



Tamil Nadu Electricity Board Engineers' Association

(Recognized in G.O. No.854 dated 06-04-1946)

Regn. No.217/94

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To

The Chairman cum Managing Director,
TANGEDCO,
144, Anna Salai,
Chennai – 02.

Lr. No. TNEBEA / GS / D.81 / 2021 , Dt. 03.06.2021

Sir,

Sub: TNEBEA – TANGEDCO Thermal Power Projects -
Award of PMC contracts for entire execution of
Design and Engineering activities – Poor Progress
and Excess financial burden incurred by TNEB -
Certain Suggestions towards welfare of TNEB – Reg.
Ref: Lr. No. TNEBEA / GS / D.109/ 2020 , Dt. 18.09.2020

Vanakkam,

We are proud to represent on behalf of TNEB Engineers' Association, comprising of Engineers as members with ultimate knowledge & technical exposure and working in multidisciplinary fields in TNEB installations viz Generation, Distribution, Transmission covering all O&M, Project areas.

It is learnt that contracts to private consultants (PMC) for execution of Design and Engineering activities have been awarded recently to M/s. Tata Consulting Engineers Limited for Uppur 2X800MW Supercritical Project and Udangudi Thermal Power projects 2 x 660 MW for 45 crores and 44 crores respectively. Also, M/s.Design Consultants Private Limited for ETPS Expansion Supercritical Project (1X660MW) at an approximate cost of Rs.33.0 Crores respectively.

In this regard, TNEB Engineers' Association (TNEBEA) is duty bound to putforth the following technical & commercial facts before the respected CMD towards the welfare of organisation.

1.ENGINEERS OF TANGEDCO –"THE BACKBONE OF TNEB":

Remembering the memorable achievements, the highly technically complicated commissioning of our proud hydro stations such as water cascading Kundah and Parambikulam Aliyar projects are executed only with the help of the manual labourers by our

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former Chairman (Engineer) (late) Er.V.P.Appadurai. The heritage of TNEB Engineers emanates from then onwards to the latest technologically updated era with highly talented, experienced Engineers.

- TNEBEA proud to state that our own TNEB Engineers only successfully commissioned the TANGEDCOs' existing base load Thermal Power Stations such as NCTPS, MTPS, TTPS, performing major role in Tamilnadu Grid and successfully running till date.
- We once again proud to record that, the **"Power Engineers Handbook"**, a worldwide recognised technical publication of TNEBEA was prepared by the veterans of TANGEDCO Engineers cum proud members of TNEBEA, is being utilized by Engineering community.
- TNEB is one of leading pioneer in the field of Indian Power sector and it is often proven in the history from the past during critical power crisis in the country. **In 1975, while NTPC formed by Govt of India, the new NTPC Engineers got their thermal training at TNEB's Ennore Thermal Power Station.** From there on, NTPC now became a global leader in Thermal Power Sector and have their own in house consulting team of expertise. **It is noteworthy to inform that NTPC is not following EPC contract mode for constructing a thermal power plant.**
- TNEB Engineers proved themselves in successfully running the thermal plants (MTPS, TTPS) right from erection, installation and commissioning. For ex, in MTPS- I station, the 4 X 210 MW units are successfully running in its 33th year and achieving full load and above generation till date. Also, the recently commissioned MTPS-II station (1 X 600MW) is performing better than their counterparts in other states. Also, MTPS-I has earned around 19000 BEE Escerts in the PAT Cycle-II maintaining the target heat rate mandated by the BEE. The TTPS and MTPS stations were honoured in various categories with Gold / Silver national level medals. This reveals the reality in performance & dedication while engaging our own TNEB Engineers.
- On 3.06.2021 – TTPS attained rated full load capacity even after 40 years of service and it is to be noted that TTPS was commissioned by our own TANGEDCO T
- In earlier projects up to 1995, no EPC concept was followed by TNEB/TANGEDCO. During the execution of projects without EPC concept, TNEB has utilised more than 100 Engineers for Quality Inspection works of Erection at each stage and also commissioning works of the unit which is the prima facie requirement during project period. These Project Engineers later looked after the Operation and maintenance of the commissioned plant with ease and run the plants with negligible downtime in our thermal plants.
- The Projects commissioned with EPC Concept were not up to the mark than the projects executed totally by TNEB/TANGEDCO Engineers. For ex., NCTPS –II and all upcoming EPC projects. In the name of EPC contract, TANGEDCO Engineers were sidelined on their capability.

