INTELLECTUAL PROPERTY APPELLATE BOARD

Annexe-I, 2nd Floor, Guna Complex, 443 Anna Salai, Teynampet, Chennai-18
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Misc. Petition No:14/2010, 34/2010 & 79/2010 IN ORA/11/2009/PT/CH & ORA/11/2009/PT/CH for the revocation of Patent No:199045 (IN/PCT/2001/1600/CHE) 18935

Dated the 3rd December, 2010

Between

Appellant	Representative
ENERCON (INDIA) LIMITED PLOT NO.33 DAMAN PATIALA ROAD, BHIMPORE DAMAN -396210	M/S LAKSHMI KUMARAN & SRIDHARAN NO.2 WALLACE GARDEN, II STREET, CHENNAI – 600 006
VS	
Respondent	**Representative**
1) ALLOYS WOBBEN ARGESTRASSE 19 26607 AURICH GERMANY	D.P. AHUJA & CO. 53, SYED AMIR ALI AVENUE CALCUTTA-700 019.

I am directed to send herewith the certified copy of the Order No. 243/2010 passed by the Board on 2nd December, 2010 in respect of. **Misc. Petition No:14/2010, 34/2010 & 79/2010 IN ORA/11/2009/PT/CH & ORA/11/2009/PT/CH**

(G. VIJAYARAGHAVAN)
Deputy Registrar

Copy forwarded to:

1. M/S LAKSHMI KUMARAN & SRIDHARAN
   NO 2 WALLACE GARDEN, II STREET,
   CHENNAI – 600 006

2. D.P. AHUJA & CO.
   53, SYED AMIR ALI AVENUE
   CALCUTTA-700 019.

3. THE CONTROLLER OF PATENTS, PATENT OFFICE, GST ROAD, GUINDY, CHENNAI.

4. PTC (by email)

5. MANUPATRA INFORMATION SOLUTIONS PVT. LTD, 16A, 2ND FLOOR, WELLINGDON ESTATE, 24, ETHIRAJ SALAI, CHENNAI-600 105 (by email)

6. LIBRARY, GUARD FILE.

INTELLECTUAL PROPERTY APPELLATE BOARD

Guna Complex Annexe-I, 2nd Floor, 443, Anna Salai, Teynampet, Chennai – 600 018

M.P.Nos. 14/10,34/10 and 79/10 in ORA No.11/2009/PT/CH

&

ORA No.11/2009/PT/CH

Thursday, THIS THE 2nd DAY OF DECEMBER, 2010

HON'BLE MS. S. USHA ... **Vice-Chairman**

HON'BLE S. CHANDRASEKARAN ... **Technical Member**

ENERCON INDIA LTD.,
Plot No.33,
Daman Patalia Road,
Bhimpore,
Daman – 396 210. ... **Applicant**

(by Advocate Shri. R.Parthasarathy)

Vs.

ALOYS WOBBEN,
Argestrasse 19,
26607 Aurich,
Germany. ... **Respondent**

(by Advocate Shri. Samaresh Chakraborty)

ORDER No. 243/2010

Hon'ble Shri S. Chandrasekaran, Technical Member:

This is an original application for revocation filed under section 64 read with section 117 D of the Patents Act 1970 (herein after referred to as the Act) for revoking the patent No. 199045 dated 16.11.2001 granted to Mr ALOYS WOBBEN the respondent a German citizen.

2 The impugned Patent was filed on 16.11.2001 claiming the priority date 20.5.1999 and the Patent was granted on23.2.2007 by the Patent Office after due examination of the Patent application having the title "A *wind power installation*". The applicant is a Company registered under the Companies Act 1956, a subsidiary of ENERCON GmbH. Germany applied for the revocation of the Patent on the following grounds.

a. The subject matter of the Patent stands anticipated (Section 64 (1) (e); and

b. The subject matter of the Patent is obvious and does not involve any inventive step [Section 64 (1)(f)]; and

c. The claims do not clearly define the scope of the invention. [Section 64 (1) (i)].

3 The applicant stated that they are one of the foremost leaders in the wind energy sectors in India and they manufacture and install wind turbines all over India and thus they are an interested person within the meaning of the Section 64 of the Act.

4 The respondent challenged the competency of the signatory to the application for revocation and the same was heard by this Appellate Board and passed an order disposing the matter to be decided along with the main matter. Aggrieved by this order, the respondent appealed in the Madras High Court, which was heard and disposed of by the Hon'ble High Court directing this Appellate Board to consider and dispose of this preliminary issue along with the main matter. The Miscellaneous petition was again heard as per the directions of the High Court.

5 On completion of the pleadings, the matter was listed for final hearing on 14-10-2010 before this Bench. Shri. R. Parthasarathy, Advocate appeared for the Applicant and the Respondent was represented by Shri. Samaresh Chakrabarti, Advocate.

6 The respondent filed a M.P. No. 79 / 2010 on 5-4-2010 questioning the locus standi of the applicant to maintain the present revocation application. Therefore this has to be considered first and disposed of. Before considering this question of locus of the signatory, let us look into the facts and background of the case as to its origin briefly.

a. The applicant is a joint venture company. The applicant is involved in the manufacturing of wind turbine generators and setting up of wind farms on a turnkey basis. There are two shareholder groups of the applicant company, viz., Enercon GmbH, a company incorporated under German law owns 56% of the shareholding of the applicant company as a first shareholder. The members of the Mehra family

own the remaining 44% of the shareholding of the applicant company as a remaining shareholder.

b. There are 4 members on the board of the Petitioner,

- 2 representatives of Enercon GmbH
- 2 representatives of the Mehra family
- The Chairman of the board is Dr. Aloys Wobben and the Managing Director of the applicant company is Mr. Yogesh Mehra.
- The actual day to day management of the affairs of the applicant company is to be carried out by the Managing Director of the company in India.

c. In 2007, Enercon GmbH filed a petition under the Companies Act, 1956 in the Company Law Board, Principal Bench, New Delhi alleging oppression and mismanagement of the affairs of the applicant company by the Mehra group members. On 29.10.2007 the Company Law Board passed an interim order which directed ...."*Status quo with regard to all the issues pending in the proceeding should be maintained and no action in relation to the same shall be taken*" (emphasis supplied). CLB further directed that ....."*No changes shall be brought about in the managerial set up and their responsibilities.*" On 19.5.2008 *the CLB passed a further order stating that no further board meetings of the applicant company should be* convened without the leave of the Company Law Board thus freezing all the meetings except the day to day activities of the applicant company.

d. The said revocation applications have been filed in January 2009. They were filed in the name of the applicant company and were signed by Mr. Yogesh Mehra, the Managing Director of the applicant company. The counter statements were filed nearly after a year later by the respondent. Along with the counter statement, miscellaneous applications were also filed questioning the *locus standi* of Mr. Yogesh Mehra to sign the said revocation applications for and on behalf of the applicant company. Mr. Yogesh Mehra has signed the revocation

applications on the strength of a Board resolution dated 26.4. 2007 which is quite evidently prior to the orders passed by the CLB dated 29-10-2007.

e. The main arguments of the respondent are as follows:

- The Board resolution dated 26.4. 2007, by which Mr. Yogesh Mehra is authorized to file proceedings on behalf of the applicant company *is bad* in law since it falls foul of the orders dated 29.10.2007 and 19.5.2008 passed by the CLB;
- The Board resolution only authorizes Mr. Yogesh Mehra to manage day to day activities of the applicant company and under the general powers, "to defend the Company and file suits on behalf of the company on matters that may arise out of contractual laws, corporate laws, taxation laws or any other statutory acts" but not to initiate these revocation proceedings;
- Mr. Yogesh Mehra having filed a suit in a derivative capacity in the Bombay High Court could not now file this proceeding on behalf of the applicant company;
- That the validity of the Board resolution has been challenged before the Company Law Board.
- This Appellate Board having been formed substituting for the High Court as regards finalizing the applications for revocation of patents, this Appellate Board like the High Court has the full powers to decide on all the matters of law and those connected matters of legal disputes under CPC;

f. The aforesaid contentions have been refuted by the applicant. The applicant's counsel referred to the **Supreme Court of India case in "Patel Roadways Ltd. v. Birla Yamaha Ltd., (2000) 4 SCC 91"** to show how the Hon'ble Supreme Court of India has decided about "a suit".

g. On perusing the entire details available in the records, it is seen that Mr. Mehra was authorized by the Board resolution dated 26-4-2007 to sign the pleadings i.e the revocation applications The present revocation applications have been signed by Mr. Mehra by virtue of the said Board resolution dated 26.4.2007 which empowers Mr. Mehra to do so as is clear from the contents of the resolution produced

before us. This Appellate Board cannot decide upon the validity, legality and propriety of this Board resolution dated 26.4.2007 and this Appellate Board, in the absence of any judgment or order of a competent Court of Law declaring the resolution to be null and void or staying the resolution, has to proceed on the footing and directions given therein and assume that the said resolution dated 26.4.2007 is perfectly valid and legal. Counsel for the respondent during the course of arguments sought to urge grounds in support of the proposition that the resolution dated 26.4.2007 was not proper and legal. However as stated hereinbefore the legality and/or validity of the Board resolution dated 26.4.2007 cannot be questioned in the present proceedings which are instituted under the provisions of section 64 of the Act. The jurisdiction to test the validity and legality of the Board resolution does not rest with this Appellate Board. If that be so, then the obvious conclusion is that Mr. Mehra by virtue of the resolution dated 26.4.2007 is fully empowered to sign the suits / pleadings including all these revocation applications. As such there is no substance in the contention of the respondent that Mr. Mehra has no authority to sign the pleadings. Further the contention of the respondent is wrong that the applicant company cannot maintain the present revocation applications. In view of the above observations M.P. 79/2010 is dismissed.

h. It was further contended by the counsel for the respondent that the present proceeding is not a suit and as such the resolution dated 26.4.2007 cannot be taken to have empowered Mr. Mehra to sign the same. This argument too is without any substance. It cannot be said that the present proceeding is not a suit especially in the light of the arguments of the counsel of the respondent made already, that this Appellate Board is a Court for all practical purposes, having regard to the nature of the powers and jurisdiction vested in it by statute, which

appears that the respondent is contradicting his own arguments made already before us. Reliance can be placed in this regard on the law laid down by the **Supreme Court of India in Patel Roadways Ltd. v. Birla Yamaha Ltd., (2000) 4 SCC 91**. The Hon'ble Supreme Court at paragraph 48 and 49 observed as follows:

i. *"Suit, Action – 'Suit' is a term of wider signification than action; it may include proceedings on a petition."*

> *49. From the above it is clear that the terms "suit" is a generic term taking within its sweep all proceedings initiated by a part for realization of a right vested in him under law. The meaning of the term "suit" also depends on the context of its user which in turn, amongst other things, depends on the Act or the rule in which it is used. No doubt the proceeding before a National Commission is ordinarily a summary proceeding and in an appropriate case where the Commission feels that the issues raised by the parties are too contentions to be decided in a summary proceeding it may refer the parties to a civil court... A proceeding before the National Commission, in our considered view, comes within the term "suit."*

j. Therefore, as can be seen from the Supreme Court ruling, the term "suit" is not to be strictly construed but construed in the manner in which it is used. The term "suit" has been used in the Board resolution in the context of 'initiation of proceedings' and has to be liberally construed. That apart, the above mentioned Supreme Court decision, and particularly the admission of the counsel for the respondent that this Appellate Board is a Court, clearly establishes that the proceedings before this Appellate Board would also be in the nature of a suit and as such it is clear that Mr. Mehra is competent to sign the present revocation applications.

k. As regards the derivative action, the circumstances in which the same were filed have no bearing on the present proceedings. The mere filing of a derivative action cannot and does not act as estoppel of Mr.

