

TFMS Seminar 2010

To save 1 mile, 1 metric ton !

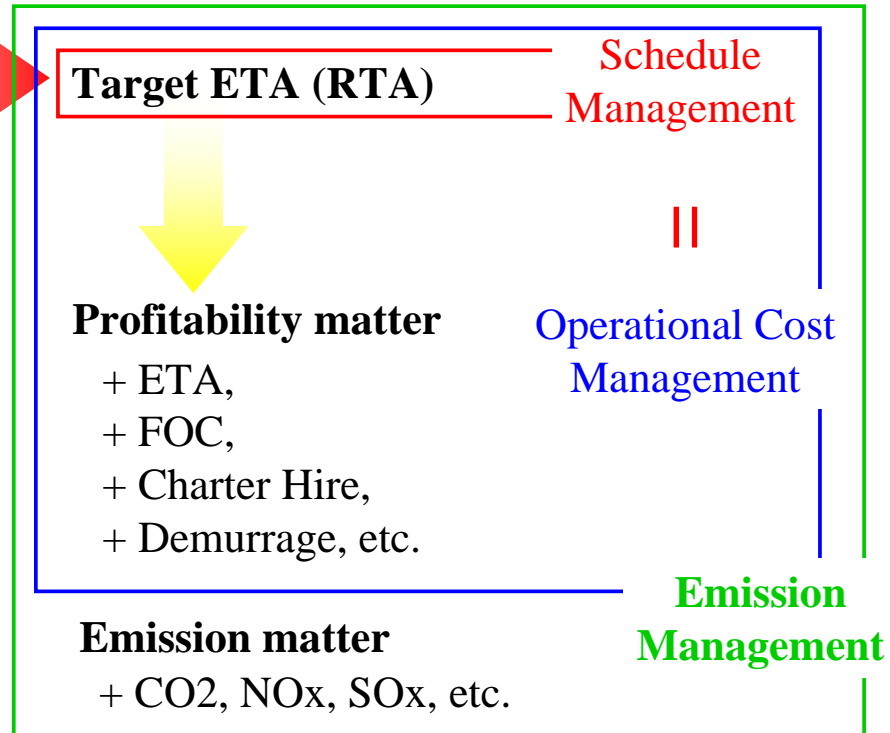
Optimum Ship Routeing for
Container Ships, Bulk Carriers, PCTC, and Tanker

12th May, 2010

1 % Technology,
99 % Communication

Target Management Operation

SAFETY
conditions



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Actual Results of OSR

1. Safety Management based on “**DASH**”

2. Schedule Management based on “**RTA**”

Application to Bulk Carrier, PCTC, Tanker

Safety Management based on ‘DASH’

DASH (Safety Risk Index)

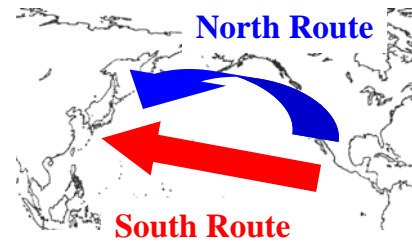
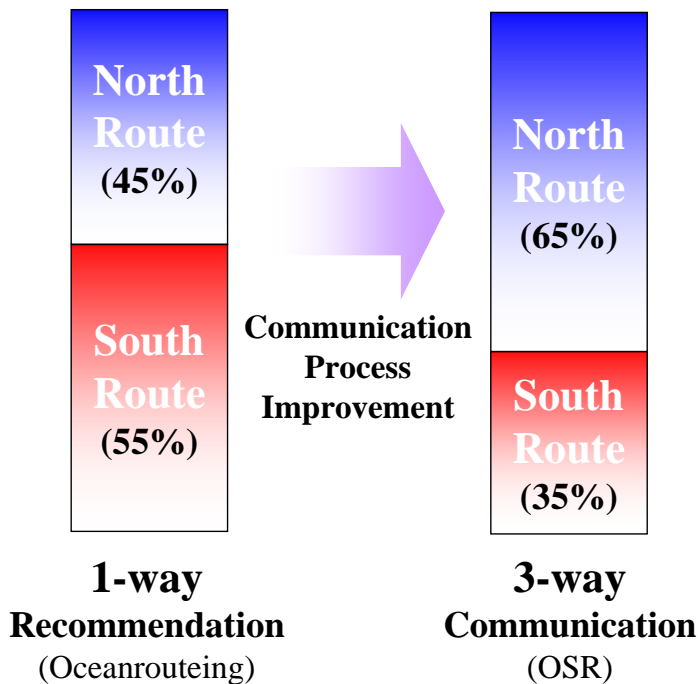
Almost No Damage case after providing DASH !

