

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE BENCH AT CHENNAI**

ORIGINAL APPLICATION NO.220 of 2021  
(UNDER SECTION 18(1) READ WITH SECTIONS 14, 15 OF THE NATIONAL  
GREEN TRIBUNAL ACT, 2010)

IN THE MATTER OF:-

K.Jayakumar,  
S/o.S.Kalitheerthan,  
14, 15 Anugraha GJV Homes,  
RakkiyaPalayamPrivu,  
Near Century Foundation School,  
Nallur, Tirupur – 641 606  
Also at  
No.1, East Street, Somandagudi Village,  
Kallakurichi – 606 202.  
Email: skjayakumar@hotmail.com  
Phone No: 9150664659

...Applicant

Vs

1. M/s. Ministry of Environment,  
Forest and Climate Change  
Rep. by its Joint Secretary  
2nd Floor, Agni Block,  
Indira Paryavaran Bhawan,  
Jorbagh Road, New Delhi – 110 003  
Email: mefcc@gov.in  
Phone No: +91-11-24695328 & 7 others

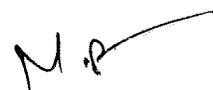
...Respondents

**ADDITIONAL TYPED SET**

<b>S. No</b>	<b>Particulars</b>	<b>Page No.</b>
1.	Short Notes on Argument	1-4
2.	A true photo copy of the letter from Power Grid to District Forest Officer regarding assessment of trees dated 07.12.2020	5
3.	A true photo copy of Legal opinion of S.R.Rajagopal, Additional Advocate General – VI dated 10.12.2020	6-8
4.	A true photo copy of letter from District Forest Officer to Senior Deputy General Manager regarding	9

	cancellation of valuation for the forest trees dated 16.04.2021	
5.	A true copy of representation by the applicant to District Collector and District Forest Officer dated 21.08.2021	10-17
6.	A true copy of Memo of Intimation from District Collector dated 28.09.2021	18
7.	A true copy of representation by the applicant to District Collector and District Forest Officer dated 02.10.2021 with postal acknowledgement	19-28
8.	A true copy of letter from Power Grid to the Applicant dated 13.10.2021 for no compensation	29
9.	A true copy of Judgement of Supreme Court of India in Writ Petition (Civil) No.838 of 2019	30-52
10.	A true copy of Judgement of National Green Tribunal (Principal Bench) in Appeal No.10 of 2012	53-57
11.	A true copy of Extract from Samatha Vs.State of Andhra Pradesh & Ors.(1997)8SCC191	58
12.	A true copy of Report on RoW with/Corridor requirement of Transmission Lines	59-78

Dated at Chennai on this the 28<sup>th</sup> day of October 2021



Counsel for the Applicant

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Rep. by its Joint Secretary  
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Jorbagh Road, New Delhi – 110 003  
Email: [mefcc@gov.in](mailto:mefcc@gov.in)  
Phone No: +91-11-24695328 & 7 others

...Respondents

**Short Notes on Argument:**

The applicant begs to submit that the land in question housed more than 3,500 various exotic trees and endangered high value trees admeasuring about 8 acres in the applicant land, in which 251 grown up rosewood trees measuring about 17 meters height in the right of way of a width of 46 meter of the power transmission line proposed to lay across the land. It is pertinent to mention that various vulnerable high value trees like rosewood, teakwood, mahogany and the said trees by nature growing tall of more than 40 meters and have very long existential life.

2

The applicant begs to submit that the above said vulnerable high value trees and also the ecological balance to be protected from the respondents and the above said ecological environment cannot be compensated with monetary compensation.

The applicant begs to submit that the Hon'ble Tribunal passed order dated 25.10.2021, asked about the maintainability of the petition, to clarify the same as follows.

- a) According to Sections 10 to 16 of the Telegraph Act, 1885 conferred certain powers on the Telegraph Authority for the purpose of laying down, for the purpose of establishing Telegraphic line and towers on any immovable property without affecting ownership of the immovable property.
- b) Section 164 of the Electricity Act, 2003 provides that the Appropriate Government can confer on any authority or person under the Electricity Act with powers exercisable under section 10 to 16 of the Telegraphic Act, 1885 with such conditions and directions as may be imposed by such Appropriate Government. In this case, the Power Grid Corporation has not stated or produced any such authority or authorisation as provided under section 164 of the Electricity Act, 2003. In any case, the Telegraphic Act, 1885 was enacted in the year 1885. Subsequently, taking into consideration the degradation of forests and environment, various laws have been enacted for the purpose of protection of the environment, forest and ecology. The Forest Conservation Act was enacted in the year 1980. Section 2(ii) provides that clear approval of the Central Government is required to be obtained for the use of any forest land for non-forest purposes. Laying down of the cable is a non-forest purpose and as Apex Court held in the case of **T.N.Godavarman Thirumulpad**, forest land includes any land as forest in the dictionary tell whether notified as forest or not and irrespective of any ownership thereof. The land herein comprises

numerous trees including thousands of rosewood trees and the other such exotic trees. The rosewood trees are protected by the Tamil Nadu Rosewood Act, 1994 under which there is no power even for the owner to cut the tree. The Power Grid Corporation has not considered the provision of Rosewood Act nor obtained any authorization or permission either under the Electricity Act or under Forest Conservation Act. The applicant is not objecting to the Electricity Project. He only wants the forest trees to be protected for which the rerouting of the cable is necessary and warranted.

**Emphasised:**

Further, it is pertinent to mention that the respondents act is in gross violation of the judgment rendered in the case of **T.N.Godavarman Thirumulpad V. Union of India, (1997) 2 SCC 267**, wherein the Hon'ble Supreme Court held that the Forest Conservation Act, 1980 was enacted with a view to check further deforestation which ultimately results in ecological imbalance; and therefore, the provisions made therein for the conservation of forests and for matters connected therewith, must apply to all forests irrespective of the nature of ownership or classification thereof. The word "forest" must be understood according to its dictionary meaning. This description covers all statutorily recognized forests, whether designated as reserved, protected or otherwise for the purpose of Section 2(i) of the Forest Conservation Act. The term "forest land", occurring in Section 2, will not only include 'forest' as understood in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership. This is how it has to be understood for the purpose of Section 2 of the Act. The provisions enacted in the Forest Conservation Act, 1980 for the conservation of forests and the matters connected therewith must apply clearly to all forests so understood irrespective of the ownership or classification thereof.

(A)

The Hon'ble Supreme Court further discussed the scope of the term "forest" in the matter of **Samatha V. State of Andhra Pradesh & Ors. (1997) 8 SCC 191** wherein it was held that: -

***"122. It would thus be seen that 'forest' bears extended meaning of a tract of land covered with trees, shrubs, vegetation and undergrowth intermingled with trees with pastures, be it of natural growth or manmade forestation..."***

From the bare of the above judgments, it is apparently clear that the impugned site falls under the meaning of term "Forest" and thus, the act of respondents is in gross violation of rationale rendered by the Hon'ble Supreme Court.

The applicant does not have any other remedy to protect the trees in the said land from damaging from the respondents and to protect the ecology existing in the land. Hence the application.

Dated at Chennai on this 28<sup>th</sup> day of October, 2021

MP

Counsel for Applicant



**S.R. RAJAGOPAL**  
ADDITIONAL ADVOCATE GENERAL - VI  
OF TAMIL NADU



LAW OFFICERS' BLOCK,  
4th FLOOR, HIGH COURT,  
CHENNAI-600 104.

Direct : 044-2534 0007  
Off & Fax : 044-2534 0066 **2955 0288**  
Mail : aag9hcmadras@gmail.com

OPINION No.69/2020

10.12.2020

Thiru. Abhishek Tomar, I.F.S.,  
District Forest Officer,  
Villupuram Forest Division,  
Near Circuit House, Master Plan Complex,  
Villupuram.

Sir,

Sub: Grant of permission "seeking to sell Rosewood Trees for laying electrical line by Powergrid in Patta Land - Legal Opinion sought for - Reg.

- Ref: 1. The Principal Chief Conservator of Forests (Head of Department), Chennai in Ref. No.E2/42962/2020, dated 20.11.2020.  
2. Special Government Pleader, High Court, Madras Opinion dated 02.12.2020.  
3. Your Letter in C.No.8508/2020/L2, dated 03.12.2020

QUERY:

1. Whether Rosewood trees present in the land belonging to a private individual are covered under the Tamil Nadu Rosewood Trees (Conservation) Act 1994.
2. Whether it is permissible to cut the trees present in the land owned by private individual for laying electrical lines by Powergrid.
3. Whether valuation for the above Rosewood trees can be provided by the Forest Department to private individual or any other government agencies.

FACTS:

1. Tamil Nadu Rosewood Trees (Conservation) Act 1994 received assent of the President of India on 5-01-1995 and was published in the Tamil Nadu Official Gazette on 14-02-1995.

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2. Under Sec. 1 (3) of the Act, the Act remains in force for the period of 15 year. By the Act No. 13 of 2010, Tamil Nadu Rosewood Trees (Conservation) Act 1994 was amended, and the period of 15 years was substituted by 30 years. Thus, the Act is in force as on date.
3. The Object of the Act is for conservation of Rosewood trees in the State and for matter connected therewith or ancillary or incidental thereto.
4. Rosewood is a rare endangered species and impossible to regenerate except by natural growth. With the aim to conserve the existing rosewood tree and in interest of maintaining the heritage of forest, Government has thought it necessary to prohibit the cutting, felling, transport, sale and possession of rosewood trees in the State immediately. The Act came to be promulgated as the population of Rosewood tree was on decline owing to felling and removal.
5. Section 3, a Non-obstante Clause, prohibits in any person to cut, fell, girdle, lop, tap, uproot or burn or otherwise damage any rosewood tree in any forest or do any act likely to endanger its existence or result in the extinction of its species.
6. The proviso to Section 3 therein provides for seeking permission of the prescribed authority in accordance with the Law, Rules for removal of dead or fallen Rosewood trees.
7. From the contents of the letter, it is seen that during the verification done by the Forest Department it was found that apart from other species of trees were Mahogany, teak, there were 298 Rosewood trees in Patta land belonging to K. Jayakumar, which would have to be felled for enabling laying of Electrical lines by Powergrid in the area.
8. Section 3 of the Act reads thus:

*"...3. Notwithstanding anything contained in any law for the time being in force or in any custom or usage, or in any judgement, decree or order of any court or other authority, no person shall cut, fell, girdle, lop, tap, uproot or burn or otherwise damage any rosewood tree in any forest or any act not likely to endanger its existence or result in the extinction of its species:*

*Provided that dead or fallen rosewood tree may be removed with the permission of the prescribed authority in accordance with such rules as may be prescribed."*



..3..

S.R. RAJAGOPAL

ADDITIONAL ADVOCATE GENERAL - VI  
OF TAMIL NADU



..3..

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Under Sec. 3, the power to grant permission by the prescribed authority for removal is only in respect of dead or fallen Rosewood trees irrespective of where they are situated and the same is not restricted to forest.

9. Sec. 4, which is a statement of Law, fortifies the view that in order to possess Rosewood or sell or transport, procurement of the same cannot be in contravention of provisions of Sec. 3., Applying the golden rule of statutory interpretation and keeping in mind the objective for which the Act has been passed viz., the conservation of the Rosewood trees in the State. The provisions of the Act would apply to Rosewood trees in private properties.

10. Therefore, in my opinion it is not possible for the District Forest Officer to grant permission in exercise of powers under the Tamil Nadu Rosewood Trees (Conservation) Act 1994 to cut Rosewood trees; though, the same may be for purpose of laying of cables by Powergrid Corporation. In light of answering Issue No.1, the other issues do not arise for consideration.

Hope this clarifies your query.

*Printed*  
ADDL. ADVOCATE GENERAL-VI of T.N.

**TAMILNADU FOREST DEPARTMENT**

From  
**Abhishek Tomar, I.F.S.,**  
 District Forest Officer,  
 Viluppuram Forest Division,  
 Viluppuram

To  
**The Senior Deputy General Manager,**  
 Powergrid Corporation of India Ltd.

C.No. 8508 /2020/L2 dated.16 .04.2021

Sir,

- Sub : Construction of 400 kV D/C Pugalur HVDC – Thiruvalem transmission line, Pkg TW.04 – Forest trees assessment in S.F.NO.126/5A, 5B, 6A, 6B, 7,8,9 between tower No.T144/4-T144A/0 in Sadaiyampattu Village – reg.
- Ref : 1. The Senior Deputy General Manager, Powergrid Corporation of India Ltd Ref.No. SR-II/KRR/TLC/PT/2020-21/939, Dated: 15.03.2021  
 2. Manager, Powergrid Corporation of India Ltd, Attur Lr.No.SR-II/ATR/400KV/PT-TL/TLC/2020/838, Dated: 07.12.2020  
 3. District Forest Officer, Villuppuram Ref.No.8508/2020/L2, Dated:16.02.2021  
 4. The Additional Advocate General, High Court, Madras Opinion No.69/2020, Dated:10.12.2020

With reference to your letter, in the reference 1<sup>st</sup> cited above, asking for revised valuation of forest trees standing in S.F.No. 126/5A, 5B, 6A, 6B, 7,8,9 of Sh.Jayakumar, Sadaiyampattu Village, Kallakurichi Taluk, please find attached the opinion of learned Additional Advocate General VI of Tamilnadu, Mr.S.R.Rajagopal. In the light of the opinion given by learned Additional Advocate General, it is not possible to provide any valuation for the forest trees standing in above mentioned land.

Also in the light of the above opinion, the earlier valuation sent to you by this office through reference 3<sup>rd</sup> cited above may kindly be ignored. This is for your kind perusal.

**Encl:** As stated above.

Yours faithfully,  
 sd/- **Abhishek Tomar,**  
 District Forest Officer,  
 Viluppuram Division,  
 Viluppuram

Copy submitted to the Principal Chief Conservator of Forests,  
 Chennai-15 (Letter No.E2/42962/2020)  
 Copy submitted to the Conservator of Forests,  
 Viluppuram Circle, Viluppuram. (Letter No.L/5683/2020)  
 Copy to the District Collector, Kallakurichi.

பொது தகவல் அலுவலர் // True copy/ by order//  
 மற்றும் கண்காணிப்பாளர்,  
 மாவட்ட வன அலுவலகம்,  
 விழுப்புரம் வனக்கோட்டம்

Superintendent.

10

BY R.P.A.D/COURIER/E.Mail

Date: 21.08.2021

From,

Mr. K. Jayakumar,  
S/o. Kalitheerthan  
No. 1, East Street, Somandargudi Village,  
Kallakurichi - 606 202.