Yogesh Mehra from filing these revocation applications. The argument of the counsel for the respondent in this regard is therefore completely irrelevant and not germane to the issue as to whether Mr Mehra has the authority to sign the present proceedings.

l. It was next contended that Enercon GmbH has filed an application before the Company Law Board, New Delhi praying for a stay of the operation of the Board resolution dated 26.4.2007. The said application was filed on 5.10. 2010. The said application came up for admission on 19.10. 2010 wherein a stay of the operation of the resolution was sought. The Company Law Board has however not granted any interim order. Therefore, as on date, the Board resolution is valid and subsisting. It has not been set aside or stayed by any court / judicial body. Under these circumstances, it cannot be said that Mr. Mehra has no *locus* or authority to sign the revocation applications on the strength of the resolution dated 26.4.2007. As such it cannot also be held that the applicant company is not a person within the meaning of sections 2(1)(s) or 64 of the Act.

m. Lastly, reliance by the respondent on the interim orders passed by the CLB dated 29.10.2007 and 19.5.2008 is completely misconceived and misconstrued for the sole reason that these orders have been passed after the resolution dated 26.4.2007 and cannot in any manner have any relevance on the issue as to whether Mr. Mehra has the authority to sign the revocation applications in the present case, particularly when the Board resolution has not been made null and void.

7 **Basics and objects of the invention to understand the background and nomenclature in respect of "A *wind power installation.*"are:-**

a. In engineering, buckling is a failure mode characterized by a sudden failure of a structural member subjected to high compressive stress, where the actual compressive stress at the

point of failure is less than the ultimate compressive stresses that the material is capable of withstanding. This mode of faioure is also described as failure due to elastic instability.

b. Rings stiffeners are local stiffening membranes that pass around the circumference of the shell of revolution at a given point on the meridian. Normally they are attached to the interior of the shell of the wind turbine. The rings are assumed to have limited stiffness for deformations but they should be stiff for deformations in the plane of the ring.

8 **Arguments by applicants**

I. **Relevant facts**

a. The Original Rectification Application and Miscellaneous Petitions were listed for hearing on 09.08.2010. On that day, time was granted till 06.09.2010 for parties to complete the pleadings i.e. particularly for respondent to file expert affidavits, if any, in response to the rejoinder and affidavit of the applicant. The matter was listed for hearing on 13.09.2010 and later adjourned to 14.09.2010 by the Board. However, on 11.10.2010 the respondent filed their expert affidavits. The Hon'ble Board considered the respondent's expert affidavit for arguments, in the interests of justice, despite it being filed in the last minute.

b. It was also pointed out that the Expert Affidavit was signed on 09.09.2010 and notarised on that date but submitted to registry only on 11.10.2010. This clearly shows the intention of the respondent to hold back his evidence and see what happens till the last minute and deny reasonable opportunity to the applicant.

c. The counsel for the applicant continued his argument inviting our attention to the definition of the "patent" as under section 2(1)(m), "invention" as under section 2(1)(j), "inventive step" as under section 2(1)(ja), respectively of the Act. The counsel submitted that how the applicant satisfies the condition of "person interested" and what is the definition of "person interested" as given in section 2(1)(t) of the Act.

II. **Then the counsel submitted his arguments as follows:**

A. **Invention and lack of inventive step:**

a. A Patent is granted for a single invention only. Accordingly the claims and the complete specification shall relate to a single inventive concept.

b. It was submitted that a patent is granted for an invention and invention can be a product or process but which has to be new, should involve an inventive step and has industrial application.

c. The question as to whether the invention as claimed, is obvious has to be judged from the view point of the person skilled in the art.

d. Since one of the grounds for revocation in the Application is 'lack of inventive step', the definition of inventive step is important.

e. Inventive step is that feature of the invention which represents a technical advance over the existing knowledge or has an economic significance or both and which is not obvious to a person skilled in the art.

f. Thus, inventive step is a two-step analysis. At first, we have to identify from the claims (since the claims define the invention for which protection is sought – section 10 (4) (c)) that particular feature or features which represents the technical advance or economic significance or both.

g. Only after that feature is identified it is necessary to examine the question whether that feature is obvious or not to the person skilled in the art.

h. If the analysis in step 1 results in a finding of no such feature then the alleged invention lacks inventive step.

B. **Arguments based on the grounds taken for revocation of patent:**

i. Attention was invited to patent specification at page 19 to 24, claims at page 25 to 26 and drawings at page 28 to 37 of the Revocation application .

ii. Attention was invited to lines 8 to 12 at page 19 of the application and it was submitted that the present invention relates to a wind power installation having a tower head of the wind power installation, comprising a flange for receiving a connection which is suitable for receiving the tower head of the wind power installation.

iii. It was submitted that use of steel towers in wind power installation having a flange at the end of the tower to receive an azimuth mounting in which ball-type rotational connections are used is well known in the art and the same is evident from Figure 1. This is the admitted position as seen from lines 13 to 20 at page 19 of the revocation application.

iv. It was submitted that due to the inherent weight of the steel involved in the tower, the tower flexes in manufacturing and/or in the course of transportation. The flexing is due to the plastic behavior of steel. Further, it was submitted that the plastic behavior of material means that once the material is deformed. These submissions were shown from the impugned patent at lines 1 to 6 at page 20 of the revocation application.

v. It was submitted that due to the flexing of the tower, the end of the tower deforms into in an oval shape from the intended circular shape of the tower. Thus, the flange at the end of the tower is also deformed into an oval shape. Hence, when the wind power installation is in operation, the azimuth mounting on the flange is stressed due to the oval shape of the flange and after some period of operation of the wind power installation, flaws and defects start occurring in the azimuth mounting. These submissions were shown from the impugned patent at lines 7 to 15 at page 20 of the revocation application.

vi. It was submitted that the object of the invention was to prevent the tower from deformation, in particular in the region of the flange, by virtue of the inherent weight of the tower, during manufacture and/or transport. These submissions were shown from the impugned patent at lines 16 to 20 at page 20 of the revocation application.

vii. It was submitted that the object of the invention is attained by providing a ring bulkhead substantially in the form of a disc, which is connected to the interior wall of the tower at a spacing of preferably

between 1.0 m and 7.0 m from the flange. These submissions were shown from the impugned patent at lines 25 to 29 at page 20 of the revocation application

viii. It was submitted that the provision of the ring bulkhead in the interior of the tower makes it more difficult for the area near the tower to deform. Further, it was submitted that at what distance the ring bulkhead should be placed from the flange is a matter of trial and error and not inventive. This is the admitted position as seen from lines 1 to 4 at page 21 of the revocation application.

ix. It was submitted that Figure 1 in sheet 1 of the drawing accompanying the patent specification discloses a known tower of a wind power installation and Figure 2 in sheet 1 of the drawing accompanying the patent specification discloses a tower of a wind power installation in accordance with the invention. Further, it was submitted that the only difference between Figure 1 and Figure 2 was the inclusion of ring bulkhead in the interior wall It of the tower. These submissions were shown from the impugned patent at lines 22 to 24 at page 23 of the application and at lines 1 to 4 at page 24 of the revocation application.

x. It was submitted that based on the above submissions made the inventive step lies in providing a ring bulkhead in the interior wall of the tower.

xi. It was submitted that the ring bulkhead made of steel was welded to the interior wall of the tower. These submissions were shown from the impugned patent at lines 9 to 10 at page 24 of the revocation application.

xii. With the above background, Claim 1 of Patent reads as follows:

Claim 1

A wind power installation having a tower head of the wind power installation comprising: a tower for supporting the tower head, the tower having an interior and a flange for receiving a connection that is suitable for receiving the tower head of the wind power installation; and a ring bulkhead in the tower interior at a spacing of between 1.0 m and 7.0 m from the flange, wherein the ring

bulkhead substantially forms a disc that is connected to an interior wall of the tower.

xiii. It was submitted that the invention lies in the claim as a whole but the inventive step lies in the post characterization part. At, this juncture, the Affidavit of European expert (Dr. Rudolph Teschemacher) filed by the the respondent was referred to and it was submitted that, the expert has made a submission that though the claim is in two parts, the invention lies in the claim as a whole

xiv. Further, the expert has also stated where the claim is written in a two part format, the examination division may assume that what precedes the characterized portion is known. Thus, the expert also states that the claim elements preceding the characterized portion are known in the art. While it is known that the invention is in the claim as a whole, the inventive step is only in the improvement effected by the patentee.

xv. Further, the expert has also referred to the US practise of writing claims in the Jepson Format which is mandatory. A Jepson claim is a two part claim which sets out in the preamble what is known in the art and the second part sets out the improvement which is inventive step of the invention.

xvi. Thus the inventive step lies in the present case, in providing a ring bulkhead to the interior wall of the tower.

xvii. Dependent claim 2 at page 25 of the application was referred to and it was submitted that it relates to a rotary mounting and the same was admitted as being known by the patentee and in this regard Figure 1 of the patent specification was refereed to.

xviii. Dependent claims 3 and 5 at page 25 of the revocation application were referred to and it was submitted that claim 3 relates to an opening in the center of the ring bulkhead and claim 5 claims a plurality of the ring bulkhead. It was submitted that use of plurality of rings would be obvious to a person skilled in the art. Hence, claims 3 and 5 do not impart any additional inventive step to claim 1.

xix. Dependent claims 4 and 6 at page 25 of the revocation application were referred to and it was submitted that the claims 4 and 6 relate to placement of the ring bulkhead in the interior wall of the tower from the flange and the same is obvious is to a person skilled in the art, as it is a matter of experience and the same has been admitted by the respondent Hence, claims 4 and 6 do not impart any additional inventive step. Hence if the inventive step in independent claim 1 is

shown to be obvious it would render all the dependent claims obvious to a person skilled in the art, since no additional technical effect or economic significance has been shown by the additional elements incorporated in these dependent claims.

ANTICIPATION

The applicant did not argue on this ground.

INVENTIVE STEP

1. On the inventive step it was pointed out that the Patent is granted for an invention and the invention must involve an inventive step (apart from being new).

2. Thus, invention and inventive step are two distinct terms and it is not necessary that the contours of two terms should be co-terminus.

3. Further Section 2 (1) (ja) defines "inventive step" which gives clear indication that the inventive step is a feature of invention. In other words invention and inventive steps may be different. While invention is identified by the claim as a whole, the inventive step involves identifying that feature in the claim (invention) which involves technical advance as compared to existing knowledge or which shows economic significance.

4. Attention was invited to the decision of the Court of Appeal of United Kingdom in 1985 RPC 55 (Wind Surfing International Inc., v. Tabur Marine Great Britain Limited). It was pointed out that the question of obviousness involves analysis of the following four steps, viz.,

a. Identifying inventive step embodied in the patent.
b. Imputing to a normal skilled but unimaginative addressee what was common general knowledge in the art at the priority date.
c. Identifying difference, if any, between the matter cited and the alleged invention and
d. Decide whether the invention constitutes steps which would have been obvious to a skilled man, without any knowledge of the alleged invention.
e. The above approach to obviousness was also restated by the High Court of Justice, Chancery Division, Patent Courts in 2007 EWHC 2636 (Pat) between Mr. Aloys Wobben and Vestas Celtic Wind Technology Ltd.,

Para 141 of this decision which is relevant is extracted here below.

141. The correct approach to the issue of obviousness has recently been re-stated by the Court of Appeal in Pozzoli v BDMO SA [2007] EWCA Civ 588:

(i) (a) Identify the notional "person skilled in the art"

(b) Identify the relevant common general knowledge of that person;

ii) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

iii) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or claim as construed;

iv) Ask whether, viewed without any knowledge of the alleged invention as claimed, those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention. Copy of the judgment was made available to the Bench in connection with another related case viz., ORA No.25/2009/PT/CHE.

5. Attention was also invited to the affidavit of expert Dr.Rudolf Teschemacher.
6. In particular it was pointed out with reference to the said affidavit and its particular pages 27 to 29 of the affidavit that the obviousness analysis according to the expert is conducted in the EU per the following 3 steps.

(a) Determination of closest prior art.
(b) Establishing the objective technical problem to be solved and
(c) Considering whether or not the claimed invention, starting from closest prior art and the objective technical problem, would have been obvious to the skilled person.
(d) Closest prior art is that which in one single reference discloses the combination of features, which constitutes the most promising starting point for an obvious development leading to the invention.

