



## CASE STUDY:

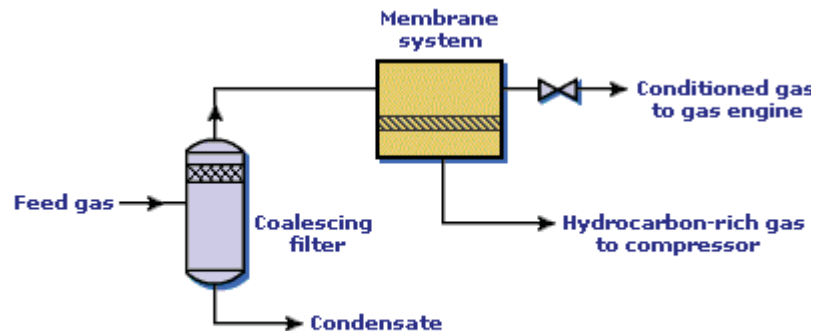
# Fuel Gas Conditioning (FGC) for a Floating Production Storage and Off-Loading (FPSO) Genset

### Client's Problem

The customer operated a gas-powered Wartsila generating set on a North Sea floating production, storage, and off-loading (FPSO) unit. Because the associated gas used to power the engines was extremely rich, the engines had to be de-rated to achieve reliable, trouble-free operation. The customer wanted to remove at least half of the  $C_{3+}$  components from the gas to allow the engines to be used at their rated capacity. The available footprint for the fuel conditioning unit was small.

### MTR's Solution

MTR installed a simple one-stage membrane system in which the membrane tubes were arranged vertically to save space. A coalescing filter upstream from the membrane modules removed entrained liquids and particulate matter. The feed gas then passed to the modules, which divided the gas into a 2,400  $m^3/h$  conditioned gas stream to power the engines and a 4,300  $m^3/h$  permeate stream to be recycled to the suction side of an existing vapor compressor. The membrane modules lowered the  $C_{3+}$  content of the gas from 15.7% to 5.0%. Fuel quality problems with the compressors were eliminated.



*Compact membrane units are ideal for offshore installation.*