Accident case analysis Dangerous area (phenomena) :
Tropical Storm, Triple Point

DASH / WNI	Action	Shipping Company
Dangerous	Avoidance	Threshold
Severe	<u>Consensus-Building</u> (Route Decision)	
Heavy	DASH + Customer's Threshold	

To save 1 mile !

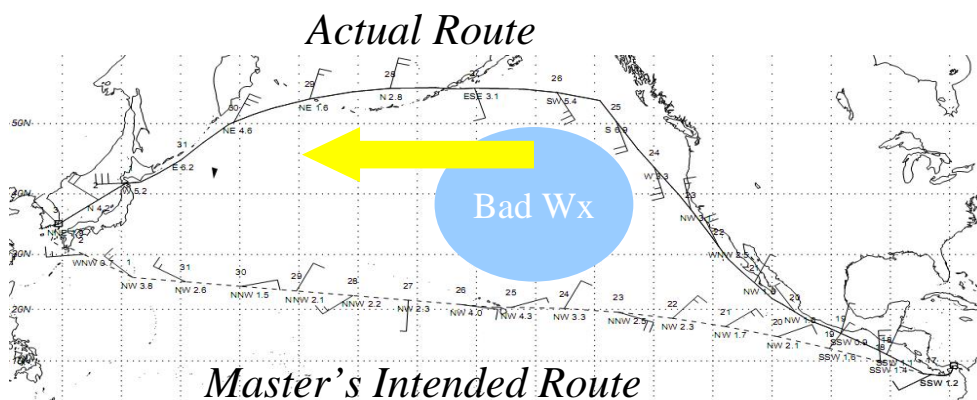
Route Decision based on Confirmation



FO savings
= **30 mt/voyage**
= **15,000 USD/voyage**

Assumptions:
1 north voyage = 1000 mt.
South route is about 5% longer.

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FO Savings

2240 mt (*Master's*) – 1960 mt (*Actual*) = **280 mt**
= **140,000 USD**

Consensus-building among Operator, Master, and WNI.
(3-way communication)

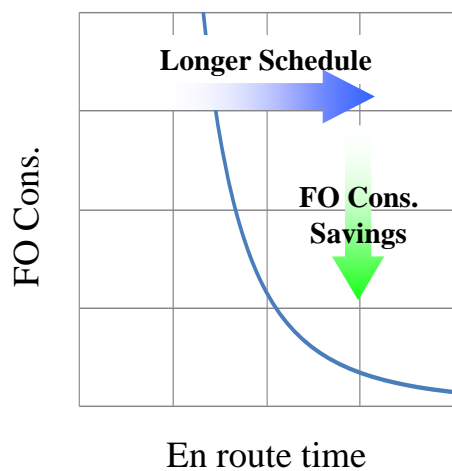
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Schedule Management based on “RTA”

Application to Bulk Carrier, PCTC, Tanker

To save 1 metric ton !

Effect of RTA Change



1% longer schedule
↓
About 2% FO savings

When

- + Tight Schedule (no margin)
- + Canal Transit
- + Port Congestion
- + Stevedore Arrangement
etc.

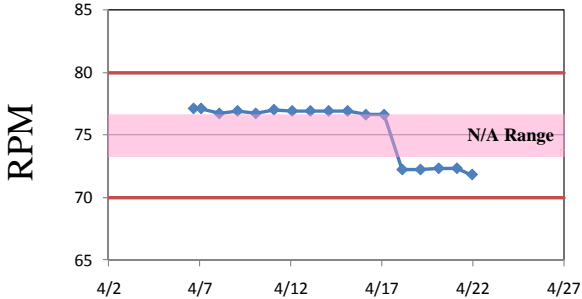
Example of Effect

(voyage with 10 day, 1,000 mt)

En route time	Savings
11.0 day (+ 1 day)	→ About 200 mt (About 100,000 USD)