Presently residing at

K.Jayakumar  
14,15 Anugraha GJV homes  
Rakkiya Palayam Privu  
Near Century Foundation School  
Nallur  
Tirupur - 641 606

To

1. The District Collector,  
Collectorate Office,  
Kallakurichi District.
2. District Forest Officer,  
Villupuram Forest Division,  
Near Circuit House, Master Plan Complex,  
Villupuram

Respected Sirs,

Sub: Objection for the construction of Power transmission line by Power Grid Corporation of India Limited though the rare species of trees in my land at S.F. No. 126/5A, 5B, 6A, 6B, 7,8,9, Patta 56 in Sadayampattu Village, Kallakurichi, in

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violation of procedures and precedents and request to take alternate route – Reg.

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Ref: 1. Letter of Power Grid Corporation of India Limited

Ref No.SR-11/ATR/400KV/PT-TL/TLC/2020/838 dated 07.12.2020.

2. Letter of the District Forest Officer, Villupuram Forest Division, Villupuram in C.No.8508/2020/L2, dated 22.12.2020.

3. Letter of the District Forest Officer, Villupuram Forest Division, Villupuram in C.No.8508/2020/L2, dated 16.02.2021.

4. Letter of Power Grid Corporation of India Limited Ref No.SR-11/KTR/TL/TLC/2020-21/939 dated 15.03.2021.

5. Letter from the District Forest Officer, Villupuram Forest Division, Viluppuram in C. No. 8508/2020/L2 dated 16.04.2021

6. Order of the District Collector, Kallaurichi District in Na.Ka.Aa.6/ 5501/2021 dated 03.08.2021.

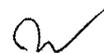
1. I am the resident of Somandargudi Village, Kallakurichi and I am the absolute owner of the land and property comprised in S.F.No.126/5A, 58, 6A, 6B, 7,8,9, Patta 56 in Sadayambattu Village, Kallakurichi, (hereinafter referred as "subject land") which is a patta land in my name and I am cultivating most valuable and rare endangered species of Rosewood trees and other forest trees for past 15 years.

✓

2. Recently, the officials on behalf of the officials of Power Grid Corporation of India Limited have visited my subject land, when enquired about the purpose of visit, I was informed by the officials that they are making valuation of the trees for the purpose of Construction of 400 kV D/C Pugalur HVDC - Thiruvalem transmission line, Pkg Tw.04 and my subject land falls between the tower High Tension transmission line of tower No. T144/4 and T144A/0. I have neither received any notice or proper information from any authorities concerned intimating about erection of the HVDC transmission line or transmission line through, over and above my land and the same is without my consent or permission.

3. Upon subsequent enquiry and production of relevant materials, I was put to understand that as per the reference 1<sup>st</sup> cited above, the Power Grid Corporation of India Limited has been entrusted with the task of construction / execution of 400KV D/C Pugalur I-IVDC - Thiruvalem line which passes through my subject land and for that purpose they have requested the 2<sup>nd</sup> of You/District Forest Officer, Villupuram to give the valuation for the trees cultivated in my subject land for paying compensation towards the cutting of trees in my subject land.

4. Considering the request made by the Power Grid Corporation of India Limited, as per the reference 2<sup>nd</sup> and 3<sup>rd</sup> Cited above, the 2<sup>nd</sup> of



13

You/District Forest Officer has prepared a valuation of the trees in my subject land and as per the valuation report, there are 12 species of trees including rare forest trees like Rosewood trees and totally there are 742 trees in my subject land. After proper assessment the present value of trees were arrived at Rs. 4,18,32,368/- (Rupees Four Crore Eighteen lakhs Thirty Two Thousand Three Hundred and sixty Eight Only). No. 2<sup>nd</sup> of You also duly communicated the valuation report with reference to the compensation and other factors vide the cited reference Nos. 2 and 3.

5. Aggrieved by the said proper valuation done by the 2<sup>nd</sup> of You, as per the reference 4<sup>th</sup> cited above, the Power Grid Corporation of India Limited has again addressed the 2<sup>nd</sup> of you and requested to give a revised valuation of Forest Trees standing in my subject land and to provide fresh valuation assessment.

6. In response to the above said revaluation sought by the Power Grid Corporation of India Limited, the 2<sup>nd</sup> of You/District Forest Officer has replied as per the reference 5<sup>th</sup> cited above, wherein the 2<sup>nd</sup> of You has categorically stated that valuation of the trees standing in my subject property cannot be done in view of the opinion of the learned Additional Advocate General VI of Tamil Nadu. Further the 2<sup>nd</sup> of You has ordered the Power Grid Corporation of India Limited to ignore the earlier valuation in light of the said opinion.



7. However, it is pertinent to mention here that there are around 300 Rose wood trees in my subject land and in order to implement the proposed laying of high tension transmission line, the Rose wood trees will also be needed to be fallen but cutting the Rose wood trees are prohibited in terms of Sec. 3 of the Tamil Nadu Rosewood trees (Conservation) Act, 1994 and for that reason the valuation of the trees in my subject land shall not be done.

8. However, as per the reference 6<sup>th</sup> cited above, wherein while adjudicating an objection of my adjacent land owner viz., one Mrs. Malarkodi W/o. Natarajan, the 1<sup>st</sup> of You/District Collector, Kallakurichi has granted permission to the Power Grid Corporation of India Limited to carry out the task of construction / execution of 400KV .D/C. Pugalur - HVDC Thiruvalem line through or over and above my subject land by increasing the height of the tower without giving me any notice and adjudicating my grievance and also without properly appraising the statue of Tamil Nadu Rosewood Trees (Conservation) Act, 1994 and rules of Power Grid Corporation Of India Limited.

9. The proposed plan of heightening the high tension line through my land was not communicated to me through any notice, further the decision of heightening the line is made without proper appreciation of relevant facts and ground reality. As already stated the conservation of the Rosewood trees and other identical rare trees in my subject land is a mandate spelled out by a special statute viz., Tamil Nadu Rosewood

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Trees (Conservation) Act, 1994, but the said decision of 1<sup>st</sup> of You and the Power Grid Corporation of India Limited will cause grave damages and vegetation to the Rosewood trees and other rare forest trees in my subject land when they are exposed to the Electro Magnetic Field emitted by the power transmission line.

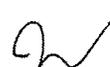
10. I am advised to bring to your notice that the decision to lay transmission lines through my subject land is completely against the guidelines for laying transmission lines enunciated by Ministry of Environment and Forests in F.No. 7-25/2012-FC dated 05.05.2014, as per the direction of the Hon'ble National Green Tribunal and the decision is also in violation of Environmental Examination Report of the Power Grid Corporation of India Limited. As per the guidelines, the Width of Right of Way for 400 kV transmission line is 46 meters and the clearance between conductors and trees should be 5.5 meters but the said distance cannot be achieved since the Rosewood tree can grow upto 40 meters with girth of 200 centimeters over decades. Therefore, the decision to lay an elevated high voltage transmission line through or over and above the densely populated rare trees in my subject land is highly dangerous to the endangered species of Rosewood and other rare trees, violates ROW norms Under Electricity Act and violates international electricity safety guidelines.



11. I am advised to bring to your notice that the Hon'ble Supreme Court of India clearly instructed against green felling of trees when there is other options available (in Special Leave Petition No.25047 of 2018) and advised that the trees compensation value to be calculated to environment and its longevity with regard to factors such as production of oxygen and carbon sequestration, soil conservational protection of flora/fauna, its role in habitat and ecosystem integrity and any other ecologically relevant factor distinct from timber/wood. However in my case, the trees in my subject land cannot be fallen as they are rare and endangered species and the Hon'ble Supreme Court has also very skeptical about indiscriminate cutting down of precious trees without properly assessing the oxygen - releasing capacity of trees.

12. Apart from all the above mentioned grievances, I will also be put to the following predicaments:

- i. There will be possibility of fire in case of any external contact with the transmission lines which may damage or even destroy the endangered trees in my subject land;
- ii. There will be huge danger to the trees on all rainy seasons;
- iii. It will also cause huge hardship and irreparable loss as there will be absolutely decrease the market value of my property;



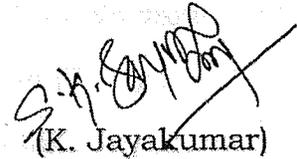
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- iv. The said rare and endangered species of trees, protected by special statute, will always be at risk of being subjected to electrocution.

13. Therefore, I humbly request your good offices to work out alternate route as very much available or other remedies without drawing any transmission lines through or over and above my subject land at S.F.No.126/5A, 5B, 6A, 6B, 7, 8, 9, Patta 56 in Saayampattu Village, Kallakurichi for the construction of 400 KV D/C Pugalur HVDC Transmission line or else grave danger will be caused to the rare endangered species of Rosewood and other rare forest trees in my subject land.

Thanking You

Your's Truly,

  
(K. Jayakumar)

**Copy To:**

1. The District Revenue Officer, Kallakurichi District.
2. The Revenue Divisional Officer, Kallaurichi Division, Kallakurichi District.
3. Conservator of Forest, Villupuram Range, Viluppuram.
4. Grievances Cell, Power Gride Corporation of India Ltd.,
5. The Manager, Power Grid Corporation of India Limited, Attur TLC Office, M-463, New Housing Board, Narasingapuram (P.O.), Attur - 636 108.

(18)

**Memo of Intimation**

- Sub:** Power Grid - Representation - Thiru.Jayakumar representation dated 21.08.2021 objection for construction of Power transmission line by Power Grid Corporation of India Limited through the lands comprised in S.F.NO.126/5A,5B,6A,6B,7,8,9 in Sadaiyampattu Village, Kallakurichi Taluk & District and your request for alternate route - intimation - regarding.
- Ref:** i. Thiru.Jayakumar S/o Kalitheerthan representation letter Dated: 21.08.2021.  
ii. POWERGRID Letter vide Ref: SR-II/ATR/400kV/P-T/TLC/20-21/ dated: 31.08.2021.  
iii. District Collector, Kallakurichi letter Ref.No.B6/11056/2021 Dated: 03.09.2021.  
iv. POWERGRID letter vide Ref: SR-II/A0TR/400KV/P-T/TLC/2021 dated: 27.09.2021.

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This is with reference to the subject representation particularly apprehending that around **300 Rosewood trees** would be required to be cut in the process of execution of the subject referred Power Transmission Line and further averments of damages to trees due to exposure of EMF and other similar risks causing damage to the endangered Rosewood trees.

In this regard POWERGRID has been asked to submit the reply to the averments mentioned in your Objection petition and POWERGRID submitted that your grievance has already been taken care of and **NO TOWER** is being erected in / over your lands under reference & POWERGRID agreed to install an additional Tall Tower (DA+9 with 4.5m RC) at Loc. No. T144/5 in the same route alignment over the land in SF No. 122/12 in Sadaiyampattu village, Kallakurichi Taluk & District belonging to Smt.Malarkodi W/o Natarajan for which **enter upon order has also been issued by this office** vide Proceeding under Ref. No. Na.Ka.B6/5501/2021 dated 03.08.2021 & the additional Tower has also been installed on 19.09.2021. As a result of which the subject Transmission Line crosses over the lands under reference at a **height of 17.5 meters above standing trees there by no danger to the existing trees.**

With reference to your concern of EMF emitted by Transmission line on the growth of Rosewood trees, POWERGRID stated that it is within the limits prescribed by the competent authority ICNIRP, WHO.

POWERGRID submitted that the minimum clearance of 5.5mtr as per the **Ministry of Environment and Forest Guidelines Ref. No. 7-25/2012-FC dated: 05.05.2014** between conductor and trees is being maintained at any point of time for preventing electrical hazards. In this instant case the clearance of 17.5mtr over & above the existing trees is maintained presently, as such there is no possibility of fire, no danger to the standing trees in all rainy reasons.

Further for your request to consider the alternate route, POWERGRID stated that the route is finalized on the basis of techno-economic criteria and further the line is in advance stage of completion including the preceding & succeeding locations, hence the alteration of the route is not feasible.

Thus, your concerns have been addressed by the POWERGRID.

*(Signature)*  
For District Collector,  
Kallakurichi.

To:  
Shri K. Jayakumar  
S/o Kalitheerthan,  
No. 1, East Street, Somandargudi Village,  
Kallakurichi-606202.

*(Signature)*  
28/09/2021

19

BY R. P. A. D/ COURIER/ E. Mail

Date: 02.10.2021

From,

Mr. K. Jayakumar,  
S/ o. Kalitheerthan,  
No. 1, East Street, Somandargudi Village,  
Kallakurichi-608 202

Presently residing at

K. Jayakumar,  
14,15 Anugraha GJV homes,  
Rakkia Palayam Pirvu,  
Near Century Foundation School,  
Nallur,  
Tirupur-641 606

To

1. The District Collector,  
Collectorate Office,  
Kallakurichi District.
2. District Forest Officer,  
Villupuram Forest Division,  
Near Circuit House, Master Plan Complex,  
Villupuram.

Respected Sirs,

Sub: Objection for the construction of Power transmission line by the Power Grid Corporation of India Limited through the rare species of trees in my land at S.F. No. 126/5A, 5B, 6A, 6B, 7, 8, 9 Patta 56 in Sadayampattu Village, Kallakurichi, in violation of procedures and precedents and request to take alternate route- Reg.

Ref:

1. Letter of Power Grid Corporation of India Limited  
Red No.SR-11/ ATR/400KV/ PT-TL/ TLC/2020/838 dated 07.12.2020

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2. Letter of the District Forest Officer, Villupuram Forest Division, Villupuram in C.No.8508/2020/L2, dated 22.12.2020.
3. Letter of the District Forest Officer, Villupuram Forest Division, Villupuram in C. No. 8508/2020/L2, dated 16.02.2021.
4. Letter of Power Grid Corporation of India Limited ref No. SR-11/KTR/TL/TLC/2020-21/939 dated 15.03.2021
5. Letter from the District Forest Officer, Villupuram Forest Division, Villupuram in C. No. 8508/2020/L2 dated on 16.04.2021
6. Order of the District Collector, Kallakurichi District in Na.Ka.Aa.6/ 5501/ 2021 dated 03.08.2021.
7. Memo of Intimation with the reference no. Na. Ka. B6/11056/2021 dated 28.09.2021 received by mail 01.10.2021.
8. Refer Environmental and Social Policy and Procedures of the Power Grid Corporation of India.
9. Initial Environmental Examination dated June 2017 by Power Grid Corporation of India .

Further to the Memo of Intimation with respect to the above reference 7 by the respondent 1. The intimations have not addressed the concerns clearly and mostly silent on the following aspects.

#### 1.VIOLATION STATUTORY SAFETY REQUIREMENTS(IS 5613,PART 3,1989)

- 1a.Referring to point 8, as per Statutory requirements page no. A58 and A59 appendix- XV, in the Statutory requirements (IS-5613, Part 3, 1989) all the trees and bushes, including saplings coming in the ROW limit i.e. clearance belt of transmission line should be cut and removed (attached Page P10-P11 for your reference).
- 1b.And as per IS-5613 and the MoEF guidelines dated 5<sup>th</sup> May 2014 finalized in consultation with the CEA under the Electricity Act 2003, mandates 46 meters right of way for a 400 kV transmission voltage. The trees in this Right of Way will be felled or lopped to the extent required for preventing electrical hazards (attached the guidelines for your reference Page No P13-P16).

