

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day/month/year) 30 SEPTEMBER 2011 (30.09.2011)

Applicant's or agent's file reference

P743-PCT

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.

PCT/US2011/022234

International filing date
(day/month/year)

24 JANUARY 2011 (24.01.2011)

Applicant

FLUX ENGINEERING, LLC et al

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 . 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to any protest against payment of (an) additional fee(s) under Rule 40.2**, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the PCT Applicant's Guide, National Chapters.

Name and mailing address of the ISA/KR



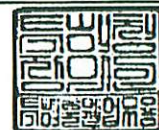
Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsu-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

COMMISSIONER

Telephone No. 82-42-481-8753



* Attention

Copies of the documents cited in the international search report can be searched in the following Korean Intellectual Property Office English website for three months from the date of mailing of the international search report.

<http://www.kipo.go.kr/en/> => PCT Services => PCT Services

ID : PCT international application number

PW : **LN4UJD34**

Inquiries related to PCT International Search Report or Written Opinion prepared by KIPO as an International Searching Authority can be answered not only by KIPO but also through IPKC (Intellectual Property Korea Center), located in Vienna, VA, which functions as a PCT Help Desk for PCT applicants.

Homepage: <http://www.ipkcenter.com>

Email: ipkc@ipkcenter.com

Phone: +1 703 388 1066

Fax: +1 703 388 1084

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P743-PCT	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2011/022234	International filing date (<i>day/month/year</i>) 24 JANUARY 2011 (24.01.2011)	(Earliest) Priority Date (<i>day/month/year</i>) 25 JANUARY 2010 (25.01.2010)
Applicant FLUX ENGINEERING, LLC et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (See Box No. II)

3. ☐ Unity of invention is lacking (See Box No. III)

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2011/022234

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 6-10, 14-19, 23-32, 38, 42-43
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/022234**A. CLASSIFICATION OF SUBJECT MATTER*****H02J 7/00(2006.01); G06Q 50/00(2006.01); H02J 13/00(2006.01);***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H02J 7/00; H02J 7/04; B60W 10/04; G06F 19/00; G06Q 50/00; G06Q 10/00; G01R 11/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: purchase power, charge, vehicle, battery, parameter, preference

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008-0052145 A1 (KAPLAN DAVID L. et al.) 28 February 2008 See the abstract; claims 1, 6, 9; figures 1, 4-7, 20.	1-5, 11-13, 20-22 , 33-37, 39-41, 44-46
A	US 2009-0313033 A1 (HAFNER JAMES LEE et al.) 17 December 2009 See the abstract; claim 1; figures 1, 3-8.	1-5, 11-13, 20-22 , 33-37, 39-41, 44-46
A	US 2009-0229900 A1 (HAFNER JAMES LEE et al.) 17 September 2009 See the abstract; claims 8, 16; figures 1-3.	1-5, 11-13, 20-22 , 33-37, 39-41, 44-46
A	US 2010-0017249 A1 (FINCHAM CARSON C.K. et al.) 21 January 2010 See the abstract; claim 1; figures 1, 3, 8-10.	1-5, 11-13, 20-22 , 33-37, 39-41, 44-46
A	US 2009-0030712 A1 (BOGOLEA BRADLEY D. et al.) 29 January 2009 See the abstract; claims 1, 10-11; figures 1-2.	1-5, 11-13, 20-22 , 33-37, 39-41, 44-46

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

29 SEPTEMBER 2011 (29.09.2011)

Date of mailing of the international search report

30 SEPTEMBER 2011 (30.09.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsu-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