Bulk Carrier Case

1. Operator set RTA (Discharging Schedule)
2. Master adjusted RPM for RTA

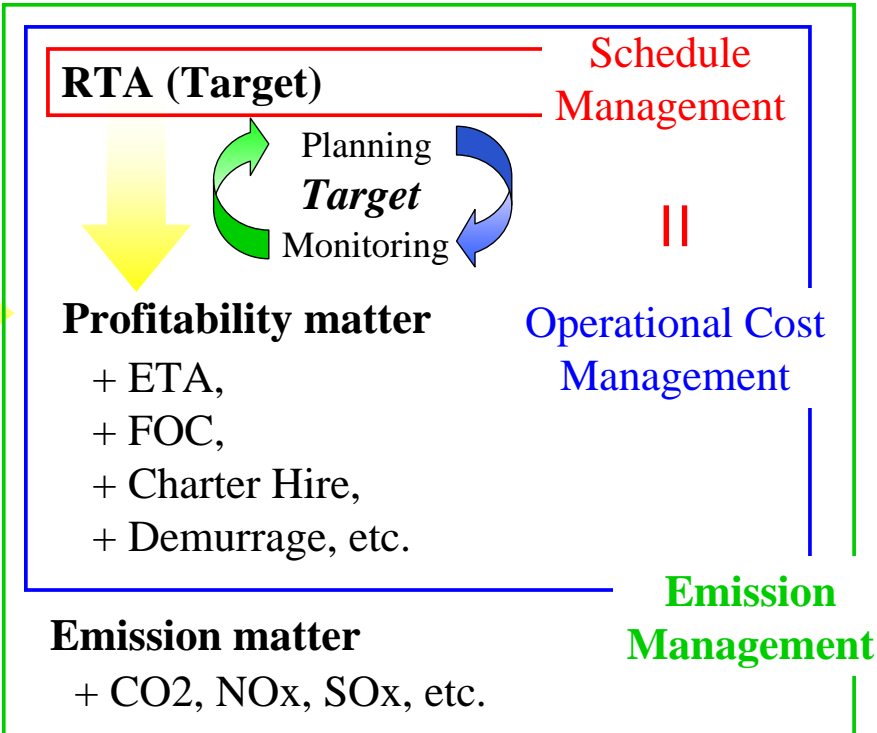


	FOC	Time
Max RPM based	: 737 mt	352 h
Actual	: 632 mt	367 h
Diff	: 105 mt	15 h
	(Savings)	

Target Management Operation

Earliest Arrival
(Oceanrouting)

Non-adjustable



Summary

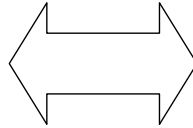
Target Management

OSR supports your target management !

Target ETA (RTA)

Target FOC

Target Emission



Optimization / Update

&

Monitoring

New Technology

Super Slow Steaming

Best ETA / Worst ETA



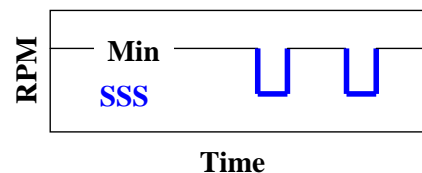
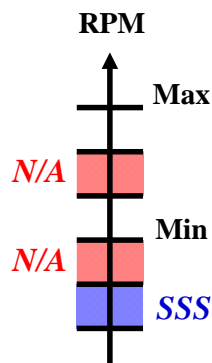
Super Slow Steaming

To save 1 more metric ton !


Theme of SSS

Maximum utilization of FO savings effect based on slow steaming.

