



TELANGANA STATE POWER GENERATION CORPORATION LIMITED

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From:
The Chief Engineer /Civil/Thermal
TSGENCO, Vidyut Soudha,
Hyderabad-500 082

To,
The District Forest Officer,
Nalgonda District
Nalgonda

Lr. No: CE/Civil/Thermal/SE.TCD-I/EE-I/F.YTPS-Div of forest land/D.No.81/2023-24,
Date:08.05.2023

Sir,

Sub: TSGENCO-(5X800 MW) YTPS - Diversion of forest land to an extent of **13.2653 Ha** under the Reserve forest blocks of Rajagattu and Adavidevulapally in the Nalgonda Division in favour of TSGENCO for cconstruction of Railway line from Vishnupuram Railway station to (5x800MW) Yadadri Thermal Power Station, Veerlapalem (V), Dameracherla (M), Nalgonda Dist including laying of Raw water pipe line from river Krishna to above project - Stage - I approval - Essential Details Sought - Reply furnished - Reg.

- Ref: 1) Lr. No. CE/C/Th/SE.TCD-I/EE-I/F.YTPS-Diversion of forest land/ D.No. 215/2021-22, Dt. 05.10.2021
2) Online proposal No. FP/TG/RAIL/1480308/2021, dated. 05.10.2021
3) F.No.4-TSC324/2023-HYD/ISO, Dt.21.03.2023 of IRO, MoEF & CC, GoI, Hyderabad
4) RC. No. PCCF-FC4/FC27/3/2022 on Essential Details sought, Dated: 23.03.2023.
5) Lr No:CE/Civil/Thermal/SE.TCD-I/EE-I/F.Div of forest land/D.No.75/2023-24, Dt:08.05.2023

In continuation to this office online proposal 2nd cited, submitted on PARIVESH portal for diversion of forest land to an extent of **13.2653 Ha** under the Reserve forest blocks of Rajagattu & Adavidevulapally in the Nalgonda Division in favour of TSGENCO for construction of Railway line from Vishnupuram Railway station to (5x800MW) Yadadri Thermal Power Station, Veerlapalem (V), Dameracherla (M), Nalgonda District., including laying of raw water pipe line from river Krishna to YTPS, the queries/issues raised in the 14th Regional Empowered Committee (REC) meeting of IRO, MoEF & CC, Hyderabad held on 27.02.2023 on the above proposal & communicated vide letter 3rd cited and as directed by the PCCF, Telangana vide reference (4) cited, the point wise replies to the EDS are here with furnished as follows for taking further necessary action in the subject matter.

- i) *The proposal concerning the Railway Line submitted by the user agency is misleading as nowhere in the proposal, either in title or in the description, it is mentioned that the proposal is for intermediate crossing station/Railway siding, but is shown only as laying of railway line with overhead electrical lines. Hence, proper component wise break up, layout plan etc shall be provided and uploaded on PARIVESH.*

Reply:

The above proposal with title is not at all misleading as it was clearly mentioned in the justification given in the **Form-A** with sub title stating as **the Requirement of forest land for Railway siding** which consists of Exchange yard (Intermediate crossing station) to receive coal rakes and also for facilitating smooth movement of wagons.

However, the following facts are here with enumerated in detail.

A Broad Gauge railway line from Vishnupuram Railway station to YTPS is proposed for continuous supply of coal of 14.00 MTPA (**layout enclosed as Annexure-I**). **This railway line consists of the following major components for required coal rakes operations.**

- i. Take off line from the serving station i.e., Vishnupuram Railway station on main line of Bibinagar-Nadikudi stations, having two tracks, one from Janpahad Railway station and other from Vishnupuram Railway station leading to Exchange yard (Intermediate crossing station).
- ii. **Exchange yard (Intermediate crossing station)** consists of five (5) railway lines to meet the present requirement and additional two (2) lines for future expansion to avoid detention of coal rakes on railway net work.
- iii. Railway line with single track from Exchange yard/Intermediate crossing station to in plant Marshalling yard consisting of 12 lines.
- iv. ROR, underpasses, bridges etc., as required based on the designs as per railway norms.

