Abstract:
A demand side electric power supply management system is disclosed. The system comprises an islanded power system having a point of coupling to a supply grid. The islanded power system supplies a plurality of electric loads, each of which is associated with a load controller to control the maximum power demanded by that load. A measuring means associated with the point of coupling measures the total power transfer between the grid and the islanded system, and a system controller monitors the measured power transfer relative to a set point and provides a control signal to a plurality of load controllers. Each load controller receives substantially the same control signal and determines the maximum power which the or each load associated with the load controller is allowed to draw from the islanded power system based on information contained in the control signal.

Figure 3 - Generalised schematic of a LDC system
### A. CLASSIFICATION OF SUBJECT MATTER

H02J 3/00 (2006.01)  H02J 1/00 (2006.01)

### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>X</td>
<td>Further documents are listed in the continuation of Box C</td>
<td>X See patent family annex</td>
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- **"A"** Special categories of cited documents:
  - 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 another 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: 6 November 2012

Date of mailing of the international search report: 06 November 2012

### Name and mailing address of the ISA/AU

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### Authorised officer

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AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service)
Telephone No. 0262832862

Form PCT/ISA/210 (fifth sheet) (July 2009)
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<td>X</td>
<td>US 5834855 A (CHIBA) 10 November 1998</td>
<td>1-3, 5-1 1, 16-1 8, 24, 26, 28, 29 and 32 4, 12-15 and 19-23</td>
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<td>US 4694192 A (PAYNE et al.) 15 September 1987</td>
<td>25, 27 and 30</td>
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</table>
INTERNATIONAL SEARCH REPORT

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.: 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:

See Supplemental Box for Details

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 additional fees, this Authority did not invite payment of additional fees.

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.
Continuation of: Box III
This International Application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept.

This Authority has found that there are different inventions based on the following features that separate the claims into distinct groups:

Claims 1-24 and 32 are directed to a demand side electric power management system. The feature of comprising an islanded power system having a point of coupling to a supply grid, *the islanded power system supplying a plurality of electric loads and each said load being associated with a load controller to control the power demanded by that load* is specific to this group of claims.

Claims 25, 27 and 30 are directed to a method/controller/system for demand side electric power supply management. The feature of monitoring power transfer from a supply grid to an islanded power system *having a plurality of loads relative to a setpoint for power transfer from the grid to the islanded system to thereby establish a differential power transfer and generating one or more control signals such that the differential power transfer substantially averages zero* is specific to this group of claims.

Claim 26, 28, 29 and 31 are directed to a method of demand side power supply management. The feature of assigning a priority to each of a plurality of loads in a power system, receiving a control signal indicative of the power available to the power system and *controlling the loads depending on the control signal and/or as per the assigned priority* is specific to this group of claims.

PCT Rule 13.2, first sentence, states that unity of invention is only fulfilled when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. PCT Rule 13.2, second sentence, defines a special technical feature as a feature which makes a contribution over the prior art.

When there is no special technical feature common to all the claimed inventions there is no unity of invention.

In the above groups of claims, the identified features may have the potential to make a contribution over the prior art but are not common to all the claimed inventions and therefore cannot provide the required technical relationship. Therefore there is no special technical feature common to all the claimed inventions and the requirements for unity of invention are consequently not satisfied a priori.
This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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<td>GB 2296607 A</td>
<td>03 Jul 1996</td>
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<td>JP 8182194 A</td>
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<td>US 2004075343 A1</td>
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End of Annex

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.