

## Conventional Propulsion

### Power of Main Engine

$$P_{ME(i)} = 0.75 \times (MCR_{ME(i)})$$

### Auxiliary Power

For ships with a main engine power of 10000 kW or above, PAE is defined as:

$$P_{AE(i)} = \left(0.025 \times \sum_{i=1}^{nME} MCR_{ME(i)}\right) + 250$$

### Auxiliary Power

For ships with a main engine power below 10000 kW, PAE is defined as:

$$P_{AE(i)} = 0.05 \times \sum_{i=1}^{nME} MCR_{ME(i)}$$

## Unconventional Propulsion System

### Power of Main Engine

- $MPP_{shaft}$  is 66% of MCR of main Engine
- $\eta_{electrical}$  is the efficiency of the electrical component in the system ranging from 0.9 to 0.95

$$P_{ME} = 0.83 \times \frac{MPP_{Shaft}}{\eta_{electrical}}$$

### Auxiliary Power

$$P_{AE(i)} = \left(0.025 \times \sum_{i=1}^{nME} P_{ME(i)}\right) + 250 + \left(0.02 \times \sum_{i=1}^{nME} P_{ME(i)}\right)$$