

**Government of India  
Central Electricity Authority  
Office of Member (Thermal)  
Sewa Bhawan, R. K. Puram, New Delhi-110066**

No.CEA/TETD-MP/2009/R/01/

Dated : 28.07.2009

As per list

**Sub: Efficiency of supercritical units to be installed in the country- reg.**

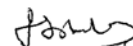
**Dear Sir,**

As you are aware, technological trends to-day are driven by efficiency and environment so as to ensure sustainable economic development. Initiatives are accordingly being taken to develop future power generation sector with more efficient technologies so as to reduce emissions as well as conserve fuel. Integrated Energy Policy also mandates future power plants to have gross efficiency of 38-40%. It is in this context that we are now going in for more and more plants based on supercritical technology. It is envisaged that in 12<sup>th</sup> Plan about 60% capacity addition would be based on supercritical technology and about 90% capacity in 13<sup>th</sup> Plan would be based on supercritical technology. With more experience and exposure, we aim to move towards ultra supercritical technology in due course of time which is more efficient.

Initial supercritical units in the country were based on steam parameters of 246 kg/cm<sup>2</sup>(g), 535/565 deg C at turbine inlet but some of the units which have recently started construction have adopted higher steam temperatures of 565/593 deg C resulting in higher efficiency. It may be brought out here that CEA have finalized Central Electricity Authority (Construction of Electrical Plants & Electric Lines) Regulations, 2009 which have been sent to Ministry of Power for approval before notification. Complete text of these regulations is available on CEA website [www.cea.nic.in](http://www.cea.nic.in). Vide clause 13(2) of these regulations, maximum gross turbine cycle heat rate of 1850 kcal/kWh has been stipulated for units provided with turbine driven BFPs and 1810 kcal/kWh with motor driven BFPs at 100% MCR.

It is advised that stipulation regarding maximum turbine cycle heat rate in the above Regulations may please be adhered to while placing orders for supercritical units.

**Yours faithfully,**



**(S. Seshadri)  
Member (Thermal), CEA**