

Comments/ suggestions on CERC draft regulations

(tariff period 1.4.2024 to 31.3.2029)



L&T Energy-Power
February 15, 2023

CERC draft regulations	L&T comments / suggestions
<ul style="list-style-type: none">Maximum TG cycle Heat rate is considered as <u>1790</u> Kcal/kWh for 270/600/600 steam parameters @ 100% TMCR	<ul style="list-style-type: none">Maximum TG cycle Heat rate to be restored to earlier values of <u>1800</u> Kcal/kWh for 270/600/600 steam parameters @ 100% TMCRFor other inlet steam parameters TG cycle Heat rate values to be adjusted accordinglyCEA/CERC to also <u>mention the condenser pressure corresponding to above specified Heat rate</u>. In case of any change in the condenser pressure suitable correction shall be allowed in the TG cycle Heat rate
<ul style="list-style-type: none">For units with Air cooled condenser, the maximum turbine cycle heat rate shall be considered as per the actual design or 6% higher than the values given above, whichever is lower	<ul style="list-style-type: none">For ACC pressure upto 150 mmHg.a specified 6% increase in Heat rate is acceptableFor ACC pressure > 150 mmHg.a, % increase in Heat rate should be finalized in consultation with STG OEMs

CERC draft regulations

- Minimum Boiler efficiency* (Percentage)

Pressure Rating (kg/ cm ²)	247	247	260	270	270
SHT / RHT (° C)	537/ 565	565/ 593	593/ 593	593/ 593	600/ 600
Type of BFP	Turbine Driven	Turbine Driven	Turbine Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate(kcal/kWh)	1900	1850	1814	1810	1790
Minimum Boiler Efficiency*(Percentage)					
Sub-Bituminous Indian coal (%)	86	86	86	86.5	86.5
Bituminous imported coal (%)	89	89	89	89.5	89.5

L&T comments / suggestions

- Boiler efficiency has been increased by 0.5% with increased pressure rating (260 kg/cm² to 270 kg/cm²).
- The Boiler efficiency usually varies with coal type and not with the boiler pressure rating.
- CEA/CERC is requested to define the boiler efficiency calculation code (ASME - PTC or BS EN) and other standard conditions (if any) for better clarity to calculate the boiler efficiency.
- CEA/CERC may also note that different utility owners specify different fixed losses while estimating the boiler efficiency during design stage. Normally the fixed loss defined by the utility owner is higher as compared to the calculated loss. This reduces the boiler efficiency further. Similar observation was also observed by CERC earlier.



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<ul style="list-style-type: none">• Provided also that where the boiler efficiency is lower than 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the <u>same shall be considered as 86% and 89%</u> for Sub-bituminous Indian coal and bituminous imported coal, respectively, for computation of station heat rate	<ul style="list-style-type: none">• For any project, if Boiler efficiency works out to be lower than 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal based upon the design coal properties provided in tender specifications, then the <u>actual calculated Boiler efficiency should be allowed to be considered</u> for finalization of Station heat rate

Thank You