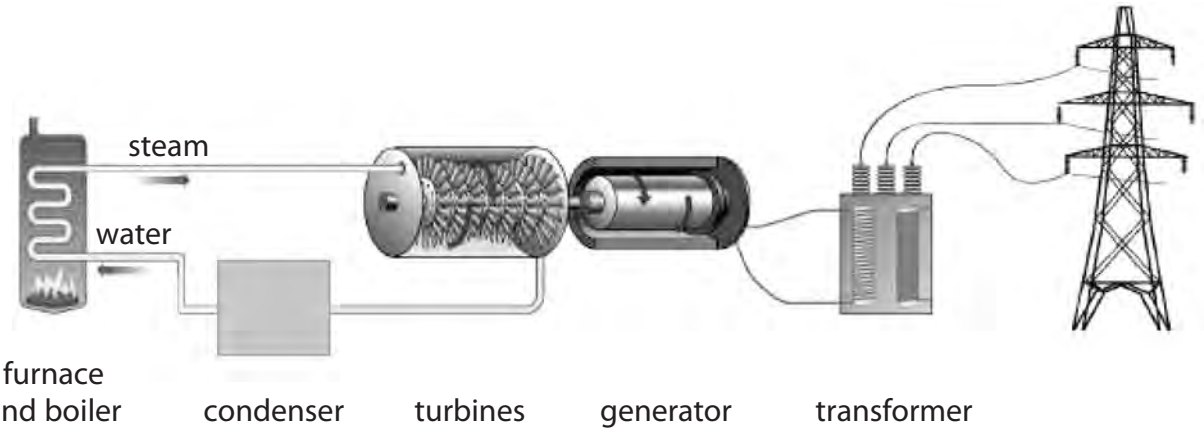
6 The diagram shows a coal-fired power station.



(a) (i) In which part of the power station is heat energy usefully converted to kinetic energy?

(1)

☒ **A** boiler

☒ **B** turbine

☒ **C** generator

☒ **D** wires

(ii) In which part of the power station is kinetic energy usefully converted to electrical energy?

(1)

☒ **A** boiler

☒ **B** turbine

☒ **C** generator

☒ **D** wires

(b) A transformer is used to convert the 25 kV output from the power station to 115 kV.

(i) State the equation linking power, voltage and current.

(1)

(ii) Compare the input current and the output current of the transformer.

Assume there are no energy losses in the transformer.

(3)

(iii) State one advantage of transmitting electricity at high voltages.

(1)

(c) Some power stations use uranium as a fuel.

Describe the problems that arise from the disposal of waste from this type of power station.

(4)

(Total for Question 6 = 11 marks)