(e) In identifying closest prior art account may be taken from the patent specification of what is acknowledged as known.

(f) The objective technical problem is the difference between the claim and the closest prior art in terms of the feature that produces the technical effect.

7. The last question to be answered is whether there is any teaching in the prior art as a whole that would have prompted the skilled person faced with objective technical problem to adopt the closest prior art to arrive at the invention claimed.

8. In the present case, applying the principles enunciated above, we arrive at the following position:

(a) A wind power installation having a tower for supporting the tower head, the tower having a flange in the interior for receiving a rotary mounting that is suitable for receiving a tower head of the wind power installation, is well known (admitted in the patent specification itself);

(b) The tower of the said known wind power installation is subject to deformation, which also results in consequential deformation of the flange from the desired circular shape to an oval shape;

(c) Preventing deformation in the tower starting from the known wind power installation, by effecting improvement is the objective technical problem to be solved (it is not material that the specification talks about such deformation during manufacture or transport);

(d) Any prior art relating to similar tower constructions (not limited only to towers in wind installations), which teaches how to prevent deformation in a tower will be a relevant prior art.

(e) Attention was invited to rule 2141.01(a) of Manual of Patent Practice and Procedure of United Sates Patent and Trademark office. It was submitted that this rule relates to what a person skilled in the art will consider as an analogous

art for analyzing the obviousness of the subject matter at issue. Para I, II and IV of rule 2141.01(a) were referred to and it was submitted that a person skilled in the art would look into prior arts of analogous fields, where a similar problem may have been addressed.

(f) Keeping the above background to obviousness analysis in view, submissions were made on the second ground that claims do not involve any inventive steps and the steps would have been obvious to a person skilled in the art.

9 **3,761,067 patent (US'067 patent Annexed at page 38 of the revocation application)**

1. The US '067 patent was granted on September 25, 1973.

2. Attention was invited to column 1 lines 3 to 5 of the US'067 patent and it was submitted that it relates to a large scale metal framed towers, especially cooling towers. Further, it was submitted that a cooling tower was a relevant prior art because the person skilled in the art starts from a known wind installation tower, which has a specific problem to be addressed and his field of search of enquiry to solve that problem will not only be limited to wind installations but all analogous fields which involve construction of similar towers. He was not starting from the cooling tower to solve the problem in wind installation but from the wind installation to address deformation issues therein.

3. Attention was invited to column 1 lines 25 to 30 and it was submitted that known cooling towers in US'067 patent are subject to considerable stress and deformation especially from wind loads.

4. Attention was invited to column 1 lines 43 to 44 and it was submitted that one of the objects of '067 patent was to provide high rigidity to the tower.

5. Attention was invited to column 1 lines 46 to 54 and it was submitted that the '067 patent discloses that the stiffening rings are provided inside or outside along the mantle surface of the tower, this stiffening ring participates in the force distribution along the mantle surface of the tower. Further, it was submitted that the participation of stiffening ring in force distribution along the mantle surface of the tower results

in providing higher rigidity to the tower, which results in decreasing stress and deformation in the tower. Further, it was also submitted that mantle surface is equal to the wall of the tower and the mantle surface is made of metal.

6. Attention was invited to column 1 lines 62 to 65 and it was submitted that the '067 patent discloses that the stiffening rings are ring shaped or disc shaped.

7. Attention was invited to column 2 lines 59 to 68 and it was submitted that the '067 patent discloses that the stiffening rings can be inside and/or outside the mantle surface and it also discloses use of plurality of stiffening rings. Further, it was submitted that the use of a ring outside the wall of the tower or inside the wall of the tower would have the same effect of preventing deformation in the tower and the same is also evident from column 1 lines 63 to 68.

8. Thus, it was submitted that '067 patent discloses the inventive step of claim 1.

10 **1,947,515 patent (US'515 patent Annexed at page 42 of the revocation application)**

1. The '515 patent was granted on February 20, 1934.

2. Attention was invited to page 1 lines 1 to 7 of the '515 patent and it was submitted that it relates to an elevated tank, which is solely supported by a central tower. Further, it was submitted that the tower for water tank was a relevant prior art because the person skilled in the art starts from a known wind installation tower, which has a specific problem to be addressed and his field of enquiry to solve that problem will not only be limited to wind installations but all analogous fields which involve a construction of similar towers. He was not starting from the water tower to solve the problem in wind installation but from the wind installation to address deformation issues therein.

3. Attention was invited to page 1 lines 39 to 41 of the '515 patent and it was submitted that one of the objects of '515 patent was to reinforce and stiffen the tower, supporting the water tank.

4. Attention was invited to page 2 lines 90 to 99 of the '515 patent and it was submitted that the '515 patent discloses use of ring 27 welded within i.e. inside the tower to keep the walls cylindrical i.e. to sustain the shape i.e. to prevent deformation in the tower. Further, it also discloses that multiple rings 27 are used in the tower. Further, it was also submitted that the same is evident from Figure of the US '515 patent

5. Thus, it was submitted that '515 patent discloses the inventive step of claim 1.

11 **4,261,931 patent (US'931 patent Annexed at page 48 of the revocation application)**

1 The '931 patent was granted on April 14, 1981.
2 Attention was invited to column 1 lines 4 to 5 of the '931 patent and it was submitted that it relates to a cooling tower.
3 Attention was invited to Figure 2 and column 5 lines 30 to 40 and it was submitted that ring 30 present outside the tower prevents deformation in the tower from external pressure of the wind.
4 Thus, it was submitted that '931 patent discloses the inventive step of claim1.

12 **4,010,580 patent ('580 patent Annexed at page 57 of the revocation application)**

1. The '580 patent was granted on March 8, 1977.

2 Attention was invited to column 1 lines 6 to 7 of the '580 patent and it was submitted that it relates to a cooling tower.

3 It was submitted that '580 patent was used only with regard to prove obviousness of claim 5 and the same of was not pressed with regard to disclosure of inventive step of claim 1.

4 It was submitted that though none of the prior art address deformation of tower during transportation or assembly that does not mean they are not relevant. All the prior arts cited address the solution for preventing deformation in the tower by use of stiffening ring. Further, it was reiterated that all the prior arts cited were relevant prior arts because the person skilled in the art starts from

a known wind installation tower, which has a specific problem to be addressed and his field of enquiry to solve that problem will not only be limited to wind installations but all analogous fields which involve a construction of similar towers with a similar problem. He was not using the water or cooling towers to solve the problem in wind installation but commencing from a wind installation to address deformation issues therein.

13 Submissions on counter statement of the respondent.

1 It was submitted that the respondent at paragraph 4 (h) has submitted that the US and EP Patent authority have not found any of the prior arts cited to be relevant. In response to this it was submitted that the Patent law is territorial in nature and the grant of Patents in different countries does not ipso facto validate the Patent granted in India. Further, it was also submitted that three patents of the Respondent had been held to be invalid by the UK court in *Aloys Wobben vs. Vestas Celtic Wind Technology Ltd*, while same patents had been granted in US and India. It was also pointed out that neither the EP nor US examiner has considered any of the prior arts cited by the applicant in their examination report. Hence, the argument of the respondent is incorrect.

2 The contents of paragraph 4(n) were refereed to and it was submitted that the main crux of the argument of the respondent was that the prior arts cited by the applicant discloses a cooling tower and a tower having a water tank and the same cannot be adapted or used for a wind power installation. Thus, a person skilled in the art will not consider the prior arts cited relevant. In response to this it was admitted that a cooling tower disclosed in the prior art would not be adaptable for a wind power installation. It was submitted that the applicant was not submitting that the stiffening ring used in the cooling tower should be taken out and used in a tower of a wind power installation. The submission of the applicant is that a person skilled in the art when faced with the problem addressed by the impugned patent would borrow the concept that providing a stiffening ring i.e. ring bulkhead in the interior of a cooling tower or a tower supporting a water tank prevents deformation in the

tower and adopt the same concept in a tower of a wind power installation. Further, it would be obvious to a person skilled in the art, what changes in design configurations have to be made for a cooling tower and a tower for a wind power installation by taking into consideration various parameters such as load and external pressure.

14 Submissions on reply to the counter statement

i) Paragraph 21 at page 9 of the reply to the counter statement was referred to and it was submitted that any person skilled in the art when faced with the problem as stated in the impugned patent will consider the teachings of any prior art dealing with tower construction relevant. Further, it was submitted that it would have been obvious to a person skilled in the art from the disclosures in the prior arts that in order to prevent deformation on a tower a ring bulkhead has to be provided in the interior part of the tower.

ii) It was submitted that the affidavit of expert Mr. Arun Kashikar at page 13 and affidavit of expert Mr. Rajashekhar S. Talikoti at page 23 concur with the submissions made by the applicant.

15 Submissions on the affidavit filed by the Respondent (Prof. Dr –ing. Jan Henning Lange)

i) Unnumbered paragraph 3 of paragraph 2.1 was referred to and it was submitted that the expert of the respondent has stated that the stiffening rings disclosed in '067 patent prevents deformation in the cooling tower after commission i.e. after installation and the same does not prevent deformation during transport and/or installation. In response to this it was submitted that the claim 1 is only claiming the use of ring bulkhead in the interior wall of the tower to prevent deformation and it was irrelevant whether it was during manufacture or transport or after erection. Thus, the consideration, when the ring bulkhead prevents deformation i.e. during transport or manufacture or after erection of a tower is irrelevant.

ii) Unnumbered paragraph 3 of paragraph 2.3 was referred to and it was submitted that the expert of the respondent has stated that the rings

disclosed in '931 patent does not have the basic geometry of a solid disc like in the case of the ring bulkhead as disclosed in 199045. In response to this it was submitted that it does not make a difference, whether the ring bulkhead is a solid disc or not as any ring bulkhead provided in the inner wall of the tower will prevent deformation of the tower.

iii) Paragraph 2.5 was referred to and it was submitted that the expert of the respondent has submitted that the towers disclosed in '067 patent, '515 patent and '931 patent cannot be adapted nor suitable to be used as a tower of a wind power installation. In response to this it was submitted that the applicant was not submitting that the stiffening ring used in the towers disclosed in the prior arts should be taken out as such and used in a tower of a wind power installation or that the tower geometry of a cooling tower will be used as such. The submission of the Petitioner is that a person skilled in the art when faced with the problem addressed by the impugned patent would borrow the concept that providing a stiffening ring i.e. ring bulkhead in the interior of a tower prevents deformation in the tower and adopt the same concept in a tower of a wind power installation. Further, it was also submitted that while a person skilled in the art is unimaginative but has skill to research and borrow concepts and apply them from analogous fields and to make workshop improvements.

16 **RESPONDENT'S ARGUMENTS**

The counsel for the respondent started his arguments first referring to the M.P No. 79 of 2010, where the respondent had challenged Mr.Yogesh Mehra's competency to depose an affidavit and has no *locus standi* to initiate revocation application on behalf of Enercon (India) Limited. The counsel said that the matter was heard and decided that this matter would be disposed off along with the main application. When they appealed against this order, the Hon'ble Madras High Court had also directed the Appellate Board to consider this issue in the miscellaneous petition along with the other matters in the main application. Hence the request was made to decide the locus standi issue along with other grounds of the revocation application.

17. Corresponding patents have been granted in Australia, Canada, China. Korea, New Zealand and U.S.A . IN 199 045 relates to a wind power installation having a tower and a tower head on top of the tower. Conventional wind power installations with an output of > 1.0 MW may comprise steel towers which are built of steel tubes. At the end of the tower, a flange is provided and will form a flat support surface for receiving an azimuth mounting. Due to the high inherent weight of the steeL a tower or tower segments can flex during the manufacture or during the subsequent transportation of the tower and, significantly, the flexing of the tower can result in a plastic deformation of the circular diameter on its top end, where azimuth connection is required to be provided. In the event of slight deformation of the circular flange at the top of the tower. it is not possible to successfully mount an azimuth mounting on top of an "deformed" flange on top of the tower. It is therefore an object of this patent to provide a tower of a wind power installation having a flange for receiving an azimuth mounting connection, wherein the tower does not suffer deformation in respect of its cross section in particular in the region of the flange on top of the tower by virtue of the inherent weight of the tower "during manufacture and/or subsequent transportation.

