



## BEST PRACTICES (HONOURABLE MENTION)



### Background of Company

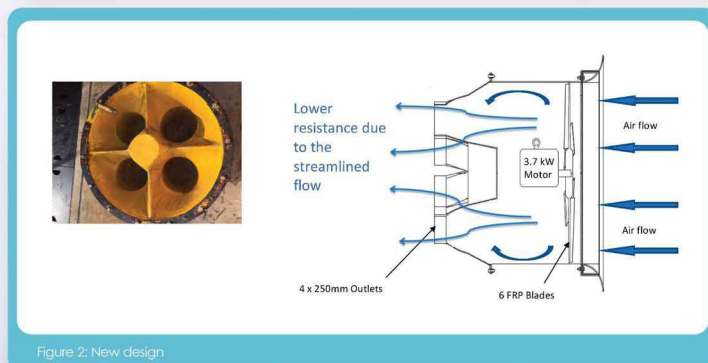
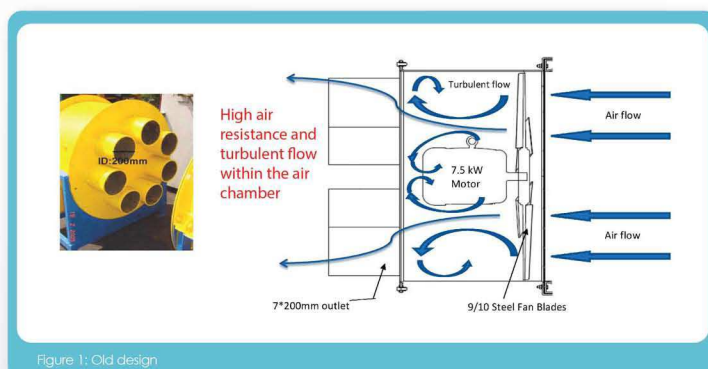
Keppel Shipyard is the trusted name for the repair, conversion and upgrading of a diverse range of vessels. The company is the market leader for the conversion and upgrading of Floating Production Storage and Offloading (FPSO), Floating Storage and Offloading (FSO) and Floating Storage and Regasification Units (FSRU); having successfully completed more than 110 such projects to-date. It also has an extensive track record in the fabrication and installation of turrets and mooring systems, as well as topsides process modules.

### Project Description

#### Energy Efficient Ventilation Blower

Air ventilation blowers are used for air ventilation within confined spaces in the shipyard. Prior to the retrofit, Keppel Shipyard used more than 340 nos. of 7.5kW blowers to provide 24-hour ventilation. The blowers had right angles and sharp transitions within the air chamber, resulting in high air resistance and turbulence that impeded air flow.

To improve efficiency, Keppel Shipyard adopted a new air chamber design for 50 nos. of blowers. The new design has streamlined air flow path from a bell shaped inlet all the way to the multiple outlets to help guide the inflow air to the fan impellers. As a result, the air resistance and turbulence within the air chamber is reduced. This made it possible for Keppel Shipyard to use a more efficient fan impeller and a smaller capacity motor (3.7kW) to reduce energy consumption while maintaining the same air flow rate.



### Results

Based on the reduction in power consumption of the 50 nos. of blowers, the annual energy savings is 720MWh. This translated to an improvement of 7.1% at system level and 1.4% at facility level.