2. DEMERITS IN AWARDING THE ENTIRE UPCOMING PROJECT WORK TO PRIVATE PMC:

It is recently observed that TANGEDCO Engineers are now pushed off from project works by redeployment and transfers, stating that PMC will take care and hold well in all activities of the project. Also it is learnt that only few Engineers will be allowed to work on our Board side, which may force the Engineers not to concentrate on engineering activities instead it will force them to concentrate only on billing work

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to the PMC and EPC Contract. Hence TNEBEA cites out certain demerits of engaging PMCs as below:

- There is no explicit evident in the successful performance of Private PMC. The strategy of adopting the Design, Engineering and Commissioning of Project works by the profit oriented private agency (PMC) will have detrimental impact on organisational growth graphical trends.
- The Boiler Turbine Generator (BTG) & Balance of Plant (BOP) package of a project put together has more than 40 work fronts such as Boiler Structure, Pressures parts, Mills, Fans, ESP, Turbine, ECHS, ICHS, CWPB etc., and each front has Civil, Mechanical & Electrical related works.
- Even the EPC contractor is not directly carrying out the entire project works by themselves. They are simply sub-letting the different work fronts to other smaller construction companies such as M/s. Bridge & Roof, M/s. Texcel, M/s. Powermech, M/s. Simplex, etc at Ennore SEZ (2 x 660 MW), NCTPS III (1 x 800 MW), Uppur (2 x 800 MW) & Udangudi (2 x 660 MW).
- The quality of work from private PMC agency's is not expected to the mark as their accountability and responsibility towards the project owner (TANGEDCO) will be very less, on comparison with the involvement & dedication of our TANGEDCO Engineers.
- PMC will be an added advantage to the EPC contractor, who could easily shrug off his responsibility, in the event of delay or wrong execution of project works citing wrong guidance by the private PMC or possibilities of handshaking with PMC to compromise with the quality of work or material are very high. These faults will reflect only during plant operations and will have a severe impact on Lifetime & PLF of power plant.
- By no means, it is fair to check their stability or performance at the cost of TANGEDCO. There are probabilities that the private PMC to be lacklustre in their works, since their role is temporary & also as said above, they may lean towards EPC contractor at any time.
- The Udangudi and Uppur Thermal Projects are under PMC for more than two years and still showing poor progress, reveals the scenario of engaging the PMC.

3. MERITS OF TNEB ENGINEERS & NEED OF EXPERT COMMITTEE:

While pointing out the demerits of the engaging the PMC, TNEBEA also putforth the possible merits in engaging our own TNEB Engineers as an technical Expert Committee.

- TNEBEA is proud to record that TNEB Engineers will work with utmost dedication and responsibility in project execution works such as daily project progress, site and material quality inspections with no compromise in the quality of work/material, target time completion which have direct impact on the life period of plant since their bond with TANGEDCO will ever last till their life time (being a pensioner even after retirement also).
- TNEB Engineers have vast exposure in the field of Projects (Hydro, Thermal & Transmission network projects), Operation & Maintenance (O&M) of Generation, Distribution and Transmission System.
- If a fresh graduate engineer recruited by TNEB with proper training in National Thermal Power Training Institute and our Thermal Training Institute at NCTPS1 and then deputed for projects with basic necessary work and living infrastructure itself, they will dedicate

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themselves and serve for many years with responsibility and will work for upliftment of organisation whereas a graduate engineer engaged for projects by private contract agency, will work towards his company goals and profits and on the project owners. The strength of TNEB lies with the versatile talented TNEB mix of Dedicated Experienced Senior and Energetic Young Engineers in TNEB.

- Even after commissioning of the project, mostly many Engineers will continue to look after in the Operation & Maintenance works of thermal stations, which will be an added advantage to run the unit continuously without hardships at full load.
- At present, the excellent performance of the Thermal Power Stations commissioned by our TNEB Engineers without compromising in quality in the view of design and Engineering aspect, plays crucial role in the southern grid demands.
- It is need of the hour to point out in this juncture that it is very much essential to constitute an expert committee for TANGEDCO, in the respective fields as implemented in the reputed NTPC and NLC (I) organizations.
- It is to record that, if Private PMC agency is appointed, the beneficial harvesting opportunities for TANGEDCO from a total of (49 Engineers per project) in the cadre of AEEs (14 Nos.) and AEs (35 Nos.) will be affected. Also application of creative thoughts by fresh B.E. graduates (54 per project) will get affected. Plucking of each and every Engineer will surely slash the upliftment of organisation.
- The utilisation of TNEB Engineers in projects as described in Annexure I, reveals that 107 Engineers were utilised for a period of 3 years, whereas while the private PMCs engaged only 30 nos staffs. The working efficiency and ability of 107 TNEB dedicated Engineers when working as a group will be very high on par with the efficiency of **few inexperienced junior Engineers appointed by this profit oriented private PMCs.**
- Instead of mortgaging the entire Techno-Commercial activities to **private agency, they can be utilised as consultants with minimum cost (around Rs. 3 Crore) to assist the TANGEDCO Engineers, as adopted in the ongoing 2x660MW Ennore SEZ, 1x800MW NCTPS St-3.**
- **The involvement of TANGEDCO expert committee will surely aid in maintaining the uniformity & quality of design, engineering aspects among the upcoming projects and will ensure the life period of station.**

4. COST SAVINGS:

- It is prime evident from the past history of TNEB, to state that the work entrusted to the private PMC agency can be easily carried out in time by our organisation's own Engineers with an advantage of cost savings at an approximate value of **Rs.32.0 Crore** based on the existing sanction of post as enclosed in Annexure I.

