating a change in ambient conditions, utility rates, or other factors or there is substantial change in the load at the house.

Also see paragraphs [0061] and [0159]; Fig. 8.

Miller does not expressly disclose an internal state table. Forth discloses this feature at col. 7, lines 1-12 (The EEM Analysis GUI 115 may include a table 119 that sets forth various types of EEM data. The first column of the table 119 may set forth a plurality of operational units of interest 150, which could be departments, branches, physical locations, and so forth. Each row of the table 119 relates to a respective one of these operational units of interest 150, indicating the status of several categories or key performance indicators 120-125. The key performance indicators 120-125 can be energy cost/unit 120, cost projection 121, self generation 122, power availability 125, power quality 124, emissions 123, or other values based on the user needs and the set-up of the EEM software system 100.). Also, see col. 7, ll. 34-38.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Miller by including the features of Forth. Applying the known technique of Forth in

Miller would have been recognized by those of ordinary skill in the art as resulting in an improved system that would have yielded predictable results.

Claim 16 is rejected on the same rationale as claim 6 above.

Claim 19 is rejected on the same rationale as claim 6 above.

EXTENSION OF TIME

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to “an applicant” and not to parties in a reexaminations proceeding. Additionally, 35 U.S.C. 305 requires that *ex parte* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

AMENDMENT IN REEXAMINATION PROCEEDINGS

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR § 1.52(a) and (b), and must contain any fees required by 37 CFR § 1.20(c).

SERVICE OF PAPERS

After the filing of a request for reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. See 37 CFR 1.550.

NOTIFICATION OF CONCURRENT PROCEEDINGS

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 8,291,243 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceedings throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282, and 2286.

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

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For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/Jalatee Worjloh/
Reexamination Specialist, Art Unit 3992

Conferees:

/Karin Reichle/
Primary Examiner, Art Unit 3992
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Supervisory Patent Examiner, Art Unit 3992

