Document: Selby Gross Electrical Efficiency
Author: CSB
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Rev: 1

Introduction: The BAT-AEELs given in these BAT conclusions for the incineration of non-hazardous waste for condensing turbines

Gross electrical efficiency	$\eta_e = \frac{W_e}{Q_{th}}$	$x(Q_b/(Q_b-Q_i))$

Where:

- W_e: electrical power generated, in MW;
- Q_{th}: thermal power supplied to the heat exchangers on the primary side, in MW;
- Q_{ds}: directly exported thermal power (as steam or hot water) less the thermal power of the return flow, in MW;
- Q_b: thermal power produced by the boiler, in MW;
- Q_i: thermal power (as steam or hot water) that is used internally (e.g. for flue-gas reheating), in MW;
- Q_{in}: thermal input to the thermal treatment units (e.g. furnaces), including the waste and auxiliary fuels that are used continuously (excluding for example for start-up), in MW_{th}, expressed as the lower heating value.

	Energy			
W_e	Gross electricity generated	MW_e	24.75	Selby HMB rev 9
Q_{th}	Thermal power supplied	MW_{th}	92	LLT data sheet
Q_b	Useful heat provided to customer	MW_{th}	82.169	LLT data sheet
Q_i	Thermal power used internally	MW_{th}	12.808	
	Turbine bleed 1 - External offtake (NA)	MW_{th}	3.652	Selby HMB rev 9
	Turbine bleed 2 - Feedwater preheating	MW_{th}	5.959	Selby HMB rev 9
	Turbin bleed 3 - Condensate preheating	MW_{th}	6.849	Selby HMB rev 9
η_e	Gross electrical eff	%	31.87%	