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1c. Even in our case with the Ref. SR- II/ATR/400KV/PT/TL/TLC/2020/838 as dated on 07.12.2020, the Power Grid Corporation of India has clearly mentioned that under the Indian Electricity Act 2003, high growth trees standing in the electrical corridor of 46 m are to be removed to maintain statutory safety clearance (attached the letter for your ref PAGE P17).

1d. With ref 9 of above in the figure 2a and 3 showing tree felling area as per Right of Way and the schematic diagram clearly shows, areas where trees are completely lopped and areas where trees are completely felled for O & M purpose. Further as mentioned the area is allowed for regeneration only up to a height of 1 m to 1.5 m one meter to one and a half meter. (Attached PAGE P26-P29)

In the above mentioned 1a-1d, please confirm and clear that no trees will be cut including Rosewood as per reference no. 6 and 7 through the life of the living trees. If so, it violates International Safety Code and Statutory Requirement of IS-5613, Part 3, 1989 und Electricity Act of India 2003. This not only violates the statutory safety code but also affects the trees in the subject land.

If trees to be cut, it violates under Tamil Nadu Rosewood Protection Act 1994 which is in force, as 2 of you denied permission to cut trees.

If other trees are to be cut except Rosewood trees, the basic requirements of the Right of Way will not be fulfilled, because the trees are planted randomly in the subject land, which will not clear the Right of Way and hence violate statutory requirement of the safety code. I would also like to know whether any permission was granted to the Power Grid Corporation to violate the basic safety code of the above by Central Electricity Authority.

The above mentioned, clearly shows that there is clear violation of the safety code under the Indian Electricity Act 2003 and their own procedure.



2. ADDING AN TOWER WITH JUST HEIGHT INCREASE OF 5 METERS ONLY ONE SIDE WITHOUT APPRAISING OF FACT AND GROUND REALITY

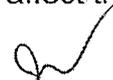
As mentioned earlier letter, the height of the Rosewood tree (variety Dalbergia Latifolia) will grow up to 40 meters tall as attached (DALBERGIA LATIFOLIA ROXB: Biography of Indigenous Multipurpose Tree Species of India as dated March 2020) for your ready reference, and various studies and research confirm that these trees easily can grow 40 meters. (Attached page no P36-P40)

In this scenario, a new additional tower in southern side T144/5 is laid between T144/4 and T144A/0 despite our objection, for which according to Power Grid's verbal communication the distance between the ground and the bottom of the conductor (newly erected tower T144/5) is just 27.5 meters only. And in the northern side of the subject land for tower T144/4, this distance remaining is just 22.5 meters.

Since our trees will grow 40 meters, the growth of trees which are living things will be getting affected even in this heightening and erecting of this additional tower T144/5, which is not serving the required purpose. This is made without appraising the fact, ground reality and growth of the trees which is already from 10 to 20 meters in height within 13-15 years. This will endanger the growth and damage the existing Rosewood and other trees which is protected under Tamil Nadu Rosewood Protection Act 1994.

3. WILL AFFECT GROWTH OF TREES WITHOUT FOLLOWING ROW

Kindly refer point 9 of the above, page no. 32 in Section V, the environmental impacts of transmission projects are not far reaching and are mostly localized to RoW by 46 meters. Actual for 400 kV transmission line including tower on ground along with RoW, the extent of impact on land/vegetation is shown in Fig.-1 and 1a respectively (which is attached in your ready reference PAGE NO P18-P25). From the figure there is clear impact of the growth of the trees, which will have natural effect on the growth of the trees. As per them, this is neutralized by following the RoW 46 meters. However, in our case since the trees cannot be cut under the Tamil Nadu Rosewood Protection Act 1994, the natural and environmental effects will still remain where it will affect the growth

 10/11/20

and damage the trees, which is against the Tamil Nadu Rosewood Protection Act 1994.

4. Apart from this in the subject land, there are thousands of faunas residing and nesting. The drawing of the lines will affect the life cycle of these flora and fauna in the subject land.

5. FAILURE OF DUTY TO SURVEY AND NEGLIGENCE OF POWERGRID

During the route selection process of the Power Grid, they should have assessed the presence of densely populated trees in the subject land, through GPS or GIS. In addition, a walk-in survey, a detailed survey and a final survey also had failed to identify the presence of the trees. Hence, the current situation has arisen, which is due to the negligence of the Power Grid Corporation of India and has failed to do the duty. This has caused enormous pressure on us, as well as the government executives.

6. Also, Power Grid has put a lot of pressure by trespassing & entering the subject land for drawing the transmission lines without proper permission and without giving notice as per the Indian Telegraph Act, violates constitutional provisions, policy, legal and regulatory framework for environmental and social issues applicable to protection Rosewood trees.

7. There are various studies which has proven that the Electro Magnetic Field will affect the growth characteristics of the trees (please find attached article named Effects of High Voltage Transmission Lines on Human and Plants dated February 17, 2012) & research study of Genotoxic effects of Electro Magnetic Fields from High Voltage lines on some plants by author Aksoy Hueseyin and others.(attached page Ref no PAGE P41-53 & P54-62)

8. The Honorable Supreme Court of India's judgement SLP 25047 OF 2008 (REF PAGE P31-P35) clearly spells out, the right and healthy environment recognized as a fundamental right under Article 21 of Constitution of India and



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Article 48-A imposes duty upon the state to endeavor to protect and improve the environment and safeguard the forests and wildlife of the country. It clearly states green felling of trees should be avoided when there is another options available.

9. In the WRIT Petition (Civil) NO.838 OF 2019, (REF PAGE P63-P85)the Honorable Supreme Court has asked to put underground cable transmission line despite increasing of heavy costs, in order to save the Great Indian Bustard ("GIB") birds which is getting endangered, which is also applicable to all the endangered species. Further in this order Honorable Supreme Court quotes in the case of Centre for Environmental Law, World Wide Fund – India Vs Union of India & Ors., (2013) 8 SCC 234 while considering the protection and conservation of endangered species has observed as hereunder:

We may point out that there has been wide-ranging discussions and deliberations on the international platforms and conferences for rebuilding of certain principles laid down in the earlier conventions on the Principles of Sustainable Development. The United Nations Commission on Environment and Development defined the "sustainable development" as follows:

*"Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs."* (World Commission on Economic Development [WCED], 1987: 43)

Sustainable development, it has been argued by various eminent environmentalists, clearly postulates an anthropocentric bias, least concerned with the rights of other species which live on this earth. Anthropocentrism is always human-interest focused thinking that non-human has only instrumental value to humans, in other words, humans take precedence and human

✓

responsibilities to non-human are based on benefits to humans. *“Ecocentrism is nature-centred, where humans are part of nature and nonhumans have intrinsic value. In other words, human interest does not take automatic precedence and humans have obligations to nonhumans independently of human interest. Ecocentrism is, therefore, life-centred, nature-centred where nature includes both humans and non-humans.”*

Article 21 of the Constitution of India protects not only the human rights but also casts an obligation on human beings to protect and preserve a species becoming extinct, conservation and protection of environment is an inseparable part of right to life. In *M.C. Mehta v. Kamal Nath* [(1997) 1 SCC 388], this Court enunciated the doctrine of “public trust”, the thrust of that theory is that certain common properties such as rivers, seashores, forests and the air are held by the Government in trusteeship for the free and unimpeded use of the general public. The resources like air, sea, waters and the forests have such a great importance to the people as a whole, that it would be totally unjustified to make them a subject of private ownership. The State, as a custodian of the natural resources, has a duty to maintain them not merely for the benefit of the public, but for the best interest of flora and fauna, wildlife and so on. The doctrine of “public trust” has to be addressed in that perspective.

We, as human beings, have a duty to prevent the species from going extinct and have to advocate for an effective species protection regimes. NWAP 20022016 and the Centrally sponsored scheme, 2009 indicate that *“there are many animal species which are close enough to extinction and some of the other species have already disappeared from this earth. No species can survive on the brink of*

*[Handwritten signature]*

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*extinction indefinitely and that the continued existence of any species depends upon various factors like human-animal conflict, epidemics, forest fire and other natural calamities, etc.”*

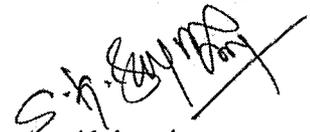
The State as well as the Central Government therefore, have a duty cast to preserve the endangered species and as such the expenses incurred will have to be provided by them either under the schemes available or by earmarking the same in such manner. Needless to mention that in the instant case the preservation is by undergrounding the powerlines and in that context if cost is incurred, it would also be permissible to pass on a portion of such expenses to the ultimate consumer subject to approval of the Competent Regulatory Authority.

In these circumstances and fact, considering the larger environmental public interest Ecocenterism & Doctrine of Public Trust over cost of techno-economic benefit of Power Grid, I request to look for alternate route or install underground cable for the site specific to protect the nature of 800 oxygen producing trees which are mostly classified as endangered species and protected under special statue.

I reserve right to reply and with additional grounds as may be warranted in the above facts and circumstances of the matter and further reply and proceedings.

Thanking you

Yours Faithfully

  
K. Jayakumar

Copy To:

1. The District Revenue Officer, Kallakurichi District.

2. The Joint Secretary, Ministry of Environment, Forests and Climate change, Govt. of India, 2<sup>nd</sup> floor, Agni Block, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi – 110 003.
3. The Principal Secretary, Environment and Forest Department, Govt. of Tamil Nadu, Secretariat, Chennai – 600 009.
4. The Manager, Power Grid Corporation of India Limited, Attur TLC Office, M-463, New Housing Board, Narasingapuram (P.O.), Attur-636 108.
5. The Managing Director, Power Grid Corporation of India Limited, Saudamani, Plot No.2, Sector 29, near IFFCO Chowk, Gurgaon (Haryana) - 122001



<Track on www.indiapost.gov.in>  
<Dial 18002666868> <Wear Masks, Stay Safe>

28

RT673853289IN IVR:8284673853289  
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To:THE MAN DIRECTOR,POWERGRID  
PIN:172001, Gurgaon HD  
From:S K VIJAYAKUMAR,VILJA PURAM  
Wt:320gms  
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PIN:110003, Lodi Road HD  
From:S K VIJAYAKUMAR,VILJA PURAM  
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Amt:100.00(Cash)  
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<Dial 18002666868> <Wear Masks, Stay Safe>

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RL TIRUPUR HD <641601>  
Counter No:3,04/10/2021,12:55  
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PIN:600009, Fort St George S.O  
From:S K VIJAYAKUMAR,VILJA PURAM  
Wt:315gms  
Amt:100.00(Cash)  
<Track on www.indiapost.gov.in>

*[Handwritten notes and signatures in the bottom left corner, including a signature that appears to be 'S. K. Vijayakumar']*



**पावरग्रिड  
POWERGRID**

**पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड**  
(भारत सरकार का उद्यम)  
**POWER GRID CORPORATION OF INDIA LIMITED**  
(A Government of India Enterprise)

DATE: 13.10.2021

28

REF: 3A-II/ATR/PTLINE

TO, MR. K. JAYAKUMAR,  
S/O KALITHERRAN,  
No. 1, EAST STREET,  
Somandargudi village,  
Kavalakumbhly - 606 202.

Dear Sir,

Sub: Construction of 400KV D/C Pugalur HVDC - Tiruvallur TL PKB TUDA  
WORKS - REG.

This is to inform you the following about the channel of the line over the property bearing S.F No. 126) SA, SB, 6A etc. owned by Sri Jayakumar S/o. K. Kalitherran.

1. No Compensation shall be paid for the standing trees under the line Corridor (Right of way) including Rose wood trees as there is no necessity for cutting of trees at any point of time sufficient clearance is maintained over the property by providing extra height towers at the boundaries.
2. There is no safety hazards due to the standing trees under the line Corridor (Right of way). And powergrid shall be responsible for the any untoward incident like line electrocution due to overhead line.
3. There shall be no damage to trees including Rosewood tree due to electromagnetic effect due to energized line over the property. We understand that Rose wood trees are protected under the Rose wood protection act of Tamil Nadu.
4. We are carrying out the work as per the direction of District administration of Kallakurichy District (Memo of Intimation)
5. The Compensation for the land (under ROW) shall be paid as decided by District Administration of Kallakurichy District.

Thanking you.

Eng. Thiruvallur

Yours faithfully,  
For Power Grid Corporation of India  
Joseph 13/10/21  
(Joseph Kurian) S. GM

30

**REPORTABLE**

**IN THE SUPREME COURT OF INDIA**

**CIVIL ORIGINAL JURISDICTION**

**I.A. NO.85618 OF 2020**

**IN**

**WRIT PETITION (CIVIL) NO.838 OF 2019**

M.K. Ranjitsinh & Ors.

..... Petitioner(s)

Versus

Union of India & Ors.

....Respondent(s)

**ORDER**

1. The writ petition is filed in the nature of public interest seeking to protect two species of birds namely the Great Indian Bustard ('GIB' for short) and the Lesser

31

Florican, which is on the verge of extinction. The existence of overhead power lines is stated to have become a hazard due to which the said species of birds on collision are getting killed. In the pending writ petition, the application in I.A. No.85618/2020 is filed seeking interim directions to direct the State of Rajasthan (respondents No.5 and 6) and State of Gujarat (respondents No.9 to 11) to ensure predator proof fencing, controlled grazing in the enclosure development and to direct the said respondents not to permit installation of overhead power lines and also not permit further construction of windmills and installation of solar infrastructure in priority and potential habitat as identified by the Wildlife Institute of India. The petitioner is also seeking a direction to the respondents to install divertors for the powerlines which has been listed in the application.

2. The very subject matter indicates that though such directions are sought against the respondents, the litigation is not adversarial in nature as it is community interest. In fact, the petitioners being environmentalists, are seeking to protect the rare birds which are dwindling in number. It is contended that GIB is one of the heaviest flying birds in the

32

world, about a meter in height and wing span of around seven feet. It has disappeared from 90 per cent of habitat except parts of Rajasthan and Gujarat which is to be protected. According to the petitioners, overhead power lines are the biggest threat to the survival of the GIBs. The Wildlife Institute of India (WII) in its Report "Power Line Mitigation, 2018" has stated that every year 1 lakh birds die due to collision with power lines. The Report concluded that unless power line mortality is mitigated urgently, extinction of GIBs is certain. Surveys conducted by Wildlife Institute of India (WII) in Thar covering 80 km of power lines repeated 7 times over a year found 289 carcasses of around 30 species, including the Great Indian Bustard (GIB). The study estimated 3 bird mortalities/km/month for low-tension lines, 6 bird mortalities/km/month for high-tension lines, and about 1 lakh birds/per year within a 4200 sq.km area in/around Desert National Park, Rajasthan. In terms of GIB, 6 mortalities have been recorded in Thar during 2017-20, all due to high-tension transmission lines – some of them connected to wind turbine. Therefore, petitioner seeks undergrounding all future overhead power lines; selected

33

power lines in priority GIB habitat and installation of divertors in potential habitat.