Further, the following are the main components of above proposed **Exchange yard (Intermediate crossing station)**, which comes in the forest land to an extent of 12.6203 Ha.

- a) Five (5) railway lines of full CSR length of 750 m to meet the present requirement and additional two (2) lines for future expansion with necessary points and crossings
- b) One (1) No. Relay Battery Generator (RBG) room (Station building) of 150 Sq.m
- c) Two (2) Nos Goompties of 75 Sq.m (Location of the same is under finalization with the approval of M/s. South Central Railways).
- d) Service roads and drains.

- e) Signaling system and telecommunication arrangements with electronic interlocking including distributed technology with object controllers.
- f) Shunt signaling for all the lines in both the directions
- g) HASSDAC Block proving axle counters LED signals, data loggers and OFC electronics and FOIS as per the policy guidelines of Railway Board.

The layout plan showing various components of the **Exchange yard (Intermediate crossing station)** (layout plan, longitudinal and cross sections are enclosed as **Annexure-II**) is herewith enclosed.

In this connection, it is further to inform that various alternatives were studied to avoid/minimize the extent of forest land based on the following basic design requirements for providing Exchange yard (Intermediate crossing station) as mentioned below.

- ❖ Station/exchange yard is to be constructed in straight alignment as far as possible with level/flatter gradient of 1 in 1200 and up to steepest gradient of 1 in 400 in economical land width as per Railway norms and also on curvature of not more than 2 degree (i.e., 875mts radius) under unavoidable circumstances.
- ❖ There should not be any entry curves sharper than 4 degree (i.e., radius of 450 mts) to the approaching yard design.
- ❖ There should not be any reverse curve alignment on either side of the yard as per Railway visibility norms of Rail traffic.

A copy of the drawing showing three (3) alternative alignments studied is enclosed (**Annexure-III**) herewith for reference.

The three alternatives for locating the Exchange yard (Intermediate crossing station) between Ch: 3.90 km to Ch. 5.20 km along the railway line alignment are discussed below.

I. Alternative - 1 (In Cyan colour):

- Only 600 mts stretch straight length is available for yard design against the required minimum length of 1000 mts, which is insufficient and cannot be extended towards state highway due to habitations etc.,
- Further, on either side of approach of the straight line, 8-degree curvature is accommodating. But as per procedure in vogue i.e., visibility norms, there should be less than 2-degree curves on either side of the approach of the straight length to accommodate full station/yard length requirement of 1000 mts, which is not permitted.

II. Alternative – 2 (In Blue colour):

- i) Though about 900 mts to 1000 mts length of forest land is available, the yard is to be kept on a 1.5 degree curvature followed by 8 degrees sharper curve which is also not ideal condition for operational and safety point of view.
- ii) This alignment is crossing existing state highway with about 60 degree skew angle which can't be allowed by Road authorities keeping in view of their future widening etc., Also, this is not allowed by Railways as the skew angle limit should be less than 30 degrees.

Moreover, there is remarkable difference in ground levels between the approved alignment in the forest area and proposed alignment in the other two alternative cases. Normally, siding/rail line embankment up to maximum height of 6.00 m is recommended. In the alignment suggested by the DFO, Nalgonda, about 15-20 mts embankment is required to match with the gradients design between serving station and inplant yard, which necessitates a land width of 160 mts of forest land instead of 100 mts. Thus proposing/creating a Exchange yard (Intermediate crossing station) on such high bank of about 15-20 mts is not advisable due to operational, maintenance, road accessibility as well as safety norms.

Further, to connect on either side of forest land stretch, only a reverse curve of 8 degree (i.e., 220 m radius) is possible which is also not advisable for operational/safety point of view.

