

3. OR Cooling requirements

$$\dot{Q}_{out} = \dot{Q}_{staff} + \dot{Q}_{pat} + \dot{E}_{light} + \dot{E}_{equip.}$$

$$\dot{Q}_{staff} = 4 \left(450 \frac{\text{kJ}}{\text{hr}} \right) \left(\frac{3000 \text{ J}}{\text{kJ}} \right) \left(\frac{\text{hr}}{3600 \text{ s}} \right)$$
$$= 500 \text{ W}$$

$$\dot{Q}_{pat} = \left(250 \frac{\text{kJ}}{\text{hr}} \right) \left(\frac{1000 \text{ J}}{\text{kJ}} \right) \left(\frac{\text{hr}}{3600 \text{ s}} \right)$$
$$= 69.4 \text{ W}$$

$$\dot{Q}_{out} = 500 + 69.4 + 400 + 750 \text{ W}$$
$$= \underline{\underline{1720 \text{ W}}}$$

Not totaling values -3

Giving answer in W.hr -5

Hours conversion error -4

Sign error on equipment - power -5