3. In fact, it is admitted by the Ministry of Power, Union of India in their affidavit dated 15.03.2021 as follows: -

“The Great Indian Bustard (“GIB”) lacks frontal vision. Due to this, they cannot detect powerlines ahead of them, from far. As they are heavy birds, they are unable to manoeuvre across power lines within close distances. Thus, they are vulnerable to collision with power lines. In case of low voltage lines, electrocution is often the cause of death due to smaller phase to phase separation distance. High voltage lines do not cause death due to electrocution but cause death due to collision.”

4. But, this Court while considering IA Nos.1433 and 1477 of 2005 in the case of **T.N. Godavarman Thirumulpad Vs. Union of India & Ors.** (2012) 3 SCC 277 has observed as hereunder:

“17. Environmental justice could be achieved only if we drift away from the principle of anthropocentric to ecocentric. Many of our principles like sustainable development, polluter-pays principle, intergenerational equity have their roots in anthropocentric principles. Anthropocentrism is always human interest focussed and that non-human has only instrumental value to humans. In other words, humans take precedence and human responsibilities to non-human based benefits to

humans. Ecocentrism is nature-centred where humans are part of nature and non-humans have intrinsic value. In other words, human interest does not take automatic precedence and humans have obligations to non-humans independently of human interest. Ecocentrism is therefore life-centred, nature-centred where nature includes both humans and non-humans. The National Wildlife Action Plan 2002-2012 and the Centrally Sponsored Integrated Development of Wildlife Habitats Scheme, 2009 are centred on the principle of ecocentrism.”

In that context while taking note of the contention of the State relating to lack of funds, reference was made to the Centrally Sponsored Integrated Development of Wildlife Habitats Scheme, 2009 which provides for financial sharing between Centre and State. Though taken note in the context of conservation of wild buffalo the pattern of funding was taken note in para-23 which provides for 100% central assistance in respect of GIB, for both recurring and non-recurring items of expenditure.

5. Further this Court in the case of **Centre for Environmental Law, World Wide Fund – India Vs. Union of India & Ors.**, (2013) 8 SCC 234 while considering the protection and conservation of endangered

35

species has observed as hereunder:

"45. We may point out that there has been wide-ranging discussions and deliberations on the international platforms and conferences for rebuilding of certain principles laid down in the earlier conventions on the Principles of Sustainable Development. The United Nations Commission on Environment and Development defined the "sustainable development" as follows:

"Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (World Commission on Economic Development [WCED], 1987 : 43)

46. Sustainable development, it has been argued by various eminent environmentalists, clearly postulates an anthropocentric bias, least concerned with the rights of other species which live on this earth. Anthropocentrism is always human interest focussed thinking that non-human has only instrumental value to humans, in other words, humans take precedence and human responsibilities to non-human are based on benefits to humans. Ecocentrism is nature-centred, where humans are part of nature and non-humans have intrinsic value. In other words, human interest does not take automatic precedence and humans have obligations to non-humans independently of human interest. Ecocentrism is, therefore, life-centred, nature-centred where nature includes both humans and non-humans."

"48. Article 21 of the Constitution of India protects not only the human rights but also casts an obligation on human beings to protect and preserve a species becoming extinct, conservation and protection of environment is an inseparable part of right to life. In *M.C. Mehta v. Kamal Nath* [(1997) 1 SCC 388] , this Court enunciated the doctrine of "public trust", the thrust of that theory is that certain common properties such as rivers, seashores, forests and the air are held by the Government in trusteeship for the free and unimpeded use of the general public. The resources like air, sea, waters and the forests have such a great importance to the people as a whole, that it would be totally unjustified to make them a subject of private ownership. The State, as a custodian of the natural resources, has a duty to maintain them not merely for the benefit of the public, but for the best interest of flora and fauna, wildlife and so on. The doctrine of "public trust" has to be addressed in that perspective.

49. We, as human beings, have a duty to prevent the species from going extinct and have to advocate for an effective species protection regimes. NWAP 2002-2016 and the Centrally-sponsored scheme, 2009 indicate that there are many animal species which are close enough to extinction and some of the other species have already disappeared from this earth. No species can survive on the brink of extinction indefinitely and that the continued existence of any species depends upon various factors like human-animal conflict, epidemics, forest fire and other natural calamities, etc."

The State as well as the Central Government therefore,

have a duty cast to preserve the endangered species and as such the expenses incurred will have to be provided by them either under the schemes available or by earmarking the same in such manner. Needless to mention that in the instant case the preservation is by undergrounding the powerlines and in that context if cost is incurred, it would also be permissible to pass on a portion of such expenses to the ultimate consumer subject to approval of the Competent Regulatory Authority.

6. The respondents though are sensitive to the issue, have contended that the high-voltage lines do not cause GIB deaths due to electrocution but cause death due to collision. It is contended that the underground high-voltage line is not technically feasible due to several factors such as (i) high cost (ii) high downtime to repair any failed cable (iii) non-availability of cables at 765 Kv level and (iv) increase in the number of joints with length of run. The petitioners/applicants in order to controvert the same and contend that the undergrounding of high-

voltage line is not a novel move but has been undertaken in other cases, have referred to the tender notification issued by Power Transmission Corporation of Uttarakhand Limited for 220 KV transmission line and the one issued by Delhi Transport Limited for 220 KV underground cable.

7. In addition, the petitioners have also referred to the invitation of public comments for laying underground cable transmission line of 220 KV by the Government of India, Ministry of Road Transport and Highways. The report published by the Power Grid Corporation is referred to indicate that the undergrounding of 220 KV power line is possible and is being done in India. It is specifically contended that the 10 km long power lines were made underground by GETCO for the safety of Greater Flamingos in the Khadir Region of Kutch. Similar such instances of underground power lines being laid is also referred by Mr. Shyam Divan, learned senior counsel for the petitioner. Ms. Aishwarya Bhati, learned ASG and Dr. Manish Singhvi, learned senior counsel

appearing on behalf of the respondents however sought to indicate that the instances referred, wherein the tender notifications were issued for underground power lines cannot be made comparable in all cases inasmuch as the same would be possible depending on the area, terrain and the distance for which such cable line is to be laid which cannot be of universal application.

8. In that background, keeping in view, the sustainable development concept and on striking a balance the protection of the rare species of birds is essentially to be made, the effort being to save every bird while at the same time allowing transmission of power in an appropriate manner. Even as per the study/survey conducted by the Wildlife Institute of India, it would not be feasible to lay underground power cables in certain areas and the conversion of the already existing cables also cannot be made in certain locations. In such of the locations, it is recommended that 'bird divertors' be installed on the existing power lines and the undergrounding of the new power line wherever technically feasible in the vicinity of the habitats of the

42

rare species of birds be undertaken.

9. The report dated 11.07.2019 was submitted by the Wildlife Institute before the National Green Tribunal to that effect and para 4.2 of the report reads as hereunder:

“4.2. Mitigate all power transmission lines passing through priority bustard habitats identified by WII (Please refer Annexure 10) by undergrounding cables (where technically/technologically feasible) or installing bird divertors to make them prominent to birds. The priority areas where this intervention is required has been mapped by the Wildlife Institute of India and a technical-cum-financial proposal has been submitted to RVPNL for necessary approvals from Rajasthan Energy Department for mitigation. This action must be expeditiously implemented in the short-term (1-3 years), as power-line mortality is currently the biggest threat to the species.”

10. In addition to the death of the birds due to collision and electrocution, the conservation strategy also requires protecting the eggs of the said species of birds and the same being transferred to breeding centres for the purpose of hatching. In that regard, for conservation, the habitat restoration and for making it predator proof, appropriate fencing is to be provided to the breeding



grounds. In that regard, pictorial representation of the priority and potential area is indicated in Annexure A-7 (page 74) of I.A. No.85618/2020 which is also depicted here below.

11. In the above background, there cannot be disagreement whatsoever that appropriate steps are required to be taken to protect the said species of birds. In that view, insofar as the existing overhead powerlines are concerned the respondents shall take steps forthwith to install divertors and in respect of existing overhead powerlines all future cases of installing the transmission lines a study shall be conducted with regard to the feasibility for the lines to be laid underground. In all such cases where it is feasible, steps shall be taken to lay the transmission line underground. For the lines to be laid in future if as per the technical report the overhead line alone is feasible and the same is ratified by the Committee, in such event the installation of the divertors shall also be a condition attached in the contract to be entered with generating companies. Insofar as, the cost incurred in the said process, the concerned respondents

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No. 5 to 8 and 9 to 11 shall work out and provide for the same and the respondents No.1 to 4 aid in this regard. It would be open to them to muster the resources in accordance with law. In cases where the power generators are required to bear the additional amount adding to the cost of production, it would be open to regulate the manner in which the cost would be mitigated in accordance with contractual terms. Irrespective of the cost factor the priority shall be to save the near extinct birds.

12. In fact, a few suggestions were made in the course of arguments, as to how financial resources can be mobilised. One of the options that could be explored, is to invite the attention of each electricity utility engaged in the generation of power, to Section 135 of the Companies Act, 2013, which imposes corporate social responsibility upon companies having a specified net worth or turnover or net profit. Section 166(2) of the Companies Act, 2013 ordains the Director of a Company to act in good faith, not only in the best interest of the Company, its employees, the

278  
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shareholders and the community, but also for the protection of environment. The word "environment", though not defined in the Companies Act, has to be given the meaning assigned to it under the Environment (Protection) Act, 1986. Section 2(a) of the Environment (Protection) Act, 1986, defines the word "environment" to include the *"inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organisms and property"*

Moreover, with the implementation of the Compensatory Afforestation Fund Act, 2016 (CAF, 2016), substantial funds are available with the National and State Authorities. Sections 4, 5 and 6 of the Act, provide for the utilisation of the fund for measures to mitigate threats to wildlife. The State of Rajasthan has already set up a Compensatory Afforestation Fund Management and Planning Authority (CAMPA) on 12.11.2009. Rule 5(2)(i) of these Rules permit the use of the State Fund for the improvement of wildlife habitat. It appears, according to the petitioners that a sum of Rs.47,436 crores, out of a

total of Rs.54,685 crores CAMPA Fund have been transferred by the Union Environment Ministry to the States for afforestation projects.

13. With regard to the conservation of the habitat to secure the safety of the eggs laid by the birds, the area earmarked and indicated as islands and shown in Annexure-A-7 and in light colour in sketch here below shall be fenced and protected from invasion by predators so that the eggs laid in these areas are protected. The power supply line regarding which underground passage is to be made should also avoid these areas.

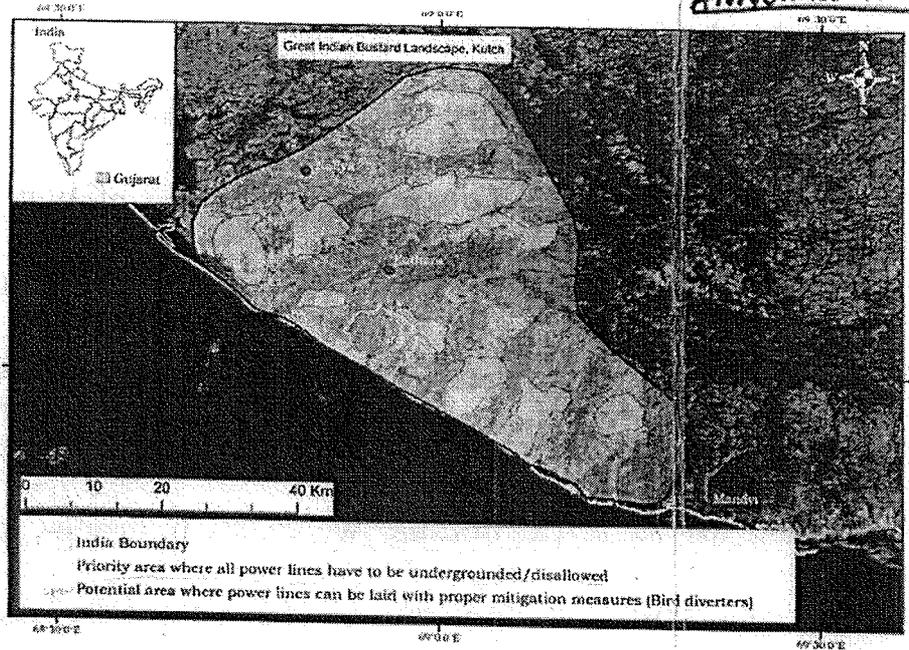
14. In the light of the contentions urged on this aspect of the matter, we are conscious that the laying of the underground power line more particularly of high-voltage though not impossible, would require technical evaluation on case-to-case basis and an omnibus conclusion cannot be reached laying down a uniform method and directions cannot be issued unmindful of the fact situation. Though that be the position the consensus shall be that all low voltage powerlines to be laid in the priority and potential habitats of GIB shall in

AS

all cases be laid underground in future. In respect of low voltage overhead powerlines existing presently in the priority and potential habitats of GIB, the same shall be converted into underground powerlines. In respect of high-voltage powerlines in the priority and potential habitats of GIB, more particularly the powerlines referred in the prayer column of I.A. No.85618/2020 and indicated in the operative portion of this order shall be converted into underground power line. The potential and priority area in Kutch and Thar respectively are as per the sketch shown below:

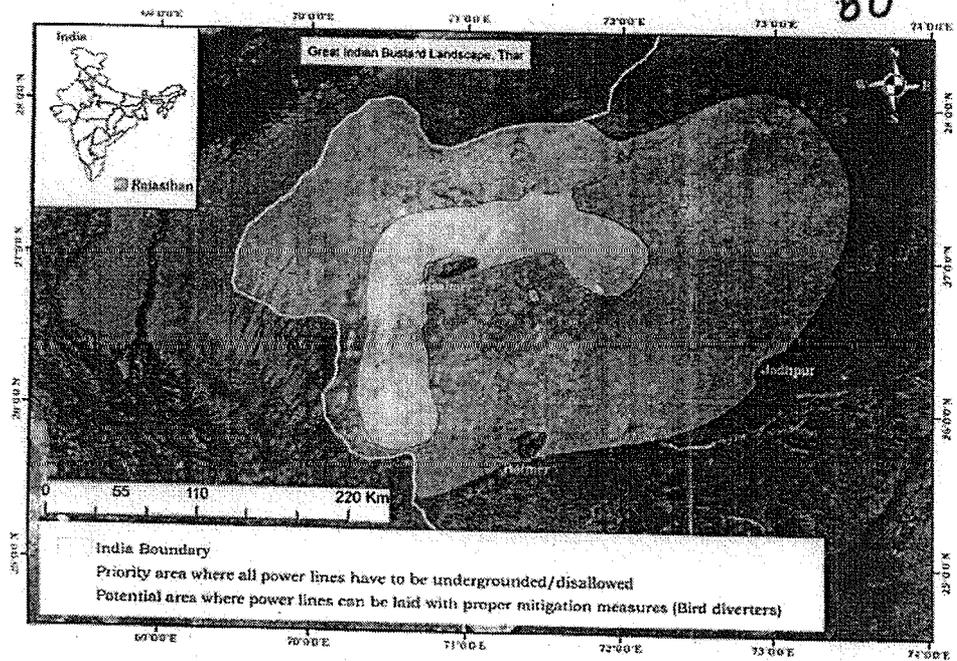
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**ANNEXURE A-7**



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47

While considering the laying of underground power line the said habitats shall be kept in perspective and steps be taken for the safety of the GIB in the said habitat.