18. This object is solved by the subject matter of claim 1, namely by providing a wind power installation having a tower head, a tower for supporting the tower head. The tower comprises an interior and a circular flange for receiving a connection which is suitable for receiving the tower head. The wind power installation furthermore comprises a partition or ring bulkhead in the towerinterior at a particular spacing of between 1 to 7 meters from the flange, which is predetermined/selected, depending on the inherent problem to be solved for preventing partial deformation of the flange on top head of the tower, particularly during manufacture and/or subsequent transportation of the 'tower'. The ring bulkhead substantially forms a disc that is connected to an interior wall of the tower.

19. Accordingly, the subject matter of claim 1 comprises the following features:

F 1: a wind power installation having a tower head
F2: a tower for supporting the tower head
F3: the tower having an interior and a flange for receiving a connection which is suitable for receiving the tower head
F4: a ring bulkhead in the tower interior at a spacing of between 1 meter and 7 meters from the flange
F5: the ring bulkhead substantially forms a disc which is connected to an interior wall of the tower.

20. The primary function of the ring bulkhead is to prevent plastic deformation prior to the commissioning, e.g. during manufacture or subsequent transportation. The ring bulkhead is not necessarily important for the operational stability under conditions which occur during regular operation of the wind installation. However, the ring bulkhead offers additional features like the usage as a mounting platform which eases the installation, as and when needed. It also needs to be pointed out that the ring bulkhead described in IN 199 045 has the basic geometry of a solid disc which may have a center opening, the inner diameter of which is small compared with the outer diameter of the disc

PRIOR ART CITATIONS :-

21. **Exhibit 2 (US 3,761.067)** relates to a large size metal framed tower. Such a tower is in particular a cooling tower (cf. column 1, line 6). Exhibit 2 is related to the problem that, due to the high material consumption, the construction of such towers on the basis of established design principles requires the use of huge-sized tower cranes of appropriate load bearing capacities. This is, however, a drawback as the production, transport and assembly of such especially large sized tower cranes are expensive and complicated. The object of Exhibit 2 is solved by designing the cooling tower

so that the mantle surface is developed as a metal framework or made of panels including at least one stiffening ring participating in the force distribution of the mantle surface. The stiffening rings can be ring or disc-shaped girders, the plane of which may be perpendicular to the mantle surface or enclose an angle with the generatrix of the mantle surface (lines 48 to 67). In particular, on the inside of the mantle surface, an inner stiffening ring 2 and, on its outside, the outer stiffening ring 3 is provided. The stiffening rings are located alternately at the inside and outside of the tower or alternatively either exclusively outer stiffening rings or exclusively inner stiffening rings are provided

22. Accordingly. Exhibit 2 does neither show a wind power installation having a tower head (feature F 1) nor a tower which is suitable or adapted to support a tower head of a wind power installation (feature F2). Most significantly, Exhibit 2 does not disclose a tower comprising a flange for receiving a connection which is suitable for receiving the tower head of the wind power installation (feature F3) that being not needed in the case of a cooling tower. Moreover, Exhibit 2 does not disclose a ring bulkhead with the basic geometn' of a solid disc as described within IN 199 045, but different types of stiffening rings constructed out of girders which are connected with the tower by means of a plurality of structural elements extending from the stiffening ring to the mantle surface. In addition, this framework is not arranged at a spacing between one meter and seven meters from the upper flange (feature F4).

23. The stiffening rings as described within Exhibit 2 are fundamentally necessary for the "operational stability under conditions which occur during regular operation of the cooling tower." In order to achieve this, it is proposed to have a plurality of rings vertically spaced apart along the height of the tower. Contrary to this, the primary function of the ring bulkhead is to prevent plastic deformation of the circular flange at the top head of the tower, and that too prior to the commissioning, e.g. during manufacture or subsequent

transportation. As explained by the Expert in his evidence by way of Affidavit, the ring bulkhead is not necessarily important for the operational stability under conditions which occur during regular operation of a wind power installation. It seems not of fundamental importance to have a plurality of ring bulkheads vertically spaced apart along the height of the tower of the wind power installation in order to fulfill the specific function of the ring bulkhead which is to prevent the mounting flange from plastic deformation, as otherwise, the azimuth mounting will not be possible to be sustained for a long period.

24. The applicant (EIL) has failed to explain why a person skilled in the art should consider the teaching of this document (motivation?). It is clear to any person with average skill in the art that a cooling tower is something completely different from a wind power installation. Therefore, a person skilled in the art who is improving a wind power installation would definitely not consider any teachings relating to cooling towers as being relevant. The cooling tower as described in Exhibit 2 is definitely not adapted or suitable to be used as a tower for a wind power installation Moreover, a person skilled in the art would never consider rings consisting of a framework of girders as described within Exhibit 2 in order to prevent the flange on the tower of a wind power installation from flexing and plastic deformation during manufacture and subsequent transportation.as the stability of such a framework is not suited to withstand significant punctual impacts Therefore, a person skilled in the art who is dealing with the construction of a wind power installation would definitely disregard the teaching of Exhibit 2

25. Exhibit 3 (US 1.947,515) describes an elevated tank.The tank comprises a tower with various rings 27 arranged at suitable intervals in the interior of the tower (cf. Fig. 8 and lines 90 to 102). These rings are described to be of angle cross section, being suitably apertured at regular intervals forming the connecting means for a series of tie rods 28, the inner ends of which are secured to a second and floating inner ring 29. However, Exhibit 3

does not disclose a wind power installation (feature F 1) and a tower which is adapted or suitable for supporting a tower head of a wind power installation (feature F2),with a flange being provided on top of the tower, which is adapted or suitable for receiving a connection (feature F3).Furthermore, Exhibit 3 does not involve a ring bulkhead with the basic geometry of a solid disc as described within IN 199 045, but different types of "stiffening rings" with angle cross section which each are connected with a second and floating inner ring by means of various tie rods, resulting in a spoked-wheel-like construction. In addition, the stiffening rings are not arranged at a spacing between one meter and seven meters from the upper flange (feature F4), that being not a requirement at all for the "elevated tank".

26. As explained by the respondent's Expert, the stiffening rings as described in Exhibit 3 are fundamentally necessary for the "operational stability" under conditions which occur during regular operation of the elevated tank by keeping the walls cylindrical and thus avoid buckling of the tower. In order to achieve this, it is proposed to have a plurality of rings vertically spaced apart along the height of the tower. Contrary to this, the primary function of the ring bulkhead provided in the tower of the wind power installation according to the instant Indian patent is to prevent plastic deformation prior to the commissioning, e.g., during manufacture or subsequent transportation, and that too, the ring bulkhead is not necessarily important for the "operational stability" under conditions which occur during regular operation of the wind power installation.

27. Exhibit 3 merely relates to an elevated tank including a tower. It should be noted that the tower of this elevated tank is neither adapted nor suitable to be used as a tower of a wind power installation, nor is there any flange on top of the tower which must be kept non-deformed. Prior to commissioning for adopting 'perfect' azimuth connection with the rotary ring of the nacelle / gondola.

28 Towers for wind power installations need to be able to handle not just

static but also dynamic loads which originate not just from the wind blowing against the tower but also from the movement of the gondola/nacelle, and the rotating or revolving rotor blades. The mechanical requirements for a tower of a wind power installation are therefore very high and are very specific. It is not possible to merely take a tower, for example, of a cooling tower or an elevated tank and arrange a tower head. of a wind power installation and a gondola/nacelle. on top of that without major and significant changes. This becomes very clear if one takes into consideration that a spoked-wire-like ring as described in Exhibit 3 would never be suited in order to prevent the tower head flange of a wind. power installation from flexing and plastic deformation during manufacture and subsequent transportation, as the stability of such a construction is much too weak and therefore not suited to withstand significant punctual impacts.

29. **Exhibit 4 (US 4.261.931)** relates to a "cooling tower" with a fluted wall. Accordingly, the same argumentation will apply as that for Exhibit 2. In addition to this, as explained by the respondent's Expert, the rings described in Exhibit 4 primarily serve as joints between the upper and lower course forming the walls of the tower and in addition function as tower shell stiffeners, which makes them fundamentally important for the "operational stability under conditions which occur during regular operation of the cooling tower". The ring bulkhead as described within IN 199 045 definitively does not function as a joint between adjacent cylindrical tower sections and it is also not necessarily important for the operational stability under conditions which occur during regular operation of a wind power installation. Furthermore, the rings described in Exhibit 4 do not at all have the basic geometry of a solid disc like in the case of the ring bulkhead as described within IN 199045. Therefore, any person skilled in the art, who is designing a wind power installation, would clearly not consider the teaching of this document as being of any relevance.

30. Exhibit 5 (US 4.101.580) also relates to a "cooling tower". Accordingly, the same argumentation will apply as that for Exhibit 2. In addition to this, the supporting and stiffening ring described in Exhibit 5 is a spoked-wheel-like construction which is providing the reaction for the vertical pretensioning of the membrane and is not in the slightest comparable to the ring bulkhead as described in IN 199 045 with respect to its geometry, basic function and, last not least, applicability thereof.

SUBMISSIONS FOR AND BEHALF OF RESPONDENT

31. Based on Fig. 1 of the instant Indian patent obvious choices for improving the stability of the flange on top head of this tower of a wind power installation, during transport and manufacture would be to (a) make the flange stronger to avoid flexing, (b) to design the tower in two parts, wherein the first part includes the flange, this first part being mounted on a second part, so that any flexing of the second part will not affect the first part with the flange and (c) a stiffening plate is screwed to the flange during transport or manufacture to stiffen the flange. But in the instant case, none of those "choices" has been adopted.

32. The "stiffening rings" in all the prior art documents do not relate to the problem of possible flexing of the Flange on top of the tower of the wind power installation during transport or manufacture, so that 'perfect' azimuth mounting of the gondola/nacelle (rotary)ring is possible on said flange for sustaining the "connection" for a long period. Thus, the problem here is totally different and that is solved technically by the patentee by certain features, (as specified in claim 1 itself) which may apparently be deemed to be simple. Furthermore, none of the towers of the prior art documents has the problem of flexing of the flange during transport or manufacture. None of the prior art documents even has a flange which can be used to receive a tower head of a wind power installation. Accordingly the prior art documents are not analogous prior art and a person skilled in the art would not consider them as relevant.

33. Significantly, provision of "stiffening ring" in the towers of cooling tower or elevated tank cannot be equated with the particular arrangement adopted for the wind power installation of the instant Indian Patent. Each case ought to be considered, depending on the field of the concerned invention, as, otherwise four U.S. Patents, cited by the applicant, would not have been granted, though each of these has stiffening rings in common. Reference is made to various Case Laws discussed in paragraphs 16-82 (in particular, page 412); 16-95(2); 16-109; 16-108 and 16-126 (page 433) of 'Patent Law' by P. Narayanan (Fourth Edition)

34. **Rejoinder on the submissions by the Respondent**

1. The counsel for the respondent had submitted that the invention in the impugned patent was simple and the applicant has admitted the same. In response to this it was submitted that the question to be answered was not how simple an invention is but whether the invention is new and it involves an inventive step in accordance with the law to get a patent. Further, it was clarified that the submission by the applicant that the invention is simple was with respect to the understanding of the invention not with regard to the invention as such.

2. It was submitted that the inventive step is a subset of an invention. Figure 1 of the impugned patent discloses what is already known in the art. The inventive step is providing the ring bulkhead in the inner wall of the tower. Further, it was submitted that the purpose, why the ring bulkhead is used is not relevant but what is important is whether the use of the ring bulkhead is preventing the deformation in the tower. Thus, the problem is deformation in the tower due to its inherent weight and the solution to this problem is provision of ring bulkhead in the interior wall of the tower.