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- Even if the maximum pay band is considered, the total savings per project is (45 – 37.24 Cr) = 7.76 Crore.
- Also, it is need of the hour to emphasis the loss incurred in every outage & tripping of power generating stations. If a generation get affected in a 660 MW thermal power plant for a 24 hours, the loss involved will be around Rs.12 Crores. Similarly, about Rs.36 Crore loss is involved with tripping of 800 MW plant.
- The detailed cost savings and other analysis will be submitted to the respected CMD in the due course.

The cost implication in engaging our TANGEDCO engineers for a period of three years, for a typical 600MW as enclosed in annexure is around Rs.12 crores. which is negligible before the cost involved on outage of 600MW unit for a day.


As every second and rupee have to be invested towards the growth of organization, it is not late for TNEB Engineers' Association to suggest for formation of a Technical Expert Committee as like NTPC by utilising the technical expertise TNEB Engineers who are presently working in various fields. This Technical Expert Committee will extend their guidance/suggestions wherever required right from design to commissioning of the ongoing/upcoming projects, and also later in operation and maintenance by deputation.

In this regard, TNEBEA is ready to extend its fullest cooperation for the formation of Technical Expert Committee activities by identifying the in service technical expertise TNEB Engineers.

Hence, the respected CMD is requested to consider the suggestions putforth by TNEBEA which is the need of the hour to continue the upcoming project works by constituting a Technical Experts Committee without fully relying on any private agencies. This may surely make milestone achievements in the history of TANGEDCO.

With warm regards,

Place : Chennai
Date : 03.06.2021

Yours sincerely,

03/06/21
General Secretary,
TNEBEA

Copy to MD/TANTRANSCO Ltd.,
Copy to Directors of TANGEDCO & TANTRANSCO.

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ANNEXURE I

Cost savings if Design and Engineering works are carried out by TANGEDCO's Engineer

(Min. pay has taken for arriving total emoluments to the Engineers)

Category (for Civil, Mechanical & Electrical circles)	Req. Strength of Engineers (approx.)			Pay Band (Minimum Amount considered for calculation in the view of new post sanction)	Expendit ure Annum / Post	TANGEDCO Engineers				Private PMC Agency
	Year I	Year II	Year III			Expenditure (in Rupees) (approx.)				Awarded value
						Year I	Year II	Year III	Total for 3 years	
CE	0	1	1	1,27,400	15,28,800	0	15,28,800	15,28,800	30,57,600	Rupees 45 Crore (approx.) (for the strength of 30 Nos.)
SE	1	3	3	1,25,200	15,02,400	15,02,400	45,07,200	45,07,200	1,05,16,800	
EE	3	10	14	60,600	7,27,200	21,81,600	72,72,000	1,01,80,800	1,96,34,400	
AEE	6	24	35	58,200	6,98,400	41,90,400	1,67,61,600	2,44,44,000	4,53,96,000	
AE	6	34	54	39,800	4,77,600	28,65,600	1,62,38,400	2,57,90,400	4,48,94,400	
TOTAL	16	72	107			1,07,40,000	4,63,08,000	6,64,51,200	12,39,92,000	
						1.07 Cr	4.63 Cr	6.64 Cr	12.34 Cr	45 Cr

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ANNEXURE II

Cost savings if Design and Engineering works are carried out by TANGEDCO's Engineer.

(Max. ceiling limit pay has taken for arriving total emoluments to the Engineers)

Category (for Civil, Mech & Eled circles)	Req. Strength of Engineers (appr.)			Pay Band (Maximum Amount taken for calculation)	Expenditure / Annum / Post	TANGEDCO Engineers				Private PMC Agency
	Yr I	Yr II	Yr III			Expenditure (Rupees) (appr.)				
						Year I	Year II	Year III	Total for 3 years	
CE	0	1	1	223300	2679600	0	2679600	2679600	5359200	Rupees 45 crores (approx.) (for the strength of 30 Nos)
SE	1	3	3	219800	2637600	2637600	7912800	7912800	18463200	
EE	3	10	14	191800	2301600	6904800	23016000	32222400	62143200	
AEE	6	24	35	184300	2211600	13269600	53078400	77406000	143754000	
AE	6	34	54	126500	1518000	9108000	51612000	81972000	142692000	
TOTAL	16	72	107			31920000	138298800	202192800	372411600	
						3.19 Cr	13.82 Cr	20.21 Cr	37.24 Cr	45 Cr

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