15. As already taken note above, the laying of high-voltage underground power line would require expertise to assess the feasibility of the same. For this specific purpose of assessing the feasibility after taking into consideration all technical details, we deem it proper to constitute a committee consisting of the following members:

- (i) Dr. Rahul Rawat,  
Scientist,  
Room No.021, Block-14,  
Ministry of New and Renewable Energy,  
CGO Complex, Lodi Road,  
New Delhi.
- (ii) Dr. Sutirtha Dutta,  
Scientist,  
Wildlife Institute of India,  
Dehradun.
- (iii) Dr. Devesh Gadhavi,  
Deputy Director,  
The Corbett Foundation.

The above committee may also obtain technical reports if need be, from experts in the field of electricity

48

supply to arrive at their decision. The Government of India shall provide all assistance to the Committee.

16. The details of the powerlines from Kutch for installation of bird divertors is as follows:

<b>a) <u>List of powerlines from Kutch for installation of divertors</u></b>	<b><u>Capacity</u></b>
1) Kukdau to Vingaber (8.86 Km)	Unknown
2) Vingaber to Lala (4.84 Km)	Unknown
3) Agriculture area near highway NH-41 (0.53 KM)	Unknown
4) Agriculture area near highway NH-41 (0.86 KM)	Unknown
5) Khirsara village to Khotara town (3.42 Km)	Unknown
6) Prajau Substation to Prajau Village on road side (2.81 Km)	Unknown
7) Part of Bhamedi to Naliya (4.44 Km)	Unknown
8) Part of Fulay vandh to Naliya-Jakhau Road (10.9 Km)	Unknown
9) Part of Kothara Naliya line (9.1 Km)	Unknown
10) Part of Kothara-Naliya Line (6.90 km)	Unknown
11) Part of Vanku to Fulay Vandh (6.25 km)	Unknown

The details of the powerlines for installation of divertors from Rajasthan are as follows:

<b>b) <u>List of powerlines for installation of divertors from Rajasthan</u></b>	<b><u>Capacity</u></b>
1) Jaisalmer – Ramgarh -1 (40 Km)	132 kv
2) Jaisalmer – Ramgarh -2 (40 Km)	132 kv

43

3) Askandra (Pokran to Askandra ) (30 Km)	132 kv
4) Askandra (Pokran to Askandra ) (20 Km)	132 kv
5) Amarsagar – Ramgarh (40 Km)	220 kv
6) Amarsagar – Lilo (8 Km)	220 kv
7) Amarsagar – Phalodi (54 Km)	220 kv
8) Amarsagar – Phalodi (71 Km)	220 kv
9) Ramgarh Dechu (49 Km)	220 kv
10) Ramgarh Dechu (43 Km)	220 kv
11) Ramgarh Dechu (50 Km)	220 kv
12) Akai – Ramgarh (55 Km)	400 kv
13) Tejuva – Kuchadi (138 km)	33 kv
14) Kaladongar (70 Km)	33 kv
15) Mokla – Habur – Sanu (301 km)	33 kv
16) Tejuva – Kuchadi (25 km)	132 kv
17) Kaladongar (47 km)	132/220 kv
18) Mokla – Habur – Sanu (43 km)	132/220 kv
19) Chandan Via Bhagu ka Gaon to Mohangarh (70 km)	33 kv
20) Amarsagar – Ramgarh (40 km)	220 kv
21) Amarsagar – Ludarva (4 km)	33 kv

The details of the powerlines to be converted to underground subject to feasibility, if not, to immediately

install divertors;

Lines from Kutch

<b>a) <u>List of powerlines from Kutch for undergrounding</u></b>	<b><u>Capacity</u></b>
1) 220 KV GETCO line next to breeding site 13 cables (3.19 Km)	220 KV
2) Bhachunda GIB habitat to Sandhav River line (2.1 Km)	Unknown
3) Bhanada to Valram Society (6.1 Km)	66 KV
4) GETCO Substation to Dhanawada – Nanawada (9.81 Km)	Unknown

50

5) GETCO Substation to Kothara-Mothala Road (9.69 Km)	Unknown
6) Jakhau to Prajau road substation (10.9 Km)	Unknown
7) Jakhau to Sindhodi (8.39 Km)	Unknown
8) Jakhau to Sindhodi (8.53 Km)	Unknown
9) Jakhau to Sindhodi (8.57 Km)	Unknown
10) Jakhau-Vanku Road to Prajau Road substation (3.43 Km)	Unknown
11) Kalatalav Khirsara Road (9.0 Km)	Unknown
12) Khirsara Kothara (8.20 Km)	Unknown
13) Khirsara to Kothara River Wastelands (2.24 Km)	Unknown
14) Kunathiya GETCO to Bitta & around Adani Solar (6.65)	220 kv
15) Kunathiya GETCO to Tera (7.32 Km)	66 KV
16) Kunathiya GETCO towards Rava (3.34 km)	66 KV
17) Lala to Jakhau (11.6 Km)	Unknown
18) Line near Khorsara (2.77 Km)	Unknown
19) Line near Lala village (1.45 Km)	Unknown
20) Naliya-Kothara Road (6.58 Km)	Unknown
21) Naliya-Kothara Highway (15.0 Km)	Unknown
22) Naliya-Kothara Highway Line (15.7 km)	Unknown
23) Naliya-Kothara Road to Prajau (9.15 Km)	Unknown
24) Naliya-Kothara Road to Vanku-Lala Road (10.8 km)	66 KV
25) Prajau Road (5.57 Km)	Unknown
26) Prajau to Naliya-Jakhau Road	Unknown
27) Prajau Road line passing through Naliya Grasslands (4.43 km)	Unknown
28) Prajau Road substation to Naliya-Kothara Road substation	Unknown
29) Prajau village to Prajau Road (5.82 Km)	Unknown
30) Part of Bhamedi to Naliya-Jakhau Road (8.19 km)	Unknown
31) Part of Fulay Vandh to Naliya-	Unknown

51

Jakhau Highway (8.27 Km)	
32) Part of Kothara-Naliya (8.82 Km)	Unknown
33) Part of Kothara-Naliya line (9.36 km)	Unknown
34) Part of Vanku to Fulay Vandh line (1 km)	Unknown
35) Khirsara to Highway River Wastelands (1.59 Km)	Unknown
36) Kunathiya GETCO to Bhanada Village via Agri Farms (12.1 km)	66 KV

Lines from Rajasthan

b)	<b><u>List of powerlines from Rajasthan for undergrounding</u></b>	<b><u>Capacity</u></b>
1)	Kanoi-Salkha (21 Km)	33 kv
2)	Sam-Dhanana (45 Km)	33 kv
3)	Tejuva-Kuchr (17 Km)	33 kv
4)	Khuchri horizontal-parallel (21 Km)	33 kv

17. The respondents No.5, 6 and 9 to 11 while arranging to lay the powerlines underground in respect of the powerlines, the feasibility of which is not in doubt shall proceed with the work right away. However, in cases where the respondents find that there are issues relating to feasibility, the matter shall be referred to the committee with all relevant material and particulars. The committee shall assess the matter and arrive at a conclusion as to whether the underground powerline is feasible or not. Based on the report to be rendered by the committee the further action shall be taken by the respondent.

52

18. In all cases where the overhead powerlines exist as on today in the priority and potential GIB area the respondents shall take steps forthwith to install divertors pending consideration of the conversion of the overhead cables into underground powerlines. In all such cases where it is found feasible to convert the overhead cables into underground powerlines the same shall be undertaken and completed within a period of one year and till such time the divertors shall be hung from the existing powerlines.

19. Ordered accordingly.

.....CJI.  
(S. A. Bobde)

.....J.  
(A.S. Bopanna)

.....J.  
(V. Ramasubramanian)

New Delhi,  
April 19, 2021



Janajagrithi Samithi vs Uoi & Ors on 7 March, 2012

National Green Tribunal  
Janajagrithi Samithi vs Uoi & Ors on 7 March, 2012

1

BEFORE THE NATIONAL GREEN TRIBUNAL  
NEW DELHI,  
(PRINCIPAL BENCH)

APPEAL No. 10 of 2012

Janajagrithi Samiti (Regd.)  
Through its Secretary  
Shri Jayanth Kumar  
Nandikur-574138,  
Udupi District,  
Karnataka. ....

Appellant

Versus

1. Union of India, Through the Secretary,  
Ministry of Environment & Forests  
Paryavaran Bhavan, CGO Complex,  
Lodhi Road, New Delhi-110003.
2. Government of Karnataka  
Through the Secretary  
Department of Energy  
Viikas Saudha, Karnataka Government Secretariat  
Dr. Ambedkar Veedhi  
Bangalore-560001, Karnataka.
3. Karnataka Power Transmission Corporation Ltd.  
Through the Managing Director  
Kaveri Bhavan, K.G. Road,  
Bangalore-560001, Karnataka.

Counsel for Appellant:  
Shri Raj Panjwani, Senior Advocate along with  
Shri Rahul Choudhary, Advocate.

Counsel for Respondents:  
Ms. Neelam Rathore, Advocate for R-1

2

Shri Nikhil Nayyar, Advocate alongwith  
Ms. Pritha Srikumar, Advocate for R-2  
Shri Raju Ramachandran, Senior Advocate alongwith  
Shri S. Sriranga, Advocate for R-3

JUDGEMENT

SA

Janajagrithi Samithi vs Uoi & Ors on 7 March, 2012

PRESENT:

Justice A.S. Naidu (Acting Chairperson) Dr. G.K. Pandey (Expert Member)

Dated 7th March, 2012 .....

JUDGMENT BY THE BENCH:

Diversion of forest land measuring 172.53 ha for construction of 400KV Double Circuit Transmission Lines from the generation station of Udupi Power Corporation Limited at Yellur Village of Udupi District, to the receiving stations situated at Shantigram (Hassan), in favour of the Karnataka Power Transmission Corporation Ltd. Respondent No.3 herein, by the MoEF in exercise of power conferred under Section 2 of the Forest (Conversion) Act, 1980 vide order dated 17th January, 2012, is assailed in this Appeal, on the grounds enumerated in the Memorandum of Appeal.

2. The scenario of facts reveal that Udupi Power Corporation Limited was permitted to set up a Thermal Power Plant with a total installed capacity of 1,200 MW at Nandikur (Udupi). The distribution utilities in the State entered into power purchase agreement with the said company to purchase power and distribute the same in the State of Karnataka. The third Respondent has signed the bulk Power Transmission Agreement with the distribution utilities for constructing transmission lines for evacuating the power produced and supplying it to utilities. The total length of the line to connect the generating stations to the sub-station is 180.09 km. The said line passes through private lands and also through stretch of forest land. The total length of the line passing through forest, including reserve forest and deemed forest comes to 33.66 km. In other words out of the total extent of 828 ha of land, the forest land involved comes to 172.53 ha. Out of the said area the land involved in reserve forest is 88.643 ha through which the line will pass to a total length of 33.67 km.
3. Stage-1 permission for diversion of the entire forest land was granted on 17th February, 2011. Admittedly the order granting Stage-1 permission under the Forest Conservation Act, 1980 was not assailed and has attained finality. In this Appeal, the appellant seeks to assail the order dated 17th January, 2012 granting Stage-2 permission subject to fulfilment of conditions laid down in the said order, a copy of which is filed as Annexure A/1.
4. Environment Clearance (EC) for establishing the Power Plant was granted by the MoEF way back in the year 1997. Of course, it appears that some modification, addition and alternations, were made by the MoEF in September, 2011. The order granting EC was assailed before the then National Environment Appellant Authority (NEAA) by filing an Appeal. The Appeal was dismissed by the Authority and the said order has been assailed before Hon'ble Karnataka High Court in WPC No.21439 of 2005. Thus, this Appeal is confined only to the Forest Clearance (FC).
5. In Course of hearing Learned Counsel for the appellant raised several allegations with regard to inaction as well as over action committed by the authorities with regard to granting EC and Forest

55

Clearance (FC) to the project in question. It was, however, fairly submitted that the Appellant is not against the installation of the project but then is aggrieved by the decision granting FC, thereby permitting diversion of 172.53 ha of forest land and felling of 18,652 trees. Relying upon the decision of the Supreme Court in the case of T.N. Godavarman Vs Union of India WP (c) 202/1995, Mr. Panjwani submitted that it should be always borne in mind that it is important for the country to protect and preserve natural forest and leave it untouched.

6. According to Mr. Panjwani the Western Ghats are internationally recognised for its rich biodiversity and is considered to be one of the two biodiversity hot spot in the country. The Western Ghats are prominent land mark of Peninsular India, running parallel to the West Coast. The same is the home of animals like tiger, leopard, bear etc., apart from some rare relic species discovered in the Western Ghats. Therefore, before granting Stage-2 permission, the MoEF should have considered the irreversible adverse impact on ecology which is going to be caused by felling of trees.

7. A detailed counter reply has been filed by Respondent No.3. In course of hearing of the petition filed for granting interim protection, Learned Senior Counsel for both the parties in view of the urgency agreed for the final disposal of the Appeal.

8. Mr. Ramchandran, Learned Senior Counsel, appeared for Respondent No.3 repudiated the submissions made by the Appellant and submitted that the project being of national importance, the MoEF on the request of the State of Karnataka examined all the pros and cons and on being satisfied that diversion of the forest land would not considerably affect the environment, on the other hand would be very much necessary for functioning of the Power Plant, and granted FC. Mr. Ramchandran further submitted that the Appellant having not assailed the Stage-1 permission, are estopped from assailing the Stage-2 FC as the latter one is confined only to laying down conditions/restriction for the use of the forest land non-forest activities whereas the earlier one is the decision on principle.

9. Heard Learned Counsel for the parties at length, perused the pleadings as well as the documents attached meticulously and considered the submissions raised before us diligently. The only question which needs to be considered in this Appeal is to determine the potential impact of de-reservation of forest land for the purpose of the project and the impact thereof on wild life and biodiversity in the perspective of the Forest (Conservation) Act, 1980.