3. It was submitted that the applicant was not submitting that the stiffening ring used in the towers disclosed in the prior arts should be taken out and used in a tower of a wind power installation. The submission of the applicant is that a person skilled in the art when faced with the problem addressed by the impugned patent would borrow the concept that providing a stiffening ring, i.e. ring bulkhead in

the interior of a tower, prevents deformation in the tower and adopt the same concept in a tower of a wind power installation. Further, it was also submitted that the respondent would not use a different engineer for a 1 MW or 2 MW wind power installation, the engineer building both the 1 MW or 2 MW wind power installation will be the same and the changes in design configuration which has to be made to the 1 MW or 2 MW wind power installation will be within the domain of the ordinary person skilled in the art.

4. Counsel of the respondent had submitted that the US patent office in their classification of references for field of search had not considered the fields of prior arts cited as relevant and hence the prior arts cited are not analogues arts. In response to this attention of the bench was invited to paragraph 2 of rule 2141.01(a) of Manual of Patent Practice and Procedure of United Sates Patent and Trademark office and it was submitted that the classification of references is some indication of analogous arts but it is not a decisive factor.

5. Attention was invited to the US equivalent of IN 199045 patent annexed as Exhibit A of M.P filed by the respondent on 7 January 2010. It was pointed out that the classification of references for field of search in the US equivalent patent was different from that of the classification of prior arts cited. Further, it was submitted that the question whether a prior art is an analogous art can be determined only by using the problem solution approach and not by referring to classification of references.

6. The respondent had submitted that the impugned patent was a selection patent as it was claiming that the ring bulkhead should be provided at 2.0 m from the flange from a known range. In response to this it was submitted that a selection patent is generally with respect to chemical patents only and cannot be extended to other fields. It was submitted that in a selection patent, a broad set of chemicals i.e. genus is already known and a species of the genus is picked and if that species discloses surprising results or advantageous properties, then a patent can be claimed with respect to that species. No such facts arise in this case.

7. Attention was invited to few paragraphs of KSR International Inc. vs. Teleflex Inc. 550 U.S. 398 **(Annexure - 1).**

a. *"The principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."*

b. *"We build and create by bringing to the tangible and palpable reality around us new works based on instinct, simple logic, ordinary inferences, extraordinary ideas, and sometimes even genius. These advances, once part of our shared knowledge, define a new threshold from which innovation starts once more. And as progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts." (emphasis supplied)*

35. We have heard the arguments of both the counsel and have gone through the pleadings and the documents filed in support thereof.

36. Person interested

In this case, the respondent has raised a question of *locus standi* for the person who has filed the application for revocation for and on behalf of the petitioners that he is not authorized and is not "*the person interested*" to file a revocation petition. The respondent has taken the ground that in terms of the articles of association of the company, Mr.Yogesh Mehra, the Managing Director lacks the competence to file a revocation application for and on behalf of the applicants for revoking the patent granted to the

respondent, as the reliance placed on the articles of association is wrong and the power is not conferred on him to execute any such legal action, and more so when the matter is still pending before the company law board. The applicant had stated that Mr.Yogesh Mehra, being the Managing Director has been authorized by the Board resolution dated 26th April 2007 to defend and initiate suits and proceedings on behalf of the applicant and that in terms of the articles of association of the company, Mr.Yogesh Mehra, being the Managing Director has the requisite *locus standi* to file and institute the revocation proceedings. Appellate Board has the power only to check as to whether the applicant filing the revocation, namely the applicant company, herein M/s. Enercon (India) limited is a "person interested" or not, according to the Act under which this proceeding has been initiated.

37. Now we wish to point out that this issue of locus standi of Mr. Mehra has already been discussed and decided earlier in Para 6 (g) *ante*. The Company Law Board having not granted any interim order after 29.10.2007 and 19.5.2008, as on date, the Board resolution is valid and subsisting. It has not been set aside or stayed by any court / judicial body. Under these circumstances, it cannot be said that Mr. Mehra has no *locus* or authority to sign the revocation applications on the strength of the resolution dated 26.4.2007. As such it cannot also be held that the applicant company is not a person within the meaning of sections 2(1)(s) or 64 of the Act.

38. Now we have to see whether the applicant is a person interested or not to file a revocation application. According to section 2(1)(t) of the Act, *"person interested"* is defined as below:

> *"Person interested" includes a person engaged in, or in promoting, research in the same field as that to which the invention relates;"*

The word or expression *"person interested"* appears under sections 25 as well as 64 of the Act, dealing with opposition proceedings to the grant of patent before the Controller and revocation proceedings before this Appellate

Board. In fact the actions taking place in opposition proceeding is almost analogous and similar to the revocation proceedings before this Appellate Board, excepting for the creation or constitution of an opposition Board under section 25(3) (b) of the Act, to examine and submit the recommendation to the Controller who is to hear the opposition parties. As per Patent Law by P. Narayanan, it could be clearly seen or stated that there are three grounds upon which the opponent can establish his *locus Standi* to oppose the grant of patent or to seek the revocation of the patent, which are mainly,

1) possession of patents in the same field as the invention relates;
2) manufacturing interest relating to a similar product being manufactured by the patentee; and
3) trading interest..

39. In **AIR 1983 DELHI 496 Ajay Industrial Corporation Vs. Shiro Kanao of Ibaraki city, para B in page 496**, it was held that, **"person** interested" must be a person who has a direct, present and tangible commercial interest which was injured or affected by the continuance of the patent on the register. The applicant's counsel stated at the very beginning, that they are one of the foremost leaders in the wind energy sectors in India and they manufacture and install wind turbines all over India and thus they are an interest person within the meaning of the Section 2(1)(t) as well as the Section 64 of the Act. In view of this judgment, we have to check and find out whether this applicant is a person interested as per the requirement of the Act under which these proceedings are taking place.

40. In **Globe Industries Corporation's Patent (1977) R.P.C 563 in the Supreme Court of Judicature – Court of Appeal, Lord Justice Scarman** observed that, *"where the statute uses the words 'any person interested', the interest has to be genuine; the possibility of prejudice has to be genuine and in addition, and quite independently, the Court must be satisfied that the opposition or the application for revocation, as the case may be, is not a frivolous, vexatious or blackmailing operation."*

41. And in the same case law, **Globe Industries Corporation's Patent (1977) R.P.C 563 in the Supreme Court of Judicature – Court of Appeal, Lord Justice Goff** observed that, *"what an opponent on an application for revocation has got to establish is that there is genuine interest which may be prejudiced; Of course, the prospect of prejudice must be real, not speculative or fanciful and it must be a prejudice to present a commercial interest."*

42. In **Mediline A.G's Patent, (1973) R.P.C 91 before the patents Appeal Tribunal, Mr.Justice Graham** has held that, *"there must be a real, definite and substantial interest to prove the commercial interest and that it must be a genuine interest There must be the existence, or the likelihood of real prejudice."*

43. Therefore applying the same analogy here, we find that, as regards first ground, there is no evidence before us to show that the applicants are in possession of any patents in the same field. As regards the second ground i.e., the manufacturing interest, the applicants are one of the foremost leaders in the wind energy sectors in India and they manufacture and install wind turbines all over India and this establishes the manufacturing interest As regards the trading interest, looking at the ruling of the **Solicitor General, Sir Thomas Inskip in Clavel's application, 45 R.P.C 222** and a previous ruling by **Sir Stanley Buckmaster in New Thing's application, 31 R.P.C 40** that *"a trading interest to be effective, must be a real, definite and substantial interest and must not arise from something that the opponent proposes to do".*

44. It is very clear that the applicants have been manufacturing and installing the wind turbines shows the trading interest of the product, too, as *"a person interested"* in opposing the grant or revocation of the patent. Therefore what an applicant for revocation of patent, (the applicants herein) has to establish is that there is a real and genuine interest together with a commercial interest, which may be prejudiced when such a patent is granted.

The applicants have shown that they have been manufacturing and installing wind turbines all over India and this shows that they have a real and genuine interest together with a commercial interest in the product. In view of the above said findings, we find that undoubtedly *locus Standi* is established by the applicants and they are *"the person interested"* in this case sufficiently meeting the requirement of section 2(1)(t) of the Act.

45. **Common general knowledge**

Now we shall see as to whether a common knowledge on the date of the patentee's claim would amount to anticipation by way of public knowledge destroying the novelty or affecting the inventive step. First we should see what is a common general knowledge?

"Criteria for "Common General Knowledge"

It is important to have a clear understanding of the meaning of the common general knowledge. It is the background technical knowledge available to all in a particular trade while doing or carrying out a product development activity.

46. The common general **knowledge** as described by **Laddie J in *Raychem Corp's Patents* [1998] RPC 31 at 40,** *"The common general knowledge is the technical background of the notional man in the art against which the prior art must be considered ... It includes all that material in the field he is working in which he knows exists, which he would refer to as a matter of course if he cannot remember it and which he understands is generally regarded as sufficiently reliable to use as a foundation for further work or to help understand the pleaded prior art. This does not mean that everything on the shelf which is capable of being referred to without difficulty is common general knowledge nor does it mean that every word in a common text book is either. In the case of standard textbooks, it is likely that all or most of the main text will be common general knowledge."*

47. The law as to what *constitutes* common general knowledge is also set out in the decisions of the **Court of Appeal in *General Tire & Rubber Co v Firestone Tyre & Rubber Co Ltd* [1972] RPC 457 at 482-483** and ***Beloit Technologies Inc v Valmet Paper Machinery Inc* [1997] RPC 489 at 494-495;**

In General Tire v Firestone [1972] RPC 457 at 482: it is held, *'on the other hand, common general knowledge is a different concept [sc. from public knowledge] derived from a commonsense approach to the practical question of what would in fact be known to an appropriately skilled addressee - the sort of man, good at his job, that could be found in real life.'*

In Beloit v Valmet [1997] RPC 489 (CA)). Aldous J held; "At the same time, the skilled man should not be taken to represent some sort of lowest common denominator of persons actually engaged in the field, possessed only of the knowledge and prejudices that all of them can be said to possess. The common knowledge of different groups employed on the same tasks in different organizations is likely to be different, and it is unlikely that the expert witnesses will be truly representative of the skilled person, as not only may they be too well qualified but they will come to the case with personal prejudices or preferences that must be discounted:"

48. **Luxmoore J. in British Acoustic Films (53 R.P.C.221 at 250)** stated: *"It is not sufficient to prove common general knowledge that a particular disclosure is made in an article, or series of articles, in a scientific journal, no matter how wide the circulation of that journal may be, in the absence of any evidence that the disclosure relates. A piece of particular knowledge as disclosed in a scientific paper does not become common general knowledge merely because it is widely read, and still less because it is widely circulated. Such a piece of knowledge only becomes general knowledge when it is generally known and accepted without question by the*

bulk of those who are engaged in the particular art; in other words, when it becomes part of their common stock of knowledge relating to the art."

49. The correct *explanation* was given by the **Court of Appeal in Beloit Technologies Inc V Valmet Paper Machinery Inc (1997) RPC 489 at pages 494-495:-** "*The information in a patent specification is addressed to such a man and must contain sufficient details for him to understand and apply the invention. It only lacks an inventive step if it is obvious to such a man. It follows that evidence that a fact is known or even well-known to a witness does not establish that fact forms part of the common general knowledge. Neither does it follow that it will form part of the common general knowledge if it is recorded in a document."*

50. In **ICI Chemicals & Polymers Ltd., Vs. Lubrizol Corps, 45 IPR 577 Emmett J** stated, *"the common general knowledge is the technical background to the hypothetical skilled worker in the relevant art....but also includes the material in the field in which he is working which he knows exists and to which he would refer as a matter of course."*

51. Thus from the above cases, common general knowledge is the common knowledge in the field to which the invention relates. It is generally known as common knowledge and regarded as a good basis for further research activity by those engaged in that art before it becomes part of their common stock of knowledge relating to the art, and then becoming part of the common general knowledge. Therefore it means the information which at the date of the patent in question is known and accepted without question by those who are engaged in the art or science to which the alleged invention relates. It would also appear therefore, that when it is a question of common general knowledge i.e, knowledge available in a country for a long time, which every skilled worker in that field is, expected to know. Then such knowledge would be sufficient to invalidate a patent. Again such knowledge need not even be found in a particular document. In other words a patent application has to be accessed on the basis of not only what will be available

from prior documents but also from the common general knowledge on the subject, which may or may not be available in any such document. It can be taken as a well settled principle, that the common general knowledge is a knowledge that must be attributed to a skilled person, without which he may not be taken to be a skilled person in the art. Therefore it is a knowledge that every skilled person should acquire before he embarks on the problem for which the patent provides the solution. A patent can therefore be taken to be addressed to the skilled addressee, someone skilled in the subject matter of the invention. It is also important to differentiate between matter which was in the public domain at the priority date of the patent and matter which can properly be regarded as common general knowledge. Evidence that a particular fact is known or even well-known to a witness does not mean that it is common general knowledge. Likewise, a piece of information disclosed in a scientific paper does not become common general knowledge merely because it is widely read. On the other hand, it is not necessary to show that the information is known in the sense that the skilled person has memorized it Material which is known to exist and to which the skilled person would refer as a matter of course if he cannot remember it is clearly part of the common general knowledge.

