

Isentropic net work

Will the net work change if we decrease the isentropic efficiency of a turbine in a Rankine cycle?

Answer: D.

Explanation: The exit enthalpy of the turbine will increase together with the decrease in isentropic efficiency. Therefore, the $w_{out} = h_{in} - h_{out}$ of the turbine will decrease too. As w_{in} is not changed and the work net is the difference between w_{out} and w_{in} the total net work will decrease.