10. No doubt the Power Project is of national importance. EC was granted to the said project way back in year 1997. The doctrine of sustainable development has been accepted as an answer to balance on one hand the various developmental activities aimed at ensuring better living, and improving social and economic conditions of human beings. On the other hand ensuring that the consequence of development do not exceed the carrying capacity of the ecosystem but are compatible with the need to protect and improve the environment is also equally important. In the case of Tirupur Dying Factory Owners Association vs. Noyyal River Ayacutdars Protection Association (2009) SCC 737 the Supreme court observed as follows:

56

"26. The concept of 'sustainable development' has been explained that it covers the development that meets the needs of the person without compromising the ability of the future generation to meet their own needs. It means the development, that can take place and which can be sustained by nature/ecology with or without mitigation. Therefore, in such matters, the required standard is that the risk of harm to the environment or to human health is to be decided in public interest, according to a 'reasonable person's test. The development of the industries, irrigation resources and power projects are necessary to improve employment opportunities and generation of revenue, therefore, cannot be ignored. In such eventuality, a balance has to be struck for the reason that if the activity is allowed to go on, there may be irreparable damage to the environment and there may be irreparable damage to the economic interest. A similar view has been reiterated by this Court in T.N. Godavarman Thirumulpad (104) Vs Union of India and M.C.

Mehta Vs Union of India".

Analysis of the submissions, in the touch stone of the principles laid down in the case of Tirupur Dying Factory (Supra) we find, that, out of the major portion of the power line passes through waste land and land of relatively low biodiversity value whereas, certain sections of the line crosses through areas of rich wild life and biodiversity and are of greater ecological value. Out of the said lands, a portion measuring about 8.3 km. long, as would be evident from the map produced before us, between the proposed tower locations AP 100 to AP 107 passes through Vallur Reserve forest. The said section of line crosses through high biodiversity ever green forests and shola - grass lands, which harbours a variety of endangered wild life. Drawing overhead lines of the proposed 400 KVA transmission line over the said section may cause significant adverse impacts not only on wild life and biodiversity but also would cause restrictions in habitat connectivity and corridor values of the forest.

Being confronted by the aforesaid facts, Mr. Ramchandran Learned Senior Counsel, as per the instruction of his clients, fairly undertook not to cut any trees nor destroy the forest in the aforesaid 8.3 km stretch i.e tower line between AP 100 to AP 107, situated in the Reserve Forest.

11. We are conscious of the fact that the project in question has great economic importance not only for the State of Karnataka but also for the entire country, and that there is a sense of urgency in view of the shortage of power. Considering all these facts, and in order to meet the ends of justice, applying the principles of sustainable development, we dispose of this appeal with the following directions:

I) That Respondent No.3 shall not fell any trees nor destroy the biodiversity in the stretch of Reserve Forest land measuring 8.3 km. i.e. AP 100 to AP 107 (Annexure-R1).

II) It shall fell minimum number of trees in rest of the forest lands for which clearance has been granted and shall adopt the procedure of trimming the branches

57

Janajagrithi Samithi vs Uoi & Ors on 7 March, 2012

than uprooting the trees, as and when possible.

III) It shall ensure, maximum height of the towers in the forest area which should be 70 mts or above, following the contour of the terrain.

IV) Below the conductor, width clearance of 3 mts would be permitted for taking the tension stringing equipment. The trees on such strips would have to be felled as and where required but after stringing work is completed, the natural regeneration of vegetation will be allowed to come up. Felling / pollarding / pruning of trees will be done with the permission of the local forest officer whenever necessary to maintain the electrical clearance.

V) Steps shall be taken to promote and nourish the undergrowth and for afforestation with endemic species.

The aforesaid conditions are in addition to the conditions stipulated in the order dated 17th January, 2012 granting Stage-2 permission for diversion of the forest lands and should be sacrosanctly followed and we direct accordingly.

12. In course of hearing it was brought to our notice that the guidelines for laying transmission lines through forest areas were formed by the MoEF long back. The conditions stipulated therein had become obsolete by afflux of time. It appears that a fresh guidelines for laying transmission line, though formulated has not been notified as yet, consequently no effective conditions can be imposed by the authorities while granting clearance for forest lands. To avoid such difficulties we call upon the MoEF to take steps and notify the detailed fresh guidelines for laying transmission line through forest area, incorporating necessary changes to mitigate the difficulties which arise during granting forest clearance, as expeditiously as possible preferably within a period of two months from the date of communication of this order.

13. With the aforesaid direction and observations the appeal stands disposed of.

Parties would bear their own costs.

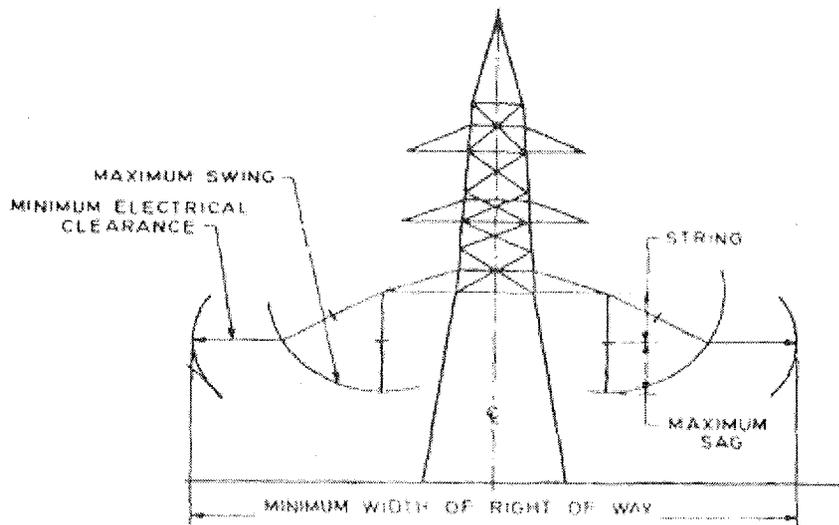
Dr. G.K Pandey  
Expert Member

Justice A.S. Naidu  
Acting Chairperson

Durga Malhotra  
7th March, 2012

Government order for protection and cultivation". According to *Stroud's Judicial Dictionary* (5th Edn.), Vol. 2, at p. 1014 "forest" means "a place privileged by royal authority or by prescription for the peaccable abiding and nourishment of the beasts or birds of the forest, for resort of the King; a subject may hold a forest by grant from the Crown; by the grant of a forest in a man's own ground, not only the privilege but the land itself passes; within the bounds and within the regard". *Black's Law Dictionary* (6th Edn.) defines "forest" at p. 649 as "a tract of land covered with trees and one usually of considerable extent". *Chambers Twentieth Century Dictionary* defines the expression "forest" at p. 415 as "a large uncultivated tract of land covered with trees and underwood: woody ground and rude pasture".

121. It would thus be seen that "forest" bears extended meaning of a tract of land covered with trees, shrubs, vegetation and undergrowth intermingled with trees and pastures, be it of natural growth or man-made forestation. The FC Act, as amended by the 1988 Act was enacted to check deforestation and conservation of forest. Sub-section (2) with a non obstante clause on deforestation of forests or use of forest land for non-forest purposes; regulates the forest and provides that notwithstanding any other law for the time being in force in the State, no State Government or other authority shall make, except with prior approval of the Central Government, (i) any order directing that any reserved forest or any portion thereof shall cease to be a reserved forest, (ii) that any forest land or portion thereof may be used for any non-forest purpose; (iii) that any forest land or any portion thereof may be assigned, by way of lease or otherwise, to any private person or to any authority or corporation, agency or any other organisation, not owned, managed or controlled by the Government, (iv) that any forest land or any portion thereof may be cleared or trees which have grown natural in the land or portion for the purpose of using it for reforestation. Clauses (iii) and (iv) were added by Amendment Act 69 of 1988 w.e.f. 19-12-1988. The explanation thereto of non-forest purpose was defined to mean the breaking up or clearing of any forest land or portion thereof for the cultivation of ... but does not include any work relating or ancillary to conservation, development and management of forest and wildlife, namely, establishment of checkpoints, fire lines ... or other like purposes. Section 2, therefore, prohibits dereservation of the forest or use of any forest land for any non-forest purpose or assignment by way of lease or otherwise of any portion of land to any private person other than Government-controlled or owned, organised or managed by the State Government agency; it prohibits clearance of trees or natural growth in the forest land or any portion thereof to use it for reforestation, except for preservation. Breaking up or clearance of forest land or a portion thereof is amplified to be of non-forest purpose. The object of the FC Act is to prevent any further deforestation which causes ecological imbalance and leads to environmental degradation. It is, therefore, necessary for the State Government to obtain prior permission of the Central Government for (1) dereservation of forest; and (2) the use of forest land for non-forest purpose. The prior approval of the Central



4.3 As per current practice, the width of RoW / corridor requirement for the transmission lines of different voltage levels are as follows.

Table -1

Voltage Level	Corridor Requirement (m)
66kV AC	18
110kV AC	22
132kV AC	27
220kV/230 kV AC	35
400kV AC Single Circuit (Horizontal configuration)	52
400kV AC Double Circuit / 400kV S/C (Vertical / delta configuration)	46
765kV AC Single Circuit (Horizontal configuration)	85
765kV AC Single Circuit (Delta / Vertical configuration)	64
765kV AC Double Circuit	67
1200kV AC	89
+/- 500kV HVDC	52
+/- 800kV HVDC	69

The current practice in India for RoW width / corridor requirement of transmission lines for various voltage level is more or less similar to worldwide practice.

60

4.4 Ministry of Environment & Forest (MOEF) guidelines also follow the above RoW width for transmission lines traversing through forest area. The various other provisions in MoEF guidelines relating to transmission lines are enclosed at **Appendix-XII**.

4.5 RoW requirement for transmission line depends on following factors:

- a) Configuration of Tower [S/C (Horizontal / Delta / Vertical) or D/C (Vertical)]
- b) Span length
- c) Sag of Conductor, which depends on type of conductor used, maximum operating temperature of the conductor and Span length
- d) Wind velocity and angle of swing
- e) Projection of Cross arm or distance of conductor attachment point from centre line of tower, which depends on wind velocity, swing angle, metal clearance, cage width or tower body width at bottom conductor level
- f) Minimum horizontal & Vertical safety clearance as per CEA (Measures relating to safety and Electric supply) Regulations, 2010.
- g) Configuration of insulators [I / V / Y configuration] and Length of insulator string
- h) Electric field limits below bottom most conductor and at edge of RoW

4.6 With the increasing operating voltage, the concern for the ground level electric field & magnetic field effects of overhead transmission lines have increased. The electric fields are especially important because their effects on human beings and animals has been a matter of concern. The minimum ground clearance for transmission lines is dependent upon interference limits including Electric Field, Audible Noise (AN), Radio Interference (RI), Television Interference (TVI) etc. and become ruling condition specifically for transmission lines of Voltage levels above 400 kV. International Commission on Non-ionizing Radiation Protection (ICNIRP) guidelines are generally being followed for the Electric & Magnetic field effect / exposure within the Right of Way (RoW). In India, Electric field limits below bottom most conductor and at the edge of the RoW at a height of about 1.8m above ground level is 10kV/m and 5kV/m respectively.

4.7 A matrix has been prepared for RoW under following assumptions:

- (a) Conventional ACSR conductor used at different voltage levels
- (b) Different design spans for normal route, forest areas and urban areas / approach section near the substation
- (c) Different insulator string configuration (I, V, Y type Insulator string configuration) for suspension type towers
- (d) Wind speed corresponding to Wind Zone -4, swing angle 35 degree and safe horizontal & vertical clearance as per CEA (Measures relating to safety and Electric supply) Regulations, 2010.

4.8 The RoW matrix provides values for following two conditions.

- Specifying RoW for different voltage level for calculation of compensation
  - Specifying the safety clearance requirement including swing of conductor and giving opportunity for optimizing the design of tower for further reduction in RoW requirement.
- 4.9 The V-type / Y-type / I-type insulator string configuration are being used in suspension towers. It was reported that V-type insulator string configuration of insulators has some maintenance issues. The use of V-type insulator strings is not very common in EHV AC transmission lines and hence may be restricted to areas with constraints. But the V/Y type insulator string configuration is more commonly used in HVDC lines to meet high creepage distance requirement.
- 4.10 The detailed calculation for RoW requirement for various voltage levels in different areas is given at **Appendix-XIII (Table -2)** and is summarized in **Table -3**.
- 4.11 The **Table-3 (Detailed)** provides RoW requirement for both insulator configurations (I/ V type insulator configuration) for suspension towers as well as for tension towers for different voltage levels and span lengths. The maximum of three values i.e. I-type & V-type insulator string configuration (for suspension towers) and tension insulator strings (for tension towers) has been considered as the RoW in normal route without constraint. Similarly, the maximum of two values i.e V-type insulator string configuration (for suspension towers) and tension insulator strings (for tension towers) has been considered as the RoW in forest areas and urban / populated areas / approach section near the substation. **The maximum horizontal displacement of the conductor due to its swing for different voltage levels and for different span, beyond the conductor attachment point on either side of the tower, has been given as "H" in the Table-2. The maximum horizontal distance of bottom conductor attachment point from centre of tower is also given under column (7) in the Table-3 (Detailed) for different voltage levels.** This dimension can be optimized to reduce the overall ROW. Similarly, the base width of the tower can be optimized.
- 4.12 The individual span along the route of the transmission line is generally different from design span. It is not desirable to calculate RoW requirement based on individual span for the purpose of compensation payment as it will be extremely difficult and practically impossible to calculate compensation on case to case basis. The process will be very complex, non-uniform across the country and it may lead to increase in legal disputes. In view of above, **normally the Compensation in different areas shall be paid for RoW as given at Table-3 (Summarized) / under column (10) in the Table-3 (Detailed) for different voltage levels.**
- Further reduction in RoW requirement at various voltage levels with the advancement of technology (maintaining adequate safety clearances) vis-à-vis as given in this report would

62

be allowed subject to the approval of CEA. In such cases, compensation for the reduced RoW requirement would be applicable.

4.13 Similarly, the base width of the tower can be optimized, and the **compensation shall be paid for actual base width of tower**. The tower base width/area will include the area bounded by concrete (as visible from outside) of the four legs of the tower. The indicative base width of tower is given under column (12) in the **Table-3 (Detailed)** for different voltage levels.