III. Alternative – 3 (Selected – in Red colour):

At the end, looking into the above constraints, the proposed alignment with 1 in 400 gradient to minimize the bank height to 6.00 m, bare minimum land width of 100.00 m and curvature of not more than 2 degree (i.e., 875 mts radius) under unavoidable circumstances is only one to fulfill all the criteria which is most suitable and justified in terms of economics, technical, operational, geographical requirements and the most vital aspect of rail traffic safety norms. Hence, the above alignment of railway line with exchange yard location in the forest land was approved by the Indian Railway Authorities/South Central Railways (SCR) after thorough scrutiny in terms of technical & operational points of the project vide SCR letter no. GNT/T.143/YTPS/RDPR Approval/2021/11/a, Dt: 24.11.2021 (copy enclosed as **Annexure-IV**), through such a portion of forest land, where the density of forest is very thin, thus involving minimum number of trees required for felling. Also the alignment is designed in such a way that it does not affect any village habitations falling near the Rail-route.

Added to the above, the District Forest Officer, Nalgonda, has also sought the factual justification for the chosen route through forest land while processing the proposals itself vide letter No. Rc.No 4286/2019/S5 (I), dt 29.01.2022, after field inspection on 24.01.2022.

In response to the information as sought, the factual justification explained as above, was furnished by the Chief Engineer/Construction/YTPS vide letter dated.31.03.2022 (copy enclosed as **Annexure-V**) duly enclosing the sketch showing the details of Exchange yard (Intermediate Crossing Station).

The DFO, Nalgonda, after thorough verification of the proposals, has submitted the same to PCCF, Telangana. Further, the Telangana State Forest Department, in its 2nd and 3rd Project Screening Committee meetings held on 09.12.2022 and 06.01.2023 respectively, at Aranya Bhavan, Hyderabad, has recommended to IRO, MoEF & CC, GoI for further processing of the proposal after thorough examination.

- ii) *Proposal is likely to bifurcate the existing RF into two parts leading to fragmentation in the habitat area wild animals. Hence, there should be a proper wild life mitigation plan with suitable animal passages for seamless movement of wild animals and such plan should be duly approved by the chief wild life warden. The wild life mitigation plan may be prepared with the help of reputed institutes like WII,ZSI etc*

Reply:

TSGENCO is very much obliged for implementation of proper wild life mitigation plan with suitable animal passages for seamless movement of wild animals due to fragmentation of habitat area due to formation of earthen embankment for exchange yard. One RCC bridge of opening size of 3.00 m X 3.00 m is already proposed in the Exchange Yard which can cater for free passage of wild animals on either side of the railway embankment.

However, to prepare suitable wildlife mitigation plan in line with Wildlife Institute of India guidelines and obtaining approval from the Chief Wildlife Warden, the work of preparation of Wild life Mitigation plan was entrusted to M/s. S.V. Enviro Labs & Consultants, Vishakhapatnam, who is accredited by NABL and NABET. The report on Wildlife Mitigation Plan furnished by the above consultants is submitted to the PCCF & Chief Wildlife warden, for kind perusal and approval, vide letter 5th cited (copy enclosed as **Annexure-VI**).

The Wildlife mitigation plan as approved by the Chief Wild Life Warden will be implemented and as per the directions/suggestions to be given by the Hon'ble Regional Empowered Committee (REC), IRO, MoEF&CC, GOI, Hyderabad.

- iii) *Similarly, it was noticed that the DFO in his report recommended for deliberations on the alternative routes proposed at the higher levels. However, no such deliberations at the higher level in the TSFD are found enclosed in the part-III, part-IV and part-V. Hence, the same may be reviewed and map clearly depicting all such alternatives along with brief write up including number of trees to be felled, area require, cost impact on flora & fauna etc on each such alternatives may be submitted.*

Reply:

- a) The DFO, Nalgonda, while processing the proposals to State Forest Department, has inspected the proposed site on 24.01.2022 and verified the extent location of exchange yard and sought proper justification for the chosen route vide Lr. No. Rc No. 4286/2019/S5(i), dt 29.01.2022.
- b) In reply to above, clarification was furnished by TSGENCO to DFO, Nalgonda vide Lr. No. CE/Construction/SE/C/CC-I/YTPS (5x800 MW)/ F.Forest land/D.No. 1202/2021-22, dated. 31.03.2022 (Annexure-V) duly justifying the requirement of proposed extent area in Rajagattu Reserved forest boundary with 100.00 m width on technical & operational point of view in terms of railway safety norms for free movement of about 14 Nos incoming and 14 Nos outgoing rakes.
- c) Subsequently, the DFO, Nalgonda, has processed the proposals and sent to PCCF, Hyderabad. The Project Screening Committee, Telangana State Forest Department in its 2nd & 3rd meetings held on 09.12.2022 and 06.01.2023 respectively has deliberated in detail and recommended to submit the proposal to IRO, MoEF&CC, GoI, Hyderabad.
- d) Further a meeting was conducted on 15.04.2023 in the chambers of PCCF (FCA) & Nodal Officer along with DFO, Nalgonda and officials of TSGENCO on the subject diversion proposals, wherein, it was discussed about three alternative alignments of the exchange yard in the Rajagattu RF as mentioned under reply to the EDS point - (i). A copy of the drawing (Annexure-III) showing three (3) alternative alignments is enclosed herewith for reference.
- e) Finally, after detailed deliberations, it was determined that the proposed location in forest land is only feasible for Exchange yard (Intermediate crossing station) on

account of technical requirements, field situations and other issues when compared to the other alternatives stating that these alternative routes either towards extreme south of the RF (or) via south of the proposed railway line are not feasible. The copy of the minutes of the above meeting dated. 15.04.2023 (**Annexure-VII**) is enclosed herewith.

- iv) *In the case of the proposed water pipe line, it was noticed that the proposed pipe line is falling either outside RF as per the SoI Topo map or on the boundary of the forest land. If the proposed alignment for pipe line is moved slightly away it may fall outside the forest land. To this DFO clarified that, the pipeline falls inside the RF only. Hence, the user agency and the state forest department are requested to explore possible alternate alignments for water pipeline outside the forest land*

Reply:

- a) The alignment of proposed pipeline of 1500 mm dia (2 Nos) to draw required water of 120 Cusecs from U/s of Nagarjunasagar tail pond dam to YTPS project was finalized based on the survey duly considering all technical & optimum possibilities in which about 430.00 m of linear stretch of forest land in the Adavidevulapally Reserve forest block is required, which is unavoidable. As per the field survey conducted by the state forest authorities, the boundary of forest land spread is far away from the proposed pipe line alignment and these forest boundary coordinates were authenticated by state forest department.
- b) Further, to avoid the forest land, the entire alignment of pipe line has to be re-routed which will be longer by 1.00 km (approximately) with number of bends and also has to cross the existing Mission Bhagiratha pipe line at two locations.
- c) Further, it is to inform that, there will be adverse effect on pumps, if the alignment of pipe line is changed with number of bends and increased length which is not feasible at this stage.

Keeping all the above parameters in view, the best alignment was selected duly avoiding number of bends, passing through forest land with bearest minimum length of about 430.00 m and 15.00 m width, which is unavoidable. Further, the pipe lines will be laid 1.20 m below ground level only. The layout showing the longitudinal alignment and cross section of the pipe lines from the Intake water structure to YTPS project is furnished (**Annexure-VIII**) herewith for reference.

- v) *State Forest Department may reexamine that the alignment is falling in any of the ESZ or otherwise.*

Reply:

- ❖ The Prl. Chief Conservator of Forests (Head of Forest Force), State Forest Department, Govt. of Telangana vide **letter No. Rc. No. PCCF-FC4/FC27/3/2022, dt.19.11.2022**, has clarified that the pipeline is 4.18 km from the entry point and 4.21 km from the exit point from the boundary of the core area of Amrabad Tiger Reserve and the ESZ is also not notified.

In view of the above, the DFO, Nalgonda was directed therein, not to request the user agency to submit the wild life clearance for the subject proposal for laying of pipeline as the proposed area does not require Environmental Clearance under Environmental (Protection) Act, 1986 and also clearance from standing committee of the National Board for Wild Life for the proposed area.