52. **Skilled person in the art**

A patent specification is addressed to those likely to have a practical interest in the subject matter of the invention, and such persons are those with practical knowledge and experience of the kind of work in which the invention is intended to be used. The addressee reads the specification with the common general knowledge of persons skilled in the relevant art He is unimaginative and has no inventive capacity. So a patent must be considered through the eyes of the notional person skilled in the art. The 'notional skilled person' who is the addressee of the specification is normally described in various ways for various purposes. The skilled person is

essentially a legal construct, and not a mere lowest common order of all the persons engaged in the art at a particular time.

53. The Patentee shall disclose all the features of the invention in the specification, without any ambiguity, in return to the exclusive monopoly right which is granted to him. A patent can be granted only when all the three following criteria are satisfied or complied with. They are,

a. New and useful
b. Inventive step or non-obviousness
c. Capable of industrial application

54. The first criterion is the novelty of the product, which is to be patented. Novelty is not defined in the Indian law, but the 'invention' and "inventive step" are defined as below under section 2(1)(j) and 2(1) (ja) of the Act respectively;

> "(j) "invention means a new product or process involving an inventive step and capable of industrial application;"
>
> (ja) "inventive step" means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art;"

55. The applicants have argued by referring to US patents 3,761,067; 1,947,515; 4,261,931 & 4,010,580 in respect of obviousness and lack of inventive step and we consider only those arguments made before us relying on the specific grounds taken by them.

56. The best-known statement of status and function of claims in a patent specification, is given by **Lord Russell of Killowen in *Electric and Musical Industries Ltd v Lissen Ltd* (1938) 56 RPC 23, 39**: "The function of the claims is to define clearly and with precision the monopoly claimed, so that others may know the exact boundary of the area within which they will be trespassers. Their primary object is to limit and not to extend the monopoly. What is not claimed is disclaimed. The claims must undoubtedly be read as part of the entire document and not as a separate document; but the

forbidden field must be found in the language of the claims and not elsewhere."

57. Obviousness

The test to ascertain whether an invention involves an inventive step is expressed in **Halsbury Laws of England** as: 'was it for practical purposes obvious to the skilled worker, in the field concerned, in the state of knowledge existing at the date of the patent to be found in the literature then available to him, that he should or would make the invention the subject of the claim concerned.' In other words, the question to be answered in determining inventive step is 'Would a non-inventive mind have thought of the alleged invention?' If the answer is 'no', then the invention is non-obvious. If the patent claimed merely includes the development of some existing trade, in the sense that it is a development as would suggest itself to an ordinary person skilled in the art, it would fail the test of non-obviousness.

58. Let us analyze claims first as regards inventive features.

I. Claims

1. A wind power installation having a tower head of the wind power installation, comprising: a tower for supporting the tower head, the tower having an interior and a flange for receiving a connection that is suitable for receiving the tower head of the wind power installation; and a ring bulkhead in the tower interior at a spacing of between 1.0 m and 7.0 m from the flange, wherein the ring bulkhead substantially forms a disc that is connected to an interior wall of the tower.

2. The wind power installation according to claim 1 wherein the connection is a rotary mounting.

3. The wind power installation according to claim 1 wherein there is an opening in the center of the ring bulkhead.

4. The wind power installation according to claim 1 wherein the ring bulkhead is arranged at a spacing of between 1.5 m and 3.0 m from the flange.

5. The wind power installation according to claim 1 further comprising more vhan one ring bulkhead in the interior of the tower, which each substantially form a disc that is connected to an interior wall in the tower.

6. The wind power installation according to claim 4 wherein the ring bulkhead is arranged 2.0 m from the flange.

7. A wind power installation substantially as herein described with reference to figures 2 and 6 to 11 of the accompanying drawings.

II. **The main inventive features as claimed in claim1 are as below:-**

Claim 1

F 1: a wind power installation having a tower head
F2: a tower for supporting the tower head
F3: the tower having an interior and a flange for receiving a connection which is suitable for receiving the tower head
F4: a ring bulkhead in the tower interior at a spacing of between 1 meter and 7 meters from the flange
F5: the ring bulkhead substantially forms a disc which is connected to an interior wall of the tower.

59. The applicant referred to US '067 patent which was granted on: 25th September 1973, which is a 25 year old prior art forming part of the common knowledge . The applicant cited the features in col.1 lines 3 to 5, which relates to large sized metal framed towers having a mantle surface of circular cylinder jacket shape, which is especially cooling towers. Further, it was submitted that a cooling tower was a relevant prior art because the person skilled in the art starts from a known wind installation tower, which has a specific problem to be addressed and his field of enquiry to solve that problem will not only be limited to wind installations but all analogous fields which involve construction of similar towers. He was not starting from the cooling tower to solve the problem in wind installation but from the wind installation to address deformation issues therein. Reference was made to col. 1 lines 25 to 30 of the US '067 patent which discloses about the large size cooling towers getting subjected to considerable stresses and to deformations exceeding those usual in engineering practise which thereby requires the provision of high rigidity to the tower. The applicant also referred to col. 1 lines 46 to 54 of the US'067 patent discloses that the stiffening rings are provided inside or outside along the mantle surface of the

tower, this stiffening ring participates in the force distribution along the mantle surface of the tower. Further, it was submitted that the participation of stiffening ring in force distribution along the mantle surface of the tower results in providing higher rigidity to the tower, which results in decreasing stress and deformation in the tower. Further, it was also submitted that mantle surface is equal to the wall of the tower and the mantle surface is made of metal. Further the applicant referred to col. 1 lines 62 to 65 of the said patent disclosing the provision of stiffening rings which are ring shaped or disc shaped. Further reference was invited to col. 2 lines 59 to 68 of the said patent which discloses that the stiffening rings can be inside and/or outside the mantle surface and it also discloses use of plurality of stiffening rings. Further, it was submitted that the use of a ring outside the wall of the tower or inside the wall of the tower would have the same effect of preventing deformation in the tower and the same is also evident from column 1 lines 63 to 68. Thus, it was submitted that US '067 patent discloses the inventive step of claim 1 and the invention is obvious. The respondent argued that this US '067 relates to a large size metal framed tower. Such a tower is in particular a cooling tower. This patent is related to the problem that, due to the high material consumption, the construction of such towers on the basis of established design principles requires the use of huge-sized tower cranes of appropriate load bearing capacities. This is, however, a drawback as the production, transport and assembly of such especially large sized tower cranes are expensive and complicated. The object of this patent is solved by designing the cooling tower so that the mantle surface is developed as a metal framework or made of panels including at least one stiffening ring participating in the force distribution of the mantle surface. The stiffening rings can be ring or disc-shaped girders, the plane of which may be perpendicular to the mantle surface or enclose an angle with the generatrix of the mantle surface. In particular, on the inside of the mantle surface, an inner stiffening ring 2 and, on its outside, the outer stiffening ring 3 is

provided. The stiffening rings are located alternately at the inside and outside of the tower or alternatively either exclusively outer stiffening rings or exclusively inner stiffening rings are provided. Accordingly, this patent does neither show a wind power installation having a tower head (feature F 1) nor a tower which is suitable or adapted to support a tower head of a wind power installation (feature F2). Most significantly, this patent does not disclose a tower comprising a flange for receiving a connection which is suitable for receiving the tower head of the wind power installation (feature F3) that being not needed in the case of a cooling tower. Moreover, this patent does not disclose a ring bulkhead with the basic geometry of a solid disc as described within IN 199 045, but different types of stiffening rings constructed out of girders which are connected with the tower by means of a plurality of structural elements extending from the stiffening ring to the mantle surface. In addition, this framework is not arranged at a spacing between one meter and seven meters from the upper flange (feature F4).

60 The stiffening rings as described within this patent are fundamentally necessary for the "operational stability under conditions which occur during regular operation of the cooling tower." In order to achieve this, it is proposed to have a plurality of rings vertically spaced apart along the height of the tower. Contrary to this, the primary function of the ring bulkhead is to prevent plastic deformation of the circular flange at the top head of the tower, and that too prior to the commissioning, e g. during manufacture or subsequent transportation. As explained by the Expert in his evidence by way of Affidavit, the ring bulkhead is not necessarily important for the operational stability under conditions which occur during regular operation of a wind power installation. It seems not of fundamental importance to have a plurality of ring bulkheads vertically spaced apart along the height of the tower of the wind power installation in order to fulfil the specific function of the ring bulkhead which is to prevent the mounting flange from plastic deformation,

as otherwise, the azimuth mounting will not be possible to be sustained for a long period.

61. The applicant (EIL) has failed to explain why a person skilled in the art should consider the teaching of this document (motivation?). It is clear to any person with average skill in the art that a cooling tower is something completely different from a wind power installation. Therefore, a person skilled in the art who is improving a wind power installation would definitely not consider any teachings relating to cooling towers as being relevant. The cooling tower as described in this patent is definitely not adapted or suitable to be used as a tower for a wind power installation. Moreover, a person skilled in the art would never consider rings consisting of a framework of girders as described within this patent in order to prevent the flange on the tower of a wind power installation from flexing and plastic deformation during manufacture and subsequent transportation, as the stability of such a framework is not suited to withstand significant punctual impacts. Therefore, a person skilled in the art who is dealing with the construction of a wind power installation would definitely disregard the teaching of this patent. Considering these observations we find the objection taken by the respondent that the US '067 patent does not show a wind power installation having a tower head is not acceptable, because the very same patent is for a large size metal framed tower only. It is also mentioned in this US '067 patent in col.1, lines 17 to 20 that there are practical difficulties and draw backs since the production, transport and assembly of such large size towers and they tend to have deformations which has been avoided by the particular provision of stiffening rings. These stiffening rings are preferably ring shaped or disc shaped (col.1, lines 61 to 65) and they are placed either inside or outside according to the need and requirement (col.2, lines 57 to 65). As contended by the applicant the person skilled in the art having a specific problem in the wind mill tower, such as flexes or deformation in the tower because of the inherent weight during manufacture and / or in the course of

subsequent transportation to the assembly location of the wind power installation (This flexing is a phenomena that the intended circular diameter of the end of the tower and of the tower generally has a tendency to change the ideal circular shape into an oval shape, consequently distorting the flange at the end of the tower), would surely look for solution in solving the said problem in all the analogous fields, which involve the construction of similar towers by not limiting himself only to wind mill tower installations. It is correct that the skilled person faced with such problem in wind mill tower installation, will apply and adopt or modify the solution used for solving the problem in large size metal framed towers such as cooling tower deformation problems to address the deformation and flexing issues in the wind mill tower installation. The skilled person in the art, would only certainly borrow the concept of providing stiffening rings in the cooling tower to avoid such deformation problems into his wind mill tower installations for solving such flexing and deformation issues but not transplant the same devices there. i.e., the skilled person in the art use that problem solving technology adopted in the large size metal framed towers into his wind mill tower installations to solve the flexing and deformation problems by using ring bulkheads such as stiffening rings wherever necessary in the tower region of the wind mill towers. Further as contended by the respondent in his observation that, "this framework is not arranged at a spacing between 1 metre and 7 metres from the upper flange" is not correct because of the specific and clear admission of the respondent in the patent specification, in internal page 4, lines 1 to 5, saying that "the partition or ring bulkhead is preferably disposed in the proximity of the flange, experience has shown that a spacing between 1 and 7 metres is to be preferred". From this it is clear placement or spacing is only a secondary issue and there is no inventive step in that. Further as per the requirement of section 2(1)(ja) of the Act, the inventive step in the invention should show a technical advance over the existing art for the grant of a patent and to show that the invention is not obvious to the person skilled in

the art. Here we see the ring bulkheads or stiffening rings have been used or adopted for solving flexing and deformation problems in the large size metal framed towers. Hence merely using that problem solving technology in the wind mill tower installations cannot and will not have any inventive step in placing the stiffening rings in the proximity of the flange in the wind mill tower installations unless any specific and particular technical advance is shown there. In view of this analysis we find this US '067 patent anticipates the features so as to make the impugned patent lack inventive step and hence the invention is obvious to person skilled in the art.