4.14 The constraint in getting the required RoW for construction of overhead transmission line is a matter of serious concern for all utilities. Reduction in RoW is essential, particularly in urban areas / populated areas and forest areas. Adoption of various technical measures is required, particularly in forest areas, and urban / populated areas, as availability of transmission corridor has become extremely difficult. Utilities are forced to consider various technological options for optimization and optimum utilisation of RoW. Various technological options available for optimisation and optimum utilization of RoW including urban / forest areas are as follows:

- a) Reduction in Span length
- b) Reduction in foot print of tower base [i.e use of Steel pole structure, Narrow based lattice structure]
- c) Use of V- type insulator strings for suspension towers and use of tension towers
- d) Use of multi-circuit and multi-circuit & multi-voltage towers
- e) Use of lattice / Steel pole structure with one side stringing
- f) Use of XLPE cable or Gas Insulated Transmission Line (GITL), GITL shall be exclusively used for high power transmission and where multi cable per phase is required.
- g) Use of compact towers with insulated cross arm
- h) Use of covered conductors upto 66kV level
- i) Upgrading of the existing line to higher voltage AC / converting to HVDC or uprating with high Ampacity conductor [High Temperature (HT) / High Temperature Low Sag (HTLS)] in the existing corridor
- j) Use of multi-circuit / multi-voltage with raised tower height to save trees (without cutting of trees) maintaining required safety clearance over the trees [e.g. multi-circuit & multi voltage tower used in Jaldapara Reserve forest area executed by PGCIL]
- k) Exploring the possibility of use of Voltage Source Converter (VSC) based HVDC transmission on overhead line or underground cable

5. **Recommendations for laying of transmission lines 66 kV and above in urban/populated area/ forest area in the country**

5.1. *To review/analyse existing procedures for compensation and suggest possible modification.*

- a) Ministry of Power, Govt. of India vide its letter dated 15-10-2015, has issued guidelines for determining the compensation payable towards "damages" as stipulated in Indian Telegraphic Act, in addition to the compensation towards normal crop and tree damages. This amount will be payable for transmission lines for 66kV and above and not for sub-transmission and distribution lines below 66kV voltage level. The recommendations regarding compensation values in the guidelines are given below:

(i) Compensation @85% of land value as determined by District Magistrate or any other authority based on circle rate / Guideline value / Stamp Act rates for tower base area (between four legs) impacted severely due to installation of tower / pylon structure;

(ii) Compensation towards diminution of land value in the width of RoW corridor due to laying of transmission line and imposing certain restriction would be decided by the states as per categorization / type of land in different places of states, subject to a maximum of 15% of land value as determined based on circle rate / Guideline value / stamp Act rates;

**The above recommendations are yet to be adopted by most of the States**

- b) Additional compensation in form of Non-Usability allowance up to 15% of the land value for the width of RoW corridor would be applicable in the notified urban areas. No construction activity of any kind would be permitted under the RoW of the transmission line.
- c) For the purpose of this guidelines, the definition of Urban area is as below:
- All places with a municipality, corporation, cantonment board or notified town area committee. etc
- d) The payment towards compensation for RoW in urban areas would be onetime/upfront. In case of any other arrangement for payment of compensation, the same needs to be notified by individual states.

64 5.2. *To suggest procedure to assess eligibility and subsequent compensation for structure/hut/bore well etc. including measure to ensure their shifting/removal after payment of Compensation.*

- (i) The transmission line routing to be done to avoid any structure/hut/borewell etc. Necessary safety clearances needs to be maintained as per CEA (Measures relating to Safety and Electric Supply) in case of unavoidable circumstances.

5.3. *To explore possibility of enlarging scope of survey to include land scheduling for complete ROW width including name of land owners to facilitate payment of diminution of land value compensation to all eligible persons.*

- (i) The Committee suggested to include the name of landowners along the RoW of the transmission line after carrying out the check survey at the time of execution.

5.4. *To suggest strategy/mechanism for ensuring compliance/implementation by State Govt.*

- (i) The respective state government are advised to adopt the guidelines on RoW compensation.

5.5. *To explore possible methodology for direct online payment, say through Jan Dhan Yojana.*

- (i) Committee suggested payment of compensation through various digital modes of payment such as Aadhar enabled payment system (AEPS), Unified Payment Interface (UPI) etc., where feasible.

5.6. *To explore the technological options for reducing the tower footing/base, area/corridor requirements &*

5.7. *To explore possibility of reduction of transmission corridor width/selective restricted use of corridor in urban zones by using technical advances/ raising heights of towers/ adequate safety measures/revisiting clearance requirements especially for 220 kV and 132 kV levels.*

- (i) The Route of transmission line (66kV and above voltage level) can be divided into three (3) broad sections / categories.

- Normal Route of the line without constraint
- Route of the line through forest area
- Route of the line through Urban areas/Populated area/approach section near substations.

- (ii) The design span at different voltage levels, depending on the terrain / areas (specified above) through which the transmission line traverses, shall be as follows:

65

Table-4

Voltage level	Design Span (m)		
	Normal Route without constraint	Forest area	Urban areas / Populated area / approach section near substation
765kV & 400kV	400	300	250
220kV / 230 kV	350	250	200
132kV	320	200	150
110 kV	305	200	150
66kV	250	150	100

- (iii) In case of EHV AC transmission lines, the use of V-type insulator string configuration (on suspension towers) shall be restricted to areas with constraints. It is recommended to use suspension towers with V- type insulator string and / or tension towers in urban and forest area to reduce RoW.
- (iv) The RoW to be normally considered for compensation, in different areas for transmission lines at different voltage levels, is given at **Table 3 (Summarized)** and under column (10) in the **Table-3 (Detailed)**. **The conductor sag at maximum operating temperature is independent of wind zones and while calculating RoW width requirement, a reasonable swing of conductor (35 degree) has been considered. Therefore, the indicated RoW width is applicable for all wind zones.**
- Further reduction in RoW requirement at various voltage levels with the advancement of technology (maintaining adequate safety clearances) vis-à-vis as given in this report would be allowed subject to the approval of CEA. In such cases, compensation for the reduced RoW requirement would be applicable.
- (v) The base width of the tower can be optimized, and **the compensation shall be paid for actual base width of tower.** The tower base width/area will include the area bounded by concrete (as visible from outside) of the four legs of the tower. The indicative base width of tower is given under column (12) in the **Table-3 (Detailed)** for different voltage levels.
- (vi) For  $\pm 500$  kV HVDC,  $\pm 800$  kV HVDC and 1200 kV HVAC lines, the reduction in RoW ( 52 m , 69 m and 89 m respectively) **is not possible as it violates the**

66

minimum electrical field requirement at the edge of RoW (i.e 5kV/m at 1.8m height)

- (vii) CEA (Technical Standard for Construction of Electric Plants and Electric Lines) Regulations and CEA (Measures relating to safety and Electric supply) Regulations, 2010, which are under revision, shall include RoW requirement at different voltage levels and shall mandate use of steel pole structure / multi-circuit / multi-circuit & multi-voltage towers in urban areas and in approach section near substation for effective use of available corridor.
- (viii) The transmission licensees have the flexibility to use appropriate technology options such as Use of steel pole structure, narrow based lattice towers, multi-circuit & multi-voltage towers, lattice / steel pole structure with one side stringing, XLPE cable or GITL, compact towers with insulated cross arm, , multi-circuit / multi-voltage with raised tower height, and VSC based HVDC transmission on overhead line or underground cable etc. depending upon the constraints encountered in availing RoW in different areas.
- (ix) The Ministry of Urban Development to take up the issue of providing a dedicated corridor for the interstate and intra-state transmission lines and space for establishment of substations in all green field and brownfield projects at the planning stage itself with State Governments / State Urban development authorities. In this regard, State Governments / State Urban development authorities may consult with State Transmission Utility / CTU.

## 6. Recommendations for RoW requirement for laying of 33 kV transmission line.

- 6.1. The RoW width for (a) 33kV overhead transmission lines for different types of structures, commonly used ACSR conductor (with maximum operating temperature of 85 degree) & normal design span and (b) for 33kV lines with covered conductor mounted on pole type structure shall be as indicated below.

### 33 kV RoW requirement for various configuration

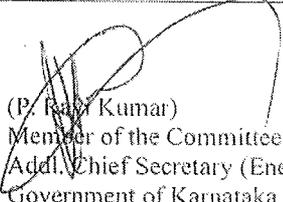
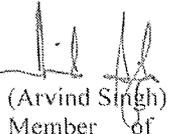
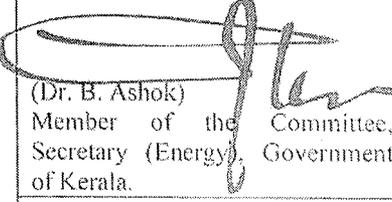
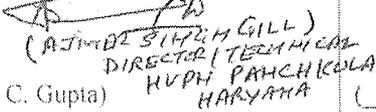
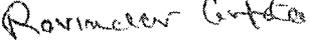
Conductor	Structure Type	Design Span (in m)	String Type	RoW recommended (in m)
Commonly used ACSR Bare conductor	Lattice type/ Steel Steel pole	250	"I" String/Suspension	15 meter
			Tension	
		150	"I" String/Suspension	12 meter

			Tension	
	(Concrete Pole/Rail pole/H pole/ Single steel pole)	100	Pin Insulator	9 meter
		60	Pin Insulator	8 meter
Covered	Pole	100		6 meter

- 6.2. The CEA Safety Regulations, 2010 are under revision, wherein it has been proposed that in case of transmission lines of 33 kV and below voltage level passing through National Parks, Wildlife Sanctuaries and Wildlife Corridors, underground cables or overhead covered conductors shall only be used to prevent accidental death of animals due to electrocution. The RoW width of 6m recommended for 33kV transmission lines with covered conductors mounted on Pole type structure would be further looked into, if required, as and when amendments in Safety regulations, 2010 will come into effect.
- 6.3. The possibility of reduction in minimum safe horizontal clearance of 2m, and reduction in the RoW width for 33kV lines with covered conductors mounted on Pole type structure would be deliberated further while bringing out the revision of (Measures relating to Safety and Electric Supply) Regulations,2010.

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IN WITNESS WHEREOF, the undersigned being duly authorized thereto have signed this Report of the Committee for payment of compensation in regard to Right of Way (RoW) for transmission lines in urban areas.

 (Sanjiv N Sahai) Chairman of the Committee, Addl Secretary, Ministry of Power	 (Ghanshyam Prasad) Member of the Committee, Chief Engineer (Trans), M/o Power	 (PS Mhaske) Member of the Committee, Chairperson, CEA.
 (P. Ravi Kumar) Member of the Committee, Addl. Chief Secretary (Energy), Government of Karnataka.	 (Alok Kumar) Member of the Committee, Principal Secretary (Energy), Government of UP.	 (Arvind Singh) Member of the Committee, Principal Secretary (Energy), Govt. of Maharashtra.
 (Dr. B. Ashok) Member of the Committee, Secretary (Energy), Government of Kerala.	 (T. C. Gupta) Member of the Committee, Addl Chief Secretary (Power), Govt. of Haryana.	 Member of the Committee, CMD, Power Grid Corporation of India Limited
 (Ravinder Gupta) Convener & Member Secretary, Chief Engineer (PSPA-I), CEA		

68

## Appendix-I

No. 34/2016-Trans  
Government of India  
Ministry of Power  
Shram Shakti Bhawan, Rafi Marg, New Delhi-110001

Dated: 11<sup>th</sup> August, 2016OFFICE MEMORANDUM

Subject - Constitution of the Committee for finalization of compensation in regard to Right of Way (RoW) for transmission lines in urban areas

The undersigned is directed to inform that during a review meeting of critical transmission lines taken by Secretary, (Power), Govt. of India on 19.7.2016, it has *inter alia* been decided to constitute a Committee under the chairmanship of Ms. Shalini Prasad, Additional Secretary, Ministry of Power to analyse the issues relating to RoW for laying of transmission lines in the urban areas of the country and to suggest a methodology for payment of compensation on this account.

2. Accordingly, a Committee is hereby constituted with the following composition -

1. Ms. Shalini Prasad, Additional Secretary, Ministry of Power - Chairperson
2. Smt. Jyoti Arora, Joint Secretary, Ministry of Power
3. Chairperson/ Member (PS), Central Electricity Authority
4. Principal Secretary/ Secretary (Energy), Govt. of Karnataka
5. Principal Secretary/ Secretary (Energy), Govt. of Kerala
6. Principal Secretary/ Secretary (Energy), Govt. of Maharashtra
7. Principal Secretary/ Secretary (Energy), Govt. of UP
8. Principal Secretary/ Secretary (Energy), Govt. of Haryana
9. CMD, PGCIL
10. Chief Engineer, PSPA-I, CEA - Convener & Member Secretary

3. Committee may invite representatives from various power utilities in its meetings, as and when deemed necessary.

4. Terms of Reference (ToR) of the committee include:

1. To review/ analyse existing procedures for compensation and suggest possible modification to address following issues:
  - a) Possible changes in assessment process
  - b) Procedure for timely release of compensation payment
  - c) Measures to stop payment to ineligible persons.
  - d) Possibilities of releasing certain percentage in advance to reduce resistance
2. To suggest procedure to assess eligibility and subsequent compensation for structure/ hut/ bore well etc. including measure to ensure their shifting/ removal after payment of compensation.

Contd.

69

3. To explore possibility of enlarging scope of survey to include land scheduling for complete RoW width including name of land owners to facilitate payment of diminution of land value compensation to all eligible persons
  4. To suggest strategy/ mechanism for ensuring compliance/ implementation by State Govt
  5. To explore possible methodology for direct online payment, say, through Jan Dhan Yojna
  6. To explore the technological options for reducing the tower footing/ base area/ corrdor requirements.
  7. To explore possibility of reduction of transmission corridor width/ selective restricted use of corridor in urban zones by using technical advances/ raising heights of towers/ adequate safety measures/ revisiting clearance requirements especially for 220 kV and 132 kV levels
5. The Committee shall submit the report within two months.

(Ghanshyam Prasad)  
Director (Trans)  
Tele. 011- 2371 6674

To

1. Chairperson/ Member (PS) Central Electricity Authority
2. Principal Secretary/ Secretary (Energy) Govt. of Karnataka
3. Principal Secretary/ Secretary (Energy) Govt. of Kerala
4. Principal Secretary/ Secretary (Energy) Govt. of Maharashtra
5. Principal Secretary/ Secretary (Energy) Govt. of UP
6. Principal Secretary/ Secretary (Energy) Govt. of Haryana
7. CMD PGCIL
8. Chief Engineer, PSPA-I, CEA

Copy to PPS to Secretary(Power), 55 BPP, AS (SP)/ JS(Trans)/ Director (Trans)/ US (Trans), Ministry of Power

70

## Appendix-II

**Minutes of the meeting taken by Ms. Shalini Prasad, Additional Secretary, Ministry of Power on 30.08.2016 regarding finalization of compensation in regard to Right of Ways (RoW) for transmission lines in urban areas.**

List of participant is placed at Annex-I.