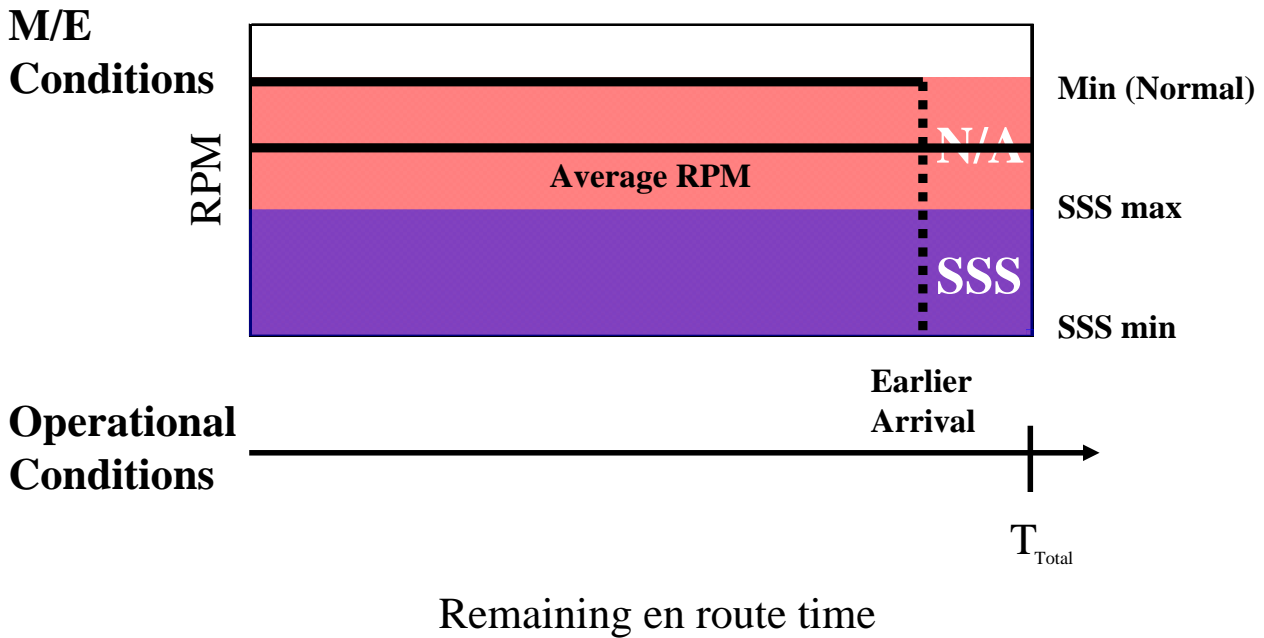
Complex Fleet Operation



Shipping company's SSS operation policy

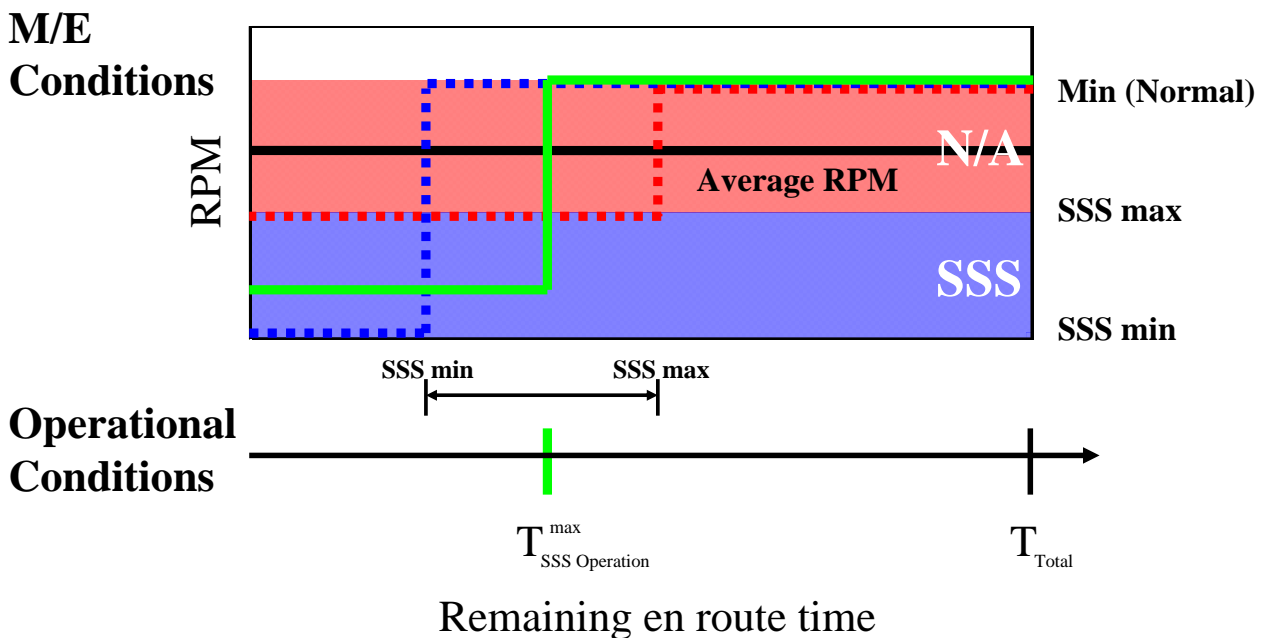
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1. Best combination of SSS RPM and SSS duration
 2. Best timing for SSS
 3. No complex procedure or operation.