62. Next the applicant has referred to US '515 patent which has been granted on 20-02-1934 which is nearly an old prior art (6 decades old) forming part of the prior art. The applicant submitted that this US '515 patent relates to an elevated tank which is solely supported by a central tower. Further he referred to page 1, lines 39 to 41 and page 2, lines 90 to 99 to state that angle cross section rings have been provided at regular spaced intervals depending upon the height of the tower to provide more reinforcement and stiffen the tower supporting the water tank so as to support the inside tower to keep the walls cylindrical and to sustain the shape or to prevent the deformation in the tower. Thus the applicant said that US '515 patent discloses the inventive features of the impugned patent. The respondent submitted that this US '515 patent relates to an elevated water tank comprising a tower with various rings (27) arranged at suitable intervals in the interior of the tower and therefore this patent does not involve any ring bulkheads in the form of solid discs and they are not suitable for wind mill tower installation whereas the ring bulkheads provided in the tower of wind power installation according to the impugned patent is to prevent plastic deformation. Further the respondent said the wind power installation towers handle not only static but also dynamic loads which originate not just from the wind blowing against the tower but also from the movement of the gondola and the rotating or revolving rotor blades. Hence the respondent

submitted that the ring described in the US '515 patent would never be suited to prevent the tower head flange of a wind power installation from flexing or deformation issues as such rings cannot have that stability and too weak to withstand the significant impacts of wind and hence the US '515 patent is not a proper citation to affect the inventive features of the impugned patent. From these arguments it is noticeable that the person skilled in the art to solve his specific problem would search for a solution in all the analogous fields of construction of tower technology which involve and deal with the construction of similar towers. His idea is to solve the problem of flexing or deformation of the tower and for this he would certainly try to modify or adopt and use any such technology such as the one of rings being used in the tower construction of an elevated tank. As stated in the said US '515 patent the rings are used at regular space intervals forming the connecting means for a series of tie rods at the inner ends which are secured to a second and floating inner rings. As it is seen that wind is a dynamic load for the wind power installation, the movement of water and water flow in the elevated water tank is also a dynamic load when there is an inflow and outflow from the water tank affecting the stability of the tower of the elevated tank, which needs the provision of any such rings in the form of discs to maintain the shape of the tower at regular intervals. Hence, the person skilled in the art would try for any such problem solving technology regarding buckling of the tower or flexing and deformation issues of the tower from all the analogous fields of construction of large size metal framed tower structures and adopt or modify and use the same in his wind mill tower installations. Hence these prior arts would certainly stand as one of the starting point technology information while looking for solving the problems of deformation in the wind mill towers. Therefore this US '515 patent also anticipates such inventive features of the impugned patent as no technical advance has been very clearly established by the respondent over the existing prior art technology while using such similar ring bulkheads in the form of discs.

63. The applicant referred to US '931 patent which was granted on 14-04-1981 and referred to col.1, lines 4 and 5 which deals with cooling tower shell made of metal. He also referred to fig.2 and col.5, lines 30 to 40 and submitted that metallic rings used for withstanding the compressive loads and also further submitted that these circular rings are designed to resist buckling or large deformation from the reactions produced by changes in the shell slope and to resist buckling from the external pressure of the wind and draft. Thus the applicant said that US '931 patent discloses the inventive step of claim 1. The respondent said that this US '931 patent relates to a cooling tower with a fluted wall. The respondent further said that the rings described in the said US '931 patent serve as joints between the upper and lower course forming the walls of the tower and in addition function as tower shell stiffeners whereas the ring bulkhead described in the impugned patent does not function as a joint between the adjacent cylindrical tower sections and so any person skilled in the art would not consider the teachings of this document as being any relevance. From these arguments it is noticeable that the provision of the circular rings and their function as elucidated by the respondent appears to be farfetched not to have any similarity in the construction for adopting the same technology in the wind mill tower constructions. Hence we do not find this US '931 patent to be anticipating the features of the impugned patent and so this citation fails to anticipate the features of the impugned patent.

64. The applicant also referred to another US '580 patent which relates to cooling tower construction which we find after going though the specification of this US '580 patent, there is a lot of difference in the constructional aspects regarding the avoidance of buckling and so this US '580 patent does not appear to anticipate the inventory features of the impugned patent.

65. The respondent while arguing has referred to para 16-95, page 420 of the patent law by P. Narayanan, which refers to the case law **Gadd and Mason Vs. The Mayor etc. of Manchester (1892) 9 RPC 516 a 524 (CA)**

and submitted that "a patent for a new use of known contrivance is good and can be supported if the new use involved practical difficulties which the patentee has been the first to see and overcome by ingenuity of his own. An improved thing produced by a new and ingenious application of a known contrivance to an old thing, is a manner of new manufacture within the meaning of the Statute" and so the respondent said that he is entitled for a patent because there is an improvement in the technology adopted by him for solving the deformation issue in the wind mill towers construction. But we are unable to accept the contention of the respondent because of the particular definition of the inventive step presently under the statute in force, which requires the invention to have an inventive step and to be non-obvious to the person skilled in the art must show the technical advance over the existing prior art and unless such technical advance is clearly established by the inventor such adaptation or ingenious application of a known contrivance to an old thing would not constitute to show inventive ingenuity and therefore this case law cited by him is not applicable in this matter.

66. The respondent referred to para 16-108 and 109 of the page 425 & 426 of the patent law by P. Narayanan and submitted that there can be no objection to a patent that the invention claimed there is a simple one. Further he also stressed that in determining whether there is inventive step an ex post facto analysis of the invention is not permitted as cited by Lord Russell of Killowen in Non-Drip Measure Co. Vs. Strangers (1943)60 RPC 135 at 142. Here in this respect, according to this case law we agree with the fact of construing inventive step in a device or giving effect to an idea which when given effect to seems a simple idea which ought to or might have occurred to any one, is often matter of dispute and so we have to check as on that date of the patent or prior to the date of priority, the invention claimed the patent would involve an inventive step showing the technical advance over the existing prior art or in the alternative whether the skilled person in the art with his average skill and knowledge in the field of technology covered by the

patent, would be able to conceive and understand from the prior art available in the cited patents and arrive at the point of this invention claimed in the impugned patent without the knowledge of the same? But it is very clear from the earlier two US patents the person skilled in the art can adopt or modify to use a technology available therein to arrive at the invention point in the impugned patent to solve the problem of buckling and deformation problems faced in the wind mill tower construction.

67. The respondent then referred to para 16-126, page 433 of the patent law by P. Narayanan in respect of selection patents and said that what he has claimed in the claim 1 and in the other dependent claims is that "a ring bulkhead in the tower interior at a spacing of between 1 metre and 7 metre from the flange, wherein the ring bulkhead substantially forms a disc that is connected to an interior wall of the tower and a particular arrangement of spacing of between 1.5 metre and 3 metre from the flange has also been claimed to come under the category of selection patent. Hence the respondent submitted that his invention is not anticipated by any of the cited US patents for its inventive features. But we find that this invention of the respondent does not come under the category of selection patent, as the features claimed does not show any inventive step or a technical advance so as to come under the ambit of selection for useful and special property or characteristic adequately defined in respect of the product of the invention. More so the occasion for a selection patent most commonly arises in the case of a chemical patent rather than a non-chemical one. Therefore that argument of the respondent also fails in proving the requirement of selection patent.

68. The applicant referred to the expert affidavit filed by the respondent (Prof. Dr -ing. Jan Henning Lange) having an unnumbered paragraph 3 wherein the expert of the respondent has stated that the stiffening rings disclosed in US '067 patent prevents deformation in the cooling tower after commission i.e. after installation and the same does not prevent deformation

during transport and/or installation. The applicant submitted that the claim 1 is only claiming the use of ring bulkhead in the interior wall of the tower to prevent deformation and it was irrelevant whether it was during manufacture or transport or after erection. Thus, the consideration, when the ring bulkhead prevents deformation i.e. during transport or manufacture or after erection of a tower is irrelevant. We are of the same opinion that provision of the ring bulkhead in the interior wall of the tower is to prevent the deformation or the buckling effect and it is irrelevant to say as to when the ring bulkhead prevents deformation i.e., during transport or manufacture or after erection of the tower.

69. The applicant referred to the expert affidavit filed by the respondent (Prof. Dr -ing. Jan Henning Lange) having an unnumbered paragraph 3 wherein the expert of the respondent has stated that the rings disclosed in US '931 patent does not have the basic geometry of a solid disc like in the case of the ring bulkhead as disclosed in 199045. In response to this it was submitted that it does not make a difference, whether the ring bulkhead is a solid disc or not as any ring bulkhead provided in the inner wall of the tower will prevent deformation of the tower. We are of the opinion that the ring bulkhead in the form of stiffening rings has been explained clearly in the said US '067 patent in col.1, lines 61 to 68 and the contention of the respondent is not correct.

70. The applicant referred to the paragraph 2.5 of the expert affidavit wherein the expert of the respondent has submitted that the towers disclosed in US '067 patent, US '515 patent and US '931 patent cannot be adapted nor suitable to be used as a tower of a wind power installation. In response to this it was submitted that the applicant was not submitting that the stiffening ring used in the towers disclosed in the prior arts should be taken out as such and used in a tower of a wind power installation or that the tower geometry of

a cooling tower will be used as such. The submission of the Petitioner is that a person skilled in the art when faced with the problem addressed by the impugned patent would borrow the concept that providing a stiffening ring i.e. ring bulkhead in the interior of a tower prevents deformation in the tower and adopt the same concept in a tower of a wind power installation. Further, it was also submitted that while a person skilled in the art is unimaginative but has skill to research and borrow concepts and apply them from analogous fields and to make workshop improvements. We find here that the contention of the applicant is correct that the person skilled in the art would only borrow the concept of the technology available in the prior art to modify, adopt and use the same in his field and to make such workshop improvements to arrive at this invention.

71. Therefore from the above analysis it is possible for a skilled person in the art, to easily combine the teachings of the US '067 patent and the US '515 patent and find to arrive at this invention point and also we find that the invention claimed in claim 1 does not show any technical advance over the existing knowledge in the said prior arts seen in the said US patents Hence the claim 1 as worded does not involve any inventive step. We find that the invention is found to be obvious to any skilled person in the art with average knowledge of skills who would be able to modify and adopt the prior art details available in the said cited US patents to visualize the details of this invention and arrive at the same. In view of this there is no inventive step in the invention claimed in the impugned patent and the invention claimed is obvious to any skilled person in the art.

72. The contention of the respondent is not correct, that, as the applicant argued, the grant of a patent in US and EPO is not relevant to the proceedings here because the test for obviousness or inventive step is quite different with respect to US and EPO from India, viz., the provision as defined in section 2(1)(ja) of the Act, which requires, "technical advance over the existing knowledge" before considering the fact as to whether the

invention is obvious to the person skilled in the art. Moreover the grant of patent in other countries does not give any assurance or a presumption as to the validity of grant of patent or even investigation during revocation proceedings which is covered in section 13(4) of the Act which lays down that there is no presumption as to the validity to the grant of a patent.

