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Declarations under Rule 4.17:

[Continued on next page]

(54) Title: A TURBINE FARM HAVING AN AUXILIARY POWER SUPPLY

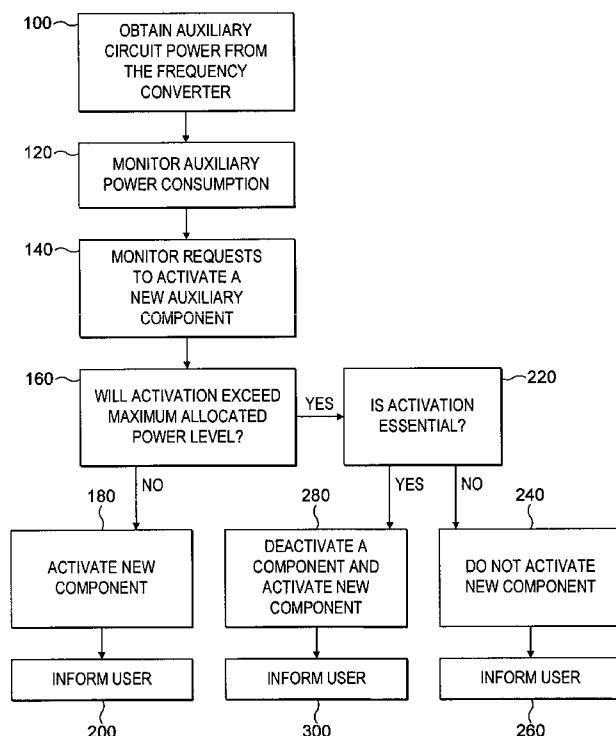


FIG. 5

(57) Abstract: A turbine farm comprises a plurality of individual turbines each having an auxiliary component circuit. The farm further comprises; a master transformer arranged to be coupled between each of the plurality of individual turbines and an electrical grid and an auxiliary transformer coupled between the sub-station transformer and the auxiliary component circuit in each of the individual turbines. When in use power is transmitted from the sub-station transformer back to each auxiliary component circuit.



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- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. F03D7/04 F03D9/00  
ADD.

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)  
F03D H02J

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

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

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 4 565 929 A (BASKIN JOSEPH M [US] ET AL) 21 January 1986 (1986-01-21) column 6 figure 2	1,9,10, 14 2-6
X Y	EP 1 903 213 A (HITACHI LTD [JP]; FUJI HEAVY IND LTD [JP]) 26 March 2008 (2008-03-26) figures 1-3,6,21,22 paragraphs [0010] - [0013]	1,10,14 2-6
Y	EP 1 752 659 A (REPOWER SYSTEMS AG [DE]) 14 February 2007 (2007-02-14) abstract figures 1,2	5,6



Further documents are listed in the continuation of Box C.



See patent family annex.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4565929	A	21-01-1986	NONE	
EP 1903213	A	26-03-2008	JP 4365394 B2	18-11-2009
			JP 2008075521 A	03-04-2008
			US 2008069692 A1	20-03-2008
EP 1752659	A	14-02-2007	DE 102005038558 A1	15-02-2007