- vi) *Detailed Compliance report on conditions envisaged in the Ministry Lr. No.F.No.8-07/2015-FC of MoEF&CC, GoI, Dated, 07.07.2015 for YTPS power plant project shall be submitted by the user agency along with proper justification for not including the proposal in the Thermal Power Plant project.*

Reply:

- a) The report on the latest compliance to the conditions stipulated in the stage-II approval accorded vide Ministry Lr. No.F.No.8-07/2015-FC of MoEF&CC, GoI, dated 07.07.2015 for YTPS power project was already furnished to IG of Forests (C), MoEF & CC, GoI, IRO, Hyderabad vide Letter No. CE/C/Th/SE.TCD-I/EE-I/F.YTPS- Div of forest land/ D.No. 133/2022-23, Dt. 04.07.2022. (Copy of report enclosed as **Annexure-IX** for reference).
- b) Further, it is to inform that, the alignment of Railway line will depend upon the position of the coal handling plant consists of track hopper, wagon tippler etc., and the alignment of Raw water pipeline will depend upon position of raw water reservoir demarcating in the plot plan.
- c) In this regard, it is to inform that, after obtaining the Environmental clearance dated. 29.06.2017 for the above project from MoEF & CC, GoI, the construction works of YTPS was awarded to M/s. BHEL on EPC (Engineering, Procurement & Construction) contract system vide LOI No. ED/TPC/SE-III/EME-9/Yadadri TPS (5x800 MW)/D.No.102/17, Dt.17.10.2017.

- d) Subsequently, M/s.BHEL, as per the contract, have prepared and furnished the layout/plot plan depicting various components of above thermal power plant of 4000 MW (5X800 MW) capacity, including demarcation of the locations of Railway Marshalling yard for carrying out coal unloading/tipling operations and Raw water storage reservoir to meet the water requirement of the power plant and the plot plan was finalized after various revisions.
- e) Based on the final layout/plot plan approved, necessary studies were conducted for finalization of alignments of railway siding from Vishnupuram railway station and raw water pipe line from Krishna river to the above power plant. Both the alignments are passing through the forest lands in the Adavidevulapally and Rajagattu reserve forests respectively. The total extent of forest land required is 13.195 Ha i.e., 12.6203 Ha for Exchange yard (Intermediate Crossing Station) along the railway line in Rajagattu RF as per the DPR for the railway line prepared by an expertised consultancy i.e., M/s. RITES Limited, Secunderabad, and approval of DPR of the same by M/s. South Central Railways and 0.5747 Ha for Raw water pipe line in Adavidevulapally RF.
- f) Hence, the proposal for diversion of 13.195 Ha of forest land in favour of TSGENCO for construction of Exchange yard (Intermediate crossing station) and raw water pipeline was not included in the original proposal for diversion of 1892.35 Ha for the above Thermal Power Plant as these alignments were not finalized at that time and taken up at a later stage.

In view of the above replies furnished, it is requested to arrange to process the subject proposals and submit the same to PCCF, Telangana, at the earliest, for onward submission to IRO, MOEF & CC, GoI for further consideration.

Encl: As above

Yours faithfully,


Chief Engineer/Civil/Thermal 08.05.21

Copy to the:

- 1) The Principal Chief Conservator of Forests, (Head of Forest Force) (FAC), Telangana, "Aranya Bhavan", Saifabad, Hyderabad
- 2) Chief Engineer/Construction, YTPS, Veerlapalem (V), Dameracherla (M), Nalgonda Dist.
- 3) CE/Tech to Chairman and Managing Director, TSGENCO, Vidyut Soudha, Hyderabad.
- 4) Superintending Engineer/Civil/Construction Circle-I & II, YTPS, Veerlapalem (V), Dameracherla (M), Nalgonda Dist.
- 5) DE/Tech to Director/Commercial & Fuel, TSGENCO, Vidyut Soudha, Hyderabad.
- 6) AEE/Tech to Director/Civil, TSGENCO, Vidyut Soudha, Hyderabad.