73. As per the Act, all the claims in a complete specification will have one inventive step or making them to be having group of inventive features to have a single inventive concept. Since that inventive step in claim 1 has been shown to be obvious, all the subsidiary claims dependent on the principal claim 1, which tend to add only minor variations of features will not impart any inventive step to the dependent claims.

74. We shall now consider a few case laws as regards obviousness or inventive step and particular reference is made to **M/s. Bishwanath Prasad Radhey Shyam Vs. M/s. Hindustan Metal Industries, (1979) 2 SCC 511,** where it was held that, "was it for practical purposes obvious to a skilled worker, in the field concerned, in the state of the knowledge existing at the date of the patent to be found in the literature then available to him, that he would or should make the invention the subject of the claim concerned?"

75. Buckley LJ in Valensi -v- British Radio Corporation [1973] RPC 337, held that, " The hypothetical addressee is not a person of exceptional skill and knowledge, and he is not to be expected to exercise any invention nor any prolonged research, enquiry or experiment. He must, however, be prepared to display a reasonable degree of skill and common knowledge of the art in making trials and to correct obvious errors in the specification if a means of correcting them can readily be found and arrive at the result..."

76. The applicant's counsel drew our attention to few paragraphs of **KSR International Inc. vs. Teleflex Inc. 550 U.S. 398 ,** wherein it was held that,

"The principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."

77. A patent will be invalid for lack of inventive step if the invention claimed in it was obvious to a person skilled in the art having regard to the state of the art at the priority date. The familiar structured approach to the assessment of allegations of obviousness first articulated by the Court of Appeal in ***Windsurfing International Inc v Tabur Marine (Great Britain) Ltd*** **[1985] RPC 59;** It is convenient to address the question of obviousness by using the structured approach as explained by the Court of Appeal in ***Pozzoli v BDMO*** [2007] EWCA Civ 588; [2007] FSR 37. This involves the following steps:

1. Identify the notional 'person skilled in the art' and the relevant common general knowledge of that person
2. Identify the inventive concept of the claim in question or, if it cannot be done, construe it.
3. Identify if any the differences existing between the matters cited as forming state of the art and the inventive concept of the claim or the claim as construed.
4. Ask whether, when viewed without any knowledge of the alleged invention as claimed: do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?"

78. The first step is; *"who is the notional person skilled in the art in this field of wind power installation technology?"*

d. This is a person who is likely to have a practical interest in the subject matter of the invention. The relevant common general knowledge of that person must be such as the knowledge of civil

engineering with a broad specialisation or requisite experience in the field of construction of large size towers that would stand the external pressure of the wind and draft or such similar climatic conditions. In this case, both the applicant and the respondent are the person skilled in the art or otherwise such person must have the knowledge of large size tower construction suitable for wind power installations.

79. The second step is; *"Identify the inventive concept of the claim in question"*

Main inventive features as claimed in the impugned patent are:-

F 1: a wind power installation having a tower head

F2: a tower for supporting the tower head

F3: the tower having an interior and a flange for receiving a connection which is suitable for receiving the tower head

F4: a ring bulkhead in the tower interior at a spacing of between 1 meter and 7 meters from the flange, wherein,

F5: the ring bulkhead substantially forms a disc that is connected to an interior wall of the tower.

80. The third step is; *"Identify if any the differences existing between the matters cited as forming state of the art and the inventive concept of the claim or the claim as construed".*

e. Inventive concept of the claim is the provision of ring bulkhead substantially being disc shaped that is connected to the interior wall of the tower.

f. *"Now to identify if any the differences existing between the matters cited as forming the state of the art and the inventive concept of the claim or the claim as construed":-*

Citation of the US '067 patent shows the features (col.1 lines 3 to 5,) which relate to large sized metal framed towers having a mantle surface of circular cylinder jacket shape, which is especially a cooling tower. Col. 1 lines 25 to 30 of the US '067 patent discloses about the large size cooling towers getting subjected to considerable stresses and to deformations

person in the art, would only certainly borrow the concept of providing stiffening rings in the cooling tower to avoid such

exceeding those usual in engineering practice which requires the provision of high rigidity to the tower. Col. 1 lines 46 to 54 of the US'067 patent discloses that the stiffening rings are provided inside or outside along the mantle surface of the tower. Further, the participation of stiffening ring in force distribution along the mantle surface of the tower results in providing higher rigidity to the tower, which results in decreasing stress and deformation in the tower. Col. 1 lines 62 to 65 of the said patent discloses the provision of stiffening rings which are ring shaped or disc shaped. Further col. 2 lines 59 to 68 of the said patent which discloses that the stiffening rings can be inside and/or outside the mantle surface and it also discloses use of plurality of stiffening rings. US '067 patent in col.1, lines 17 to 20 shows that there are practical difficulties and draw backs since the production, transport and assembly of such large size towers and they tend to have deformations which has been avoided by this particular provision of stiffening rings. The person skilled in the art having a specific problem in the wind mill tower, such as flexes or deformation in the tower because of the inherent weight during manufacture and / or in the course of subsequent transportation to the assembly location of the wind power installation, would surely look for solution in solving the said problem in all the analogous fields, which involve the construction of similar towers by not limiting himself only to wind mill tower installations. Therefore the skilled person faced with such problem in wind mill tower installation, will apply and adopt or modify the solution used for solving the problem in large size metal framed towers such as cooling tower deformation problems to address the deformation and flexing issues in the wind mill tower installation. The skilled

person in the art, would only certainly borrow the concept of providing stiffening rings in the cooling tower to avoid such deformation problems into his wind mill tower installations for solving such flexing and deformation issues but not transplant the same devices there. i.e., the skilled person in the art use that problem solving technology adopted in the large size metal framed towers into his wind mill tower installations to solve the flexing and deformation problems by using ring bulkheads such as stiffening rings wherever necessary in the tower region of the wind mill towers. There is a specific and clear admission in the patent specification, in internal page 4, lines 1 to 5, saying that "the partition or ring bulkhead is preferably disposed in the proximity of the flange, experience has shown that a spacing between 1 and 7 metres is to be preferred". From this it is clear placement or spacing is only a secondary issue and there is no inventive step in that. Further as per the requirement of section 2(1)(ja) of the Act, the inventive step in the invention should show a technical advance over the existing art for the grant of a patent and to show that the invention is not obvious to the person skilled in the art. Here the ring bulkheads or stiffening rings have been used or adopted for solving flexing and deformation problems in the large size metal framed towers Hence merely using that problem solving technology in the wind mill tower installations cannot and will not have any inventive step in placing the stiffening rings in the proximity of the flange in the wind mill tower installations, unless any specific and particular technical advance is shown there. In view of this analysis we US '067 patent anticipates the features so as to make the impugned patent lack inventive step and hence the invention is obvious to person skilled in the art.

81. The last step is: *"ask whether, when viewed without any knowledge of the alleged invention as claimed: do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?"*

a. For the lack of inventive step in the invention claimed when it is obvious to a person skilled in the art having regard to the state of the art at the priority date of the patent application, that patent will become invalid.

b. Col. 1 lines 25 to 30 of the US '067 patent discloses the large size cooling towers getting subjected to considerable stresses and to deformations which requires the provision of high rigidity to the tower. Col. 1 lines 46 to 54 of the US'067 patent discloses that the stiffening rings are provided inside or outside along the mantle surface of the tower. Further, the participation of stiffening ring in force distribution along the mantle surface of the tower results in providing higher rigidity to the tower, which results in decreasing stress and deformation in the tower. Col. 1 lines 62 to 65 of the said patent discloses the provision of stiffening rings which are ring shaped or disc shaped. Further col. 2 lines 59 to 68 of the said patent which discloses that the stiffening rings can be inside and/or outside the mantle surface and it also discloses use of plurality of stiffening rings. The person skilled in the art having a specific problem in the wind mill tower, such as flexes or deformation in the tower because of the inherent weight during manufacture and / or in the course of subsequent transportation to the assembly location of the wind power installation, would surely look for solution in solving the said problem in all the analogous fields, which involve the construction of similar towers by not limiting himself only to wind mill tower installations. Therefore the skilled person faced with such problem in wind mill tower installation, will apply and adopt or modify the solution used for solving the problem in large size metal framed towers such as cooling tower deformation problems to address the deformation and flexing issues in the wind mill tower installation. The skilled person in the art, would only certainly borrow the concept of providing

stiffening rings in the cooling tower to avoid such deformation problems into his wind mill tower installations for solving such flexing and deformation issues but not transplant the same devices there. i.e., the skilled person in the art use that problem solving technology adopted in the large size metal framed towers into his wind mill tower installations to solve the flexing and deformation problems by using ring bulkheads such as stiffening rings wherever necessary in the tower region of the wind mill towers. Further as per the requirement of section 2(1)(ja) of the Act, the inventive step in the invention should show a technical advance over the existing art for the grant of a patent and to show that the invention is not obvious to the person skilled in the art Here the ring bulkheads or stiffening rings have been used or adopted for solving flexing and deformation problems in the large size metal framed towers Hence merely using that problem solving technology in the wind mill tower installations cannot and will not have any inventive step in placing the stiffening rings in the proximity of the flange in the wind mill tower installations, unless any specific and particular technical advance is shown there. In view of this analysis we US '067 patent anticipates the features so as to make the impugned patent lack inventive step and hence the invention is obvious to person skilled in the art. Hence the claim 1 as worded does not involve any inventive step. Also the invention is found to be obvious.

c. When the basic technology has already reached a particular, probably, a saturated level or point, for any optimization, then in any research made in that field should have or show any technical advance to the present level. In the absence of any such technical advance in the work done, compared to the knowledge present and available in the state of art, then that piece of work does not deserve the right of any monopoly.

D In view of this analysis and the finding herein, it is very clear there is no inventive step in the invention claimed in the impugned patent and the invention claimed is obvious to any skilled person in the art.

82. Therefore *combining* the said two cited US patents, a person skilled in the art can arrive at the invention claimed in the claim 1 of the impugned patent. Hence the invention cannot be said to have any inventive step and the invention is obvious.

83. Conclusions

1. Obviousness

   a. Comparing the inventive features in the US '067 patent and the inventive features as construed from the principal claim 1, no difference in the invention claimed in the claim of the impugned patent could be perceived or noticed.

   b. Invention claimed would be obvious to a person skilled in the art having regard to the state of the art, when no technical advance over the prior art, is established, then the patent lacks inventive step and will become invalid.

   c. In view of this analysis and the finding herein, it is very clear there is no inventive step in the invention claimed in the impugned patent and the invention claimed is obvious to any skilled person in the art.

2. As per the Act, all the claims in a complete specification will have one inventive step or making them to be having group of inventive features but to have a single inventive concept. Since that inventive step in claim 1 has been shown to be obvious, all the subsidiary claims dependent on the principal claim 1, which tend to add only minor variations of features will not impart any inventive step to the dependent claims.

   Then the subordinate claims which are dependent on the principal claim1 would also become invalid and does not stand as a separate independent or individual claim as no exclusive technical improvement in the feature could be shown therein.

3.Therefore combining the said two cited US patents, a person skilled in the art can arrive at the invention claimed in the claim 1 of the impugned patent. Hence the invention cannot be said to have any inventive step and the invention is obvious.

84. Hence after taking into consideration of the above said case laws and findings and analysis made herein above, together with foregoing statements in the conclusions, we hereby allow the application for the revocation of the patent MPs. M.P.No.14/2010 for stay has been dismissed as nothing remains in the miscellaneous petition and also that the main application has been disposed of. M.P.No. 34/2010 for early hearing is dismissed as infructuous. As per the directions of the Hon'ble High Court of Madras, all the miscellaneous petitions have been heard and decided along with the main application. Consequently the patent granted to the respondent is revoked and also direct the Controller of Patents to remove the patent No. 199045 from the register of patents. The parties shall bear their own costs.

Sd/.
(S. CHANDRASEKARAN)
TECHNICAL MEMBER

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(S.USHA)
VICE-CHAIRMAN

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