WEE Jae Woo

Telephone No. 82-42-481-8540



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/022234

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0052145 A1	28.02.2008	CA 2672422 A1	19.06.2008
		CA 2672424 A1	19.06.2008
		CA 2672454 A1	19.06.2008
		CA 2672508 A1	27.11.2008
		CN 101678774 A	24.03.2010
		CN 101918065 A	15.12.2010
		CN 101918066 A	15.12.2010
		EP 2097289 A2	09.09.2009
		EP 2099639 A2	16.09.2009
		EP 2102028 A1	23.09.2009
		EP 2115686 A2	11.11.2009
		EP 2210327 A2	28.07.2010
		EP 2211965 A1	04.08.2010
		EP 2214765 A1	11.08.2010
		JP 2010-512727 A	22.04.2010
		KR 10-2009-0119754 A	19.11.2009
		KR 10-2009-0119831 A	20.11.2009
		KR 10-2009-0119832 A	20.11.2009
		KR 10-2009-0119833 A	20.11.2009
		KR 10-2010-0014304 A	10.02.2010
		US 07747739 B2	29.06.2010
		US 07844370 B2	30.11.2010
		US 07949435 B2	24.05.2011
		US 2008-0039980 A1	14.02.2008
		US 2008-0039989 A1	14.02.2008
		US 2008-0040479 A1	14.02.2008
		US 2009-0040029 A1	12.02.2009
		US 2009-0043519 A1	12.02.2009
		US 2009-0043520 A1	12.02.2009
		US 2009-0063680 A1	05.03.2009
		US 2009-0066287 A1	12.03.2009
		US 2009-0200988 A1	13.08.2009
		US 2009-0204052 A1	13.08.2009
		US 2009-0204079 A1	13.08.2009
		US 2011-0025556 A1	03.02.2011
		WO 2008-073453 A1	19.06.2008
		WO 2008-073470 A2	19.06.2008
		WO 2008-073470 A3	19.06.2008
		WO 2008-073472 A2	19.06.2008
		WO 2008-073472 A3	19.06.2008
		WO 2008-073474 A2	19.06.2008
		WO 2008-073474 A3	19.06.2008
		WO 2008-073476 A2	19.06.2008
		WO 2008-073476 A3	19.06.2008
		WO 2008-073477 A2	19.06.2008
		WO 2008-073477 A3	19.06.2008
		WO 2008-143653 A2	27.11.2008
		WO 2008-143653 A3	27.11.2008
		WO 2009-051967 A1	23.04.2009

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/022234

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 2009-051969 A1	23.04.2009
		WO 2009-052446 A2	23.04.2009
		WO 2009-052447 A2	23.04.2009
		WO 2009-052447 A3	23.04.2009
		WO 2009-052448 A2	23.04.2009
		WO 2009-052448 A3	23.04.2009
		WO 2009-052450 A2	23.04.2009
		WO 2009-052450 A3	23.04.2009
		WO 2009-052451 A2	23.04.2009
		WO 2009-052451 A3	23.04.2009
US 2009-0313033 A1	17.12.2009	None	
US 2009-0229900 A1	17.09.2009	US 7928693 B2	19.04.2011
US 2010-0017249 A1	21.01.2010	US 2009-0216754 A1	27.08.2009
US 2009-0030712 A1	29.01.2009	None	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **30 SEPTEMBER 2011 (30.09.2011)**

Applicant's or agent's file reference

P743-PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US2011/022234

International filing date (day/month/year)

24 JANUARY 2011 (24.01.2011)

Priority date(day/month/year)

25 JANUARY 2010 (25.01.2010)

International Patent Classification (IPC) or both national classification and IPC

H02J 7/00(2006.01)i, G06Q 50/00(2006.01)i, H02J 13/00(2006.01)i

Applicant

FLUX ENGINEERING, LLC et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
Government Complex-Daejeon, 189
Cheongsu-ro, Seo-gu, Daejeon 302-
701, Republic of Korea
Facsimile No. 82-42-472-7140

Date of completion of this opinion

29 SEPTEMBER 2011 (29.09.2011)

Authorized officer

WEE Jae Woo

Telephone No. 82-42-481-8540



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2011/022234

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:
 - a. a sequence listing filed or furnished
 - ☐ on paper
 - ☐ in electronic form
 - b. time of filing or furnishing
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2011/022234

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
☒ claims Nos. 6-10, 14-19, 23-32, 38, 42-43

because:

- ☐ the said international application, or the said claims Nos. _____
relate to the following subject matter which does not require an international search (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____
are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. _____ are so inadequately supported
by the description that no meaningful opinion could be formed (*specify*):

- ☒ no international search report has been established for said claims Nos. 6-10, 14-19, 23-32, 38, 42-43

- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

- ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rule 13ter.1(a) or (b).

- ☐ See Supplemental Box for further details.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2011/022234

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	NONE	YES
	Claims	1-5,11-13,20-22,33-37,39-41,44-46	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-5,11-13,20-22,33-37,39-41,44-46	NO
Industrial applicability (IA)	Claims	1-5,11-13,20-22,33-37,39-41,44-46	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following document:

D1: US 2008-0052145 A1 (KAPLAN DAVID L. et al.) 28 February 2008

1. Novelty and Inventive step

1.1. Claims 1-5

D1, which is considered to be the closest prior art to the subject matter of claim 1, discloses a method for establishing a communication connection with each of multiple electric resources connected to a power grid; and individually signaling the electric resources to provide power to or take power from the power grid (See claim 1, figure 1). As all of the features of claim 1 are disclosed in D1, claim 1 is anticipated by D1. Therefore, claim 1 lacks novelty under PCT Article 33(2).

The additional features of claims 2-4 depending on claim 1 are identical to the feature of electric resources including battery/charger/inverter systems for electric or hybrid vehicles, repositories of used-but-serviceable electric vehicle batteries, fixed energy storage, fuel cell generators, emergency generators, controllable loads in D1 (See paragraph [0039]). Therefore, claims 2-4 lack novelty under PCT Article 33(2).

