

## IN THE MARKETS

### Royal Caribbean Purchases Four Scrubbers Ahead of Toughening ECA Rules

Royal Caribbean has purchased four scrubbers for its cruise fleet—two are retrofits and two are for newbuilds. The use of abatement technology is but one of a series of measures designed to cope with higher fuel oil costs and the forthcoming drop in ECA sulfur caps from 1%S to 0.1%S in January 2015. Other measures include improving fuel efficiency through diesel generators, using silicon hull paint, which creates less friction with the water, optimizing vessels trim, optimizing vessel speed, and air bubble hull lubrication systems. As part of this effort to reduce fuel costs, Royal Caribbean Cruises Limited (RCL) has invested in monitoring software that reduces fuel consumption by giving ship captains real time guidance on propulsion power based on existing sea conditions, according to a presentation by Michael McNamara of Royal Caribbean at World Fuel Oil Summit VI in Malta on May 9-11, 2013. World Fuel Oil Summit VI was organized by Axelrod Energy Projects and hosted by Enemalta Corporation.

Spending over one billion for fuels in 2012, fuel oil costs account for 18 percent of RCL's total operational costs. From 2005 until 2012, RCL succeeded in reducing fuel consumption on a per passenger day basis by 18 percent, although absolute fuel consumption has grown due to fleet expansion. In 2013, RCL will consume an estimated 1.07 million mt of IFO, down 1 percent from 1.08 million mt in 2012. By contrast, RCL's MGO consumption will rise 4 percent from 280,000 mt in 2012 to an estimated 290,000 mt in 2013 (see the accompanying table). Notwithstanding RCL's cost-cutting measures, the cost of bunker fuel can be expected to rise when the new ECA regulations go into effect in January 2015.

In sum, RCL's cost mitigation strategy focuses on six aspects of fuel costs that can be optimized to reduce costs:

#### ROYAL CARIBBEAN, BUNKER FUEL CONSUMPTION

(Thousands Metric Tons)

Year	IFO	MGO	Total
2005	716	367	1,083
2006	726	377	1,103
2007	822	378	1,200
2008	903	317	1,220
2009	973	262	1,235
2010	1,037	274	1,311
2011	1,047	271	1,318
2012	1,082	280	1,361
2013E	1,069	290	1,359

E=Estimated.

- Long-range demand planning revolves around gauging demand by region for 60 months forward for hedging. This approach allows 6-12 month forecast models to assess procurement.
- Procurement. Optimal supply locations are secured and guaranteed for fuel supply. Term contracts are based on competitive offers. In certain markets, spot purchases are considered opportunistically.
- Logistics. Communication between vessel and supplier is critical in achieving optimal delivery of fuel.
- Risk management and trading. RCL enters into contracts for fixed price supplies to protect from volatility over the next 30-90 days. At the same time, to protect from volatility, RCL enters into financial hedges for 6-30 months forward.
- Demand management requires the establishment of consumption models and budgets.
- Regulatory compliance. RCL has engaged in negotiations with regulatory agencies and has attempted to be proactive with respect to ECA mitigation strategies.

*(Continued from page 1)*

While scrubber technology is one means of coping with the January 2015 ECA and reducing fuel costs, the ability of RCL to deploy scrubbers on a large scale is not seen as entirely cost effective or manageable. Other alternatives, such as LNG bunkering are only in the nascent stage and as yet are not viable alternatives for retrofits or vessels that need to travel long or varied itineraries. Operating in over 400 ports across the world, Miami-based Royal Caribbean Cruises Limited is the world's second largest cruise line. ■