2. Additional Secretary, MoP, welcomed the participants and informed that the Right of Way compensation issue has become very critical and completion of many important transmission lines is held up due to severe resistance and demand of enhanced compensation.
3. Joint Secretary(Trans), MoP informed that the guidelines issued vide MoP letter dated 15.10.2015 is a stepping stone towards resolving complex RoW compensation issue and emphasized for its adoption by the States. She also enquired about the steps taken by Karnataka for resolving the compensation issue relating to many PGCIL lines held up in and around Bangalore. She also enquired about the initiative taken by Kerala for reduction/optimization of RoW width through a design based bid for 400 kV lines which has shown promising result and could achieve reduction in width of RoW by 10 m approx.
4. Chief Engineer (PSPA-I), CEA informed that various technical options viz. narrow based towers, multi circuit towers, mono pole towers with only one side stringing, XLPE cables, and gas insulated lines along with other technological interventions are being explored for optimizing RoW. Raising height of towers by having additional extension may also be considered. However, heavy financial implications associated with such technologies needs to be considered for project's economic viability.
5. ED, PGCIL explained the measures taken by POWERGRID for resolving the issue through technical measures like installing pole type, multi-circuit towers in and around major towns. PGCIL also made a brief presentation on RoW compensation issues vis-à-vis legal requirements and actual ground conditions.
6. Additional Chief Secretary, Karnataka and CMD, MAHATRANSCO informed that with the existing 85% and 15% provision, ROW clearance in metro cities shall not be possible as the land cost in metros, particularly in Bangalore, Mumbai and Pune are phenomenally high. They suggested CEA to come out with the design which reduces the restriction for building in the Right of Way. After deliberation, it was agreed that CEA will review the safety guidelines issued in 2010 to further optimize the restriction on account of electrical clearance.
7. CMD MAHATRANSCO also stated that since diminution of land value in case of rural areas is lesser as compared to urban areas, possibility for different compensation level for corridors may also be explored.
8. Director (Trans), Kerala informed that they are implementing an innovative technology by using special design of towers and High performance conductors such as High Temperature Low Sag (HTLS) conductors that will not only reduce the footprint of the towers but will also reduce the Right of Way requirement. She further stated that the prototype test of such tower is lined up in approaching months. Further, she expressed her view that for high voltage line in urban area we may consider reduced RoW through reduced span or by using Monopole towers. She also



suggested that a comprehensive analysis may be carried out for looking into viability of upgrading existing line by various technological initiatives.

9. Superintending Engineer (SE), HVPN informed that around Panchkula they have constructed special Multi-circuit towers of 66 kV which have resulted in tremendous saving of ROW as well as provision for future expansion. They also informed that they are going to replicate the scheme in Yamuna Nagar district and requested committee to visit Panchkula for on the spot review/assessment.

10. PGCIL informed that they have already taken a policy decision to use Multi-circuit tower for all incoming and outgoing lines up to 2 km to reduce ROW requirement and impact on agriculture land around the substation.

11. Additional Secretary, MOP desired that an advisory regarding reserving a dedicated corridor for transmission line be issued to the town planners for all upcoming/planned new cities & towns. She also enquired about the criteria adopted for locating EHV substations around major towns and emphasized that as far as possible such substations be located away from urban/semi-urban areas.

12. After detailed deliberations on various issues, following decisions were taken:

- i) CEA shall explore the different technical option available for further optimizing the Right of Way width, Safety clearances such as:
  - a) New compact tower design.
  - b) Possibility of including caging of conductor in the existing/ new tower to reduce swing of conductor.
  - c) Feasibility of underground cable laying for EHV lines.
  - d) Feasibility of Gas insulated lines.

It was also decided that CEA shall give a presentation on various technical options available, in the next meeting of the Committee.

- ii) The other Ministries/Departments which deal with the different type of linear utilities like Urban Development, Railways, and Irrigation etc. may be asked to explore possibilities of including margin/space for transmission/ distribution line while planning such linear projects.
- iii) Joint Secretary, MoP asked all member states to provide brief write up on possible solutions/ measures on compensation issue to CE, CEA and ED, PGCIL.
- iv) Decision regarding inviting representative from Ministry of Urban Development, Railway, and Road etc. shall be taken at appropriate time after reviewing the proposed technical measures.

13. Meeting ended with a vote of thanks to chair.

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72

**Annex-I**  
**F.No. 3/4/2016-Trans**

Date/time of the meeting: 30.08.2016 at 11.00 am  
Venue: Ministry of Power, NPMC Room  
Shram Shakti Bhawan, New Delhi-110001

Sub: First meeting of the committee for finalization of compensation in regard to Right of Way (RoW) for transmission line falling in urban areas.

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**List of Participants**

**Ministry of Power**

1. Ms. Shalini Prasad, Additional Secretary - In the chair
2. Smt. Jyoti Arora, Joint Secretary (Trans)

**Central Electricity Authority (CEA)**

3. Shri K.K. Arya, Chief Engineer (PSPA-I)  
Phone: 26102045/Email: kkarya\_2001@rediffmail.com
4. Shri Awdhesh Kumar Yadav, Director  
Phone: 26732318/Email: awd.cea@gmail.com

**Power Grid Corporation of India Limited (PGCIL)**

5. Shri Atul Trivedi, ED  
Mobile: 9873549029/Email: atul.trivedi@powergridindia.com
6. Dr. R.K. Srivastava, AGM (ESMD)  
Mobile: 9910378134/Email: rks@powergridindia.com

**STATE SECTOR**

**Govt. of Karnataka, Bengaluru**

7. Shri P. Ravi Kumar, Addl. Chief Secretary (Energy)  
Phone: 080-22252373/Mobile: 09448124242  
Email: prs-energy@karnataka.gov.in
8. Shri A.K. Tiwari, Resident Commissioner  
Mobile: 9868393900/Email: rckarnatakanewdelhi@gmail.com

**Govt. of Maharashtra/MAHATRANSCO**

9. Shri Rajeev Kumar, CMD  
Phone: 022-26591253/26595000/Fax: 022-26598595/Mob:09769446924  
Email: md@mahatransco.in
10. Shri Chavan R.D., Director (Projects)  
Mobile: 09769006280/Email: dirprj@mahatransco.in

**Government of Uttar Pradesh/UPPTCL, Lucknow**

11. Shri Ravi Prakash Dubey, CE (TW)  
Mobile: 09412749801/Email: director\_project@upptcl.org,cetw@upptcl.org
12. Shri Yatendra Kumar, SE

**Government of Kerala**

13. Smt. VijayaKumari P., Director (Transmission)  
Mobile: 09446008444/Email: mtkseb@ksebnet.com

**Government of Haryana/HVPNL**

14. Shri Kuldeep Singh, SE/TS Panchkula  
Mobile: 09316369271/Email: setshvnpnkl@gmail.com

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73

**Minutes of the meeting taken by Chief Engineer (PSP&PA-I), CEA on  
23.09.2016 to explore the different technical options available for  
optimizing the Right of Way width for transmission lines**

List of participants is enclosed at **Annexure-I**.

Chief Engineer (PSP&PA-I) welcomed the participants and informed that a Committee that has been constituted under chairmanship of Ms. Shalini Prasad, Additional Secretary, Ministry of Power (MoP) regarding finalization of compensation in regard to Right of Way (RoW) for transmission line in Urban areas. In the first meeting of the Committee held on 30.08.2016, it was inter-alia decided that CEA shall explore different technical options available for further optimizing the Right of Way width, Safety clearances such as:

- a) New compact tower design.
  - b) Possibility of including caging of conductor in the existing/ new tower to reduce swing of conductor.
  - c) Feasibility of underground cable laying for EHV lines.
  - d) Feasibility of Gas insulated lines etc.
2. Director (PSP&PA-I) stated that the relevant Terms of Reference of the Committee, that needs to be deliberated are:
- (i) To explore the technological options for reducing the tower footing /base area/ corridor requirements
  - (ii) To explore possibilities of reduction of transmission corridor width/selective restricted use of corridor in urban zones by using technical advances /raising heights of towers/adequate safety measures/revisiting clearance requirements especially for 220 kV and 132 kV levels.

He requested all the transmission licensees to share their suggestions based on their field experience.

3. Chief Engineer, PSETD, CEA stated that the developers have the flexibility to use appropriate technology such as special tower design and configuration, HTLS Conductors, varied span length etc depending upon the constraints encountered by them in availing RoW in different areas. However, in order to optimize the area for which compensation needs to be paid by the developer, there is a need to recalculate the RoW width for different voltage lines. He further stated that possibility of reduction in RoW should be explored based on certain logical considerations like average design span, type of conductor, swing angle etc. meeting electrostatic field and safety clearance requirement. Once the RoW corridor width is generalized, further optimization of ROW by reduction of span length and use of tension towers etc., may be considered for forest and urban areas.

74

The reduction in RoW on case to case basis will be difficult to implement.

4. Director (EI), CEA stated that first we need to identify the factors that determines the width of RoW and then explore the technical options that could be used for optimizing/ minimizing each factor to achieve overall reduction in the RoW requirement. After discussions among all the participants, following options emerged out:

S.no	Factors contributing to the RoW width	Options available for optimization of RoW
1.	Configuration of the Tower	a) Use of Narrow Base Multi circuit Tower b) Use of different voltage levels on Multi circuit tower
2.	Live Metal Clearance	No options available for optimization as clearances are to be maintained as per Standards
3.	Horizontal Clearances	No options available for optimization as Horizontal Clearance based on Safety norms cannot be compromised.
4.	Swing and Sag	a) Use of V Suspension String b) Use of HTLS Conductor c) Use of Tension tower d) Tower span

5. After detailed deliberations, the broad parameters/factors were listed down (enclosed at **Annexure II**) to carry out the calculation of RoW for different voltage types and it was decided that M/s Powergrid, M/s Sterlite Grid Limited, M/s Kalpatru Power Transmission Limited and M/s Essel Infraprojects Limited shall furnish the calculations of RoW within a week's time at the following email ids:
- (i) [kkarya\\_2001@rediffmail.com](mailto:kkarya_2001@rediffmail.com)
  - (ii) [skrmohapatra@rediffmail.com](mailto:skrmohapatra@rediffmail.com)
6. Director (PSP&PA-I) stated that during the meeting on 30.08.2016 it was also agreed that CEA will review the safety guidelines issued in 2010 to further optimize the restriction on account of electrical clearances. Director (EI), CEA clarified that under section 61 of the Central Electricity Authority (Measures relating to Safety and Electric Supply), Regulations 2010 it is mentioned that - An overhead line shall not cross over an existing building as far as possible and no building shall be constructed under an existing overhead line. And there is no scope of reduction in clearances as the human safety is involved.
7. Chief Engineer (PSP&PA-I), CEA stated that in areas where corridor is too congested for construction of overhead transmission lines, alternatives such

75

as XLPE cable and Gas Insulated line can be explored.

8. The representative of M/s Siemens Ltd. gave a brief presentation on GIL wherein he apprised the participants of the applications where use of GIL can offer a better solution and the areas where GIL proves better than EHV cable. GIL needs no reactors upto 70 km, requires no maintenance once installed and offers adequate overload capability.

The meeting ended with thanks to chair.

Annexure-I

List of participants of the Meeting held on 23.09.2016 at CEA to explore the different technical options available for optimizing the Right of Way width for transmission lines.

Sl. No.	Name Shri/Smt	Designation
1.	K.K.Arya	- Chief Engineer (PSP&PA-I), CEA- in chair
2.	S. K. Ray Mohapatra	- Chief Engineer (PSETD), CEA
3.	Awdhesh Kumar Yadav	- Director (PSP&PA-I), CEA
4.	Upender Kumar	- Director, CEA
5.	Manjari Chaturvedi	- Dy. Director, CEA
6.	Santosh Kr. Yadav	- Dy. Director, CEA
7.	Shiva Suman	- Dy. Director, CEA
8.	C.N. Devarajan	- Dy. Director, CEA
9.	Priyam Srivastava	- Assistant Director, CEA
10.	Vikas Sachan	- Assistant Director, CEA
11.	Nitin Deswal	- Assistant Director, CEA
12.	A.K. Vyas	- Addl. GM, PGCIL
13.	Raj Kumar Singh	- Asstt. GM, PGCIL
14.	Vijay Pal	- Sr. Consultant, WAPCOS
15.	T.A.N. Reddy	- VP, Sterlite Power Ltd.
16.	S.G. Mohanty	- AVP, Sterlite Power Ltd.
17.	Bigyan Parija	- AVP, Sterlite Power Ltd.
18.	J. Raghu Ram	- GM, Sterlite Power Ltd.
19.	D.K. Ashok	- Manager (Engg.), Sterlite Power Ltd.
20.	Rajiv Kesarwani	- Sr. Manager, Kalpatru Power Transmission Ltd.
21.	P.K. Chaubey	- VP, Manager, Kalpatru Power Transmission Ltd.
22.	Neeraj Verma	- Manager, ESSEL INFRA Ltd.
23.	Dinesh Parakh	- GM (Comm), Patran Transmission Co. Ltd.
24.	Ramesh Bahri	- CEO, Techno Electric & Engineering Co. Ltd.
25.	Bhaskar Roy	- Manager, Siemens Ltd.

Parameters freezed for undertaking calculation of RoW width for different Voltage Levels											
S.no	Parameters affecting RoW	Voltage Levels									
		66 kV D/C	110 kVD/C	132 kVD/C	220 kVD/C	400 kVD/C	500 kV HVDC	800 kV HVDC	765 kV S/C (Horizontal/Delta)	765 kV D/C	1200 kV S/C
1	Type of Conductor	Wolf	Panther	Panther	Zebra	Twin/Quad Moose	Quad Lapwing	Hexa Lapwing	Quad Bersimis	Hex Zebra	Octa Moose
2(a)	Design Span (in metres)	250	320	320	350			400			
(b)			200					250			
3	Conductor Operating Temperature	85 degrees Centigrade (maximum)									
4	String type	I String									
		I & V String both									
5	Cage Width	Narrow Base & Conventional broad base towers. Tower outline diagram showing various dimensions and clearances with maximum swing									
6	Swing Angle	35 degrees									
7 (a)	Minimum Safety (line conductor to ground object) Clearances	To withstand Lightning Surges									
(b)		To withstand Switching surges Minimum horizontal clearances as per Safety Regulations									

96

## Appendix-IV

**Minutes of the Second meeting of the committee for finalization of compensation in regard to Right of Way (RoW) for transmission line falling in urban areas taken by Ms. Shalini Prasad, Additional Secretary Ministry of Power (MoP) on 30.09.2016**

**List of participants is placed at Annex-I.**

2 Additional Secretary, MoP welcomed the participants and stated that the Committee in its first meeting decided that for long-term solution on the issue of finalization of compensation in regard to Right of Way (RoW) for transmission line falling in urban areas, two pronged approach is needed i.e.

- Technical measures for reduction of RoW width to reduce the area of impact
- Revised principles for calculating compensation

Chief Engineer, CEA was requested to make a brief presentation on the technical measures.

3. Chief Engineer (PSP&A-I), CEA informed that a meeting was convened was on 23.09.2016 with different transmission licensees to explore the different technical options available for optimizing the Right of Way width for transmission lines. The possibilities of reduction of transmission corridor width and optimum use of corridor in urban zones by using various technological options like raising heights of towers maintaining adequate safety clearance using monopole structures, multi-circuit multi-voltage transmission towers, use of HTLS conductors, use of Gas insulated lines (GIL) / XLPE cable etc were discussed. M/s Powergrid, M/s Sterlite Grid Limited, M/s Kalpatru Power Transmission Limited and M/s Essel Infra projects Limited have been entrusted with the task of furnishing the calculations of RoW for different voltages within a week's time based on the broad parameters/factors like Type of conductor, Design Span, string type, swing angle, meeting safety clearance and electrostatic field requirement. These parameters were finalized during the meeting held on 23.9.2016 held in CEA.