McQUILLING SERVICES, LLC
MARINE TRANSPORT ADVISORS

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McQuilling Services

Optimum Speed Dashboard

For Tankers

Bunker prices are soaring. Are you running your tankers at the right speed?

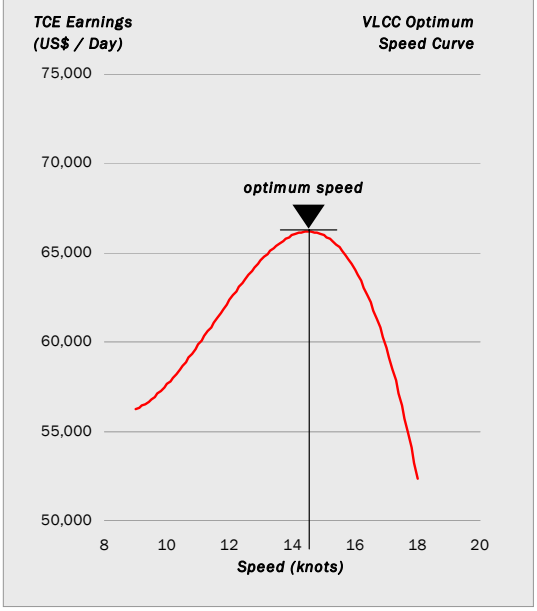
Back in the days of steam turbine tankers with high fuel consumption rates many will recall the exercise of calculating optimum speeds based on prevailing spot market rates and bunker prices. The concept of optimum speed is relatively straightforward: The faster you go, the quicker the trip which allows for the voyage revenue to be distributed over fewer days thus increasing the daily or TCE earnings.

However, since the fuel consumption relationship to speed is a cubic formula, going too fast drives up the fuel consumption drastically, ultimately reducing daily earnings by increasing fuel costs. The optimum speed curve thus had a point where the daily earnings were greatest, that point being defined as the optimum speed.

As the much more fuel efficient motor tankers replaced the fuel-guzzling turbine tankers, the lower fuel consumption rates, in combination with lower prevailing bunker prices and market rates, placed this fleet of motor tankers on the portion of the optimum speed curve that was always increasing. Therefore, it made sense to run the motor ships as fast as they would go, weather and safe navigation permitting.

In today's market environment we have seen dramatic increases in freight market levels and skyrocketing bunker prices. As a result, the optimum speed calculation for modern tankers is again relevant and operating at the "optimum" speed can produce substantial financial benefits to the ship owner or operator. There may be a benefit of as much as US$ 1,000 per day to be running at the optimum speed versus one knot faster or slower.

Figure 1 – Optimum Speed Curve



The calculation of the optimum speed is different for every vessel or vessel class and varies with vessel particulars, the speed/fuel consumption curve for the vessel, bunker prices, market freight rates and trade deployment.

McQuilling Services has created a simplified optimum speed model that can be populated with client data to produce an optimum speed "Dashboard" for use in evaluating vessel speeds in current market conditions.

For a nominal fee we will customize the model with client data to produce a vessel or vessel class dashboard for use in vessel deployment activities. We are also available to investigate fleet-wide solutions based on specific client requirements.

(continued)

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Client Data Required:

- *Vessel speed / fuel consumption data points for ballast & loaded conditions*
- *Vessel main particulars*
- *Trade route description*

Dashboard deliverables:

- *McQuilling customization of optimum speed template with client data*
- *Three-tab Microsoft Excel workbook containing the dashboard; the speed, rate & TCE daily value matrix; and the calculated speed/fuel consumption equation produced from client data*
- *Instructions for use of the Dashboard*

The McQuilling Services Optimum Speed Dashboard is available for a price of US$ 1,000 per vessel or vessel class. Please contact us to arrange for your copy or to further investigate solutions for your fleet.

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McQuilling Services — *Optimum Speed Dashboard*

Description	TD 1 - AG / USG - Ras Tanura / LOOP		*WS 100 Rate*	30.86	US$/mt	*Spot Rate (WS)*	100.0 WS
Cargo Quantity	280	mmt	*Bunkers*	500	US$/mt	*Demurrage Rate*	120,000 US$/day

Voyage Description

Vessel		VLCC
Ballasting From	name	LOOP
Loading Port	name	RAS TANURA
Discharging Port	name	LOOP
Ballast Miles	nm	12,336
Laden Miles	nm	12,336
Laden Days	days	35.2
Ballast Days	days	35.2
Port Days	days	4.0
Canal Days	days	0.0
Underutilization	%	5%
	days	3.7
Total Elapsed Time	days	78.2

Port, Fuel & Canal Information

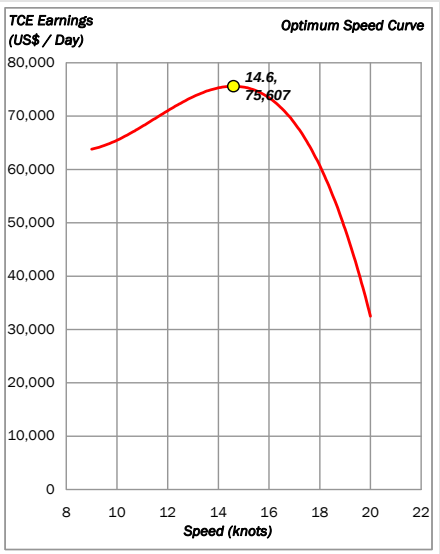
Port Cost		
RAS TANURA	US$	29,000
LOOP	US$	10,000
Port Time		
RAS TANURA	days	2.0
LOOP	days	2.0
Canal Transit	name	
Revenue	US$	
Cost	US$	
Time	days	
Bunker Prices		
Bunker Price	US$/mt	500
MDO Price	US$/mt	800

Voyage Costs

Speed Laden	knots	14.6
Speed Ballast	knots	14.6
Bunker Consumption Laden	mt/day	75.65
Bunker Consumption Ballast	mt/day	59.02
In-Port Bunker Consumption	mt/day	2.0
Discharge Consumption	mt	200.0
Subtotal Bunkers	mt	4,949
MDO Consumption Transit	mt/day	0.0
MDO Consumption In Port	mt/day	0.0
Subtotal MDO	mt	0.0
Subtotal Fuel Costs	US$	2,474,685
Subtotal Port & Canal Costs	US$	39,000
Total Voyage Costs	US$	2,513,685

Freight, Demurrage & Commission

Cargo Quantity	mt	280,000
WS100 Rate	US$/mt	30.86
Freight	US$	8,640,800
Demurrage Rate	US$/day	120,000
Demurrage Days	days	0.0
Demurrage Revenue	US$	0.0
Canal Revenue	US$	0.0
Other Revenue	US$	
Total Revenue	US$	8,640,800
Less Commission	2.50%	($216,020)
Less Voyage Costs	US$	($2,513,685)
Net Voyage Revenue		$5,911,095



Data input cells
Result cells

Time Charter Equivalent Result (TCE)

Net Daily Revenues	$/day	**$75,607**

Maximum TCE Revenues	US$/Day	75,607
Optimum Speed	knots	14.6
Sensitivity plus 1 knot	US$/Day	857
Sensitivity minus 1 knot	US$/Day	994

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