How to find Optimum SSS RPM and SSS Duration



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How to find Optimum SSS RPM and SSS Duration



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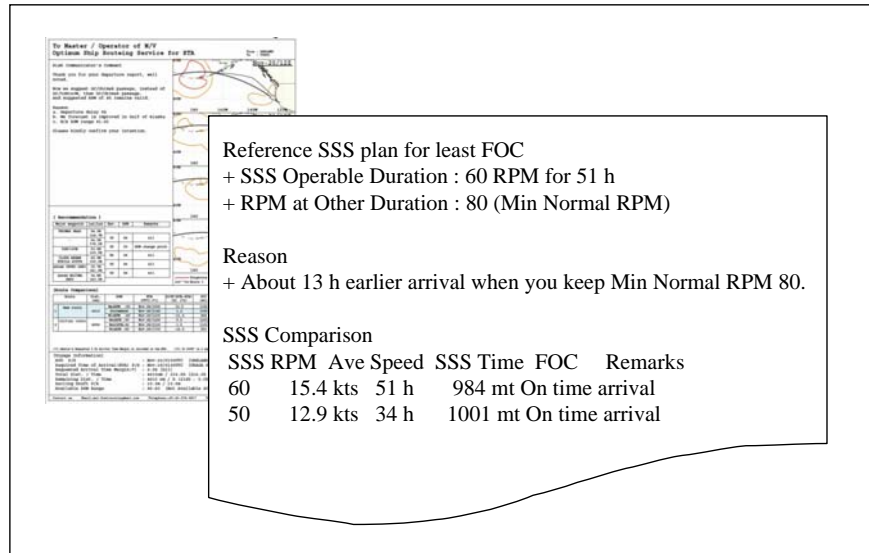
SSS Operation Image

VP Sheet + RC Alert

Optimum Plan

SSS RPM / xx rpm

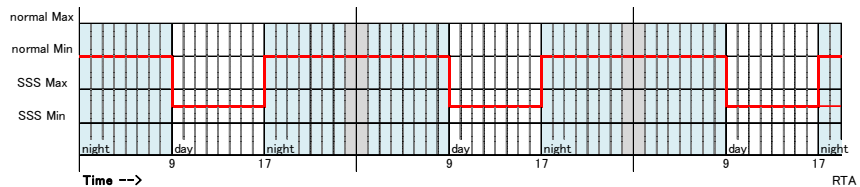
SSS Duration / yy h



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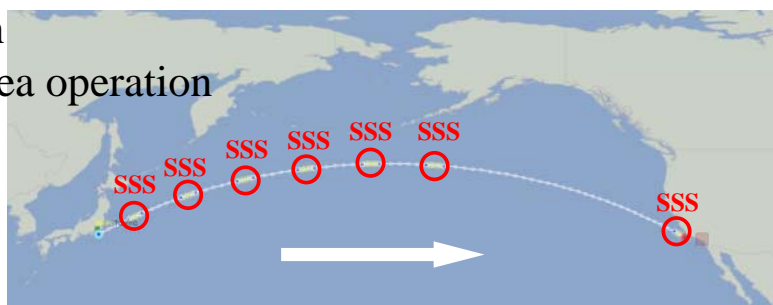
Next Step : Optimum Timing of SSS

1. Fine resolution D/R Simulation (1-hour pitch)



2. Detail definition of SSS Operation

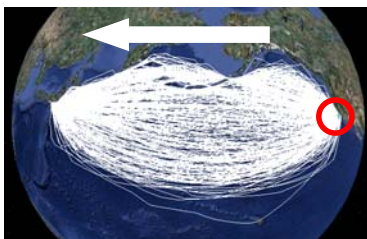
- + Near port operation
- + Near speed limit area operation



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Best ETA / Worst ETA

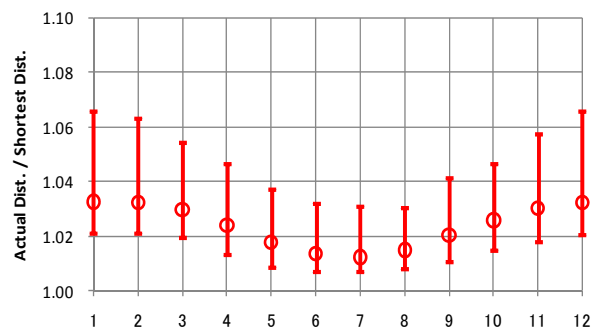
Best ETA / Worst ETA



More reliable ETA at an early stage



Diversion Risk



Monthly Distance Deviation

Coastal OSR

Toward Total Fleet Management “Always-on Monitoring and Optimization”