The additional features of claim 5 depending on claim 1-4 are identical to the feature of establishing a communication connection with each of multiple electric resources connected to a power grid; and individually signaling the electric resources to provide power to or take power from the power grid in D1 (See claim 1, figure 1). Therefore, claim 5 lacks novelty under PCT Article 33(2).

1.2. Claims 11-13, 20-22

D1, which is considered to be the closest prior art to the subject matter of claim 11, discloses a power grid, public and private databases, each resource having associated constraints including price sensitivity of the owner, vehicle state-of-charge (See paragraph [0095], claim 1, figures 1, 7). As all of the features of claim 11 are disclosed in D1, claim 11 is anticipated by D1. Therefore, claim 11 lacks novelty under PCT Article 33(2).

The additional features of claim 12 depending on claim 11 are identical to the feature of inputting constraints of individual electric resources and scheduling power aggregation based on the constraints in D1 (See figure 20). Therefore, claim 12 lacks novelty under PCT Article 33(2).

(Continued on the Supplemental box.)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2011/022234

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 6-10, 14-19, 23-32, 38, 42-43 do not comply with PCT Rule 6.4(a) because multiple dependant claims should not serve as a basis for any other multiple dependant claim.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2011/022234

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 5 is the dependent claim of claim 5, thereby rendering the claim unclear. (PCT Article 6)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2011/022234

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Box No. V

The additional features of claim 13 depending on claims 11-12 are identical to the feature of the remote IPF module of the electric resource transmitting information to the flow control server, where the information is combined with survey data, such as database in D1 (See figure 11). Therefore, claim 13 lacks novelty under PCT Article 33(2).

The additional features of claims 20-22 depending on claim 11 are identical to the feature of electric resources including battery/charger/inverter systems for electric or hybrid vehicles, repositories of used-but-serviceable electric vehicle batteries, fixed energy storage, fuel cell generators, emergency generators, controllable loads in D1 (See paragraph [0039]). Therefore, claims 20-22 lack novelty under PCT Article 33(2).

1.3. Claims 33-37

Claims 33-36 are the same as claims 1-4 in the aspect of technical concept. Therefore, claims 33-36 lack novelty under PCT Article 33(2).

The additional features of claim 37 depending on claims 33-36 are identical to the feature of electric resources including fixed energy storage, controllable loads in D1 (See paragraph [0039]). Therefore, claim 37 lacks novelty under PCT Article 33(2).

1.4. Claims 39-41

D1, which is considered to be the closest prior art to the subject matter of claim 39, discloses a method for inputting constraints of individual electric resources and scheduling power aggregation based on the constraints (See figure 20). As all of the features of claim 39 are disclosed in D1, claim 39 is anticipated by D1. Therefore, claim 39 lacks novelty under PCT Article 33(2).

The additional features of claim 40 depending on claim 39 are identical to the feature of scheduling power aggregation based on the constraints in D1 (See figure 20). Therefore, claim 40 lacks novelty under PCT Article 33(2).

The additional features of claim 41 depending on claims 39-40 are identical to the feature of establishing a communication connection with each of multiple electric resources connected to a power grid; and individually signaling the electric resources to provide power to or take power from the power grid in D1 (See claim 1, figure 1). Therefore, claim 41 lacks novelty under PCT Article 33(2).

1.5. Claims 44-45

D1, which is considered to be the closest prior art to the subject matter of claim 44, discloses a method for establishing a communication connection with each of multiple electric resources connected to a power grid; individually signaling the electric resources to provide power to or take power from the power grid; and scheduling power aggregation based on the constraints (See claim 1, figures 1, 20). As all of the features of claim 44 are disclosed in D1, claim 44 is anticipated by D1. Therefore, claim 44 lacks novelty under PCT Article 33(2).

The additional features of claim 45 depending on claim 44 are identical to the feature of individually signaling the electric resources to provide power to or take power from the power grid in D1 (See claim 1, figure 1). Therefore, claim 45 lacks novelty under PCT Article 33(2).

(Continued on the Supplemental box.)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2011/022234

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of :

Box No. V

1.6. Claim 46

D1, which is considered to be the closest prior art to the subject matter of claim 46, discloses a power cord, a connection locality module (See figures 2-3). As all of the features of claim 46 are disclosed in D1, claim 46 is anticipated by D1. Therefore, claim 46 lacks novelty under PCT Article 33(2).

2. Industrial Applicability

Claims 1-5, 11-13, 20-22, 33-37, 39-41, 44-46 are considered to be industrially applicable under PCT Article 33(4).