



## Session # 7

CIL Workshop on Submarine Cables and Law of the Sea

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Chairman - International Cable Protection Committee

Head of Subsea Centre of Excellence - BT

Singapore – 14-15 December 2009

# AIS View of Singapore Straits October 2009

**AISLive 2.0 - Microsoft Internet Explorer provided by BT Webtop**

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**THE FIRST GLOBAL AIS NETWORK**

13/10/2009 10:25:56 UTC, Visible Tracks: 112

The map displays the Singapore Straits region with numerous vessel tracks and names. Visible vessel names include: MARINA BATAM 10, AROWANA MANCHESTER, MV MARINA BATAM 5, SOUTHERNLIN 3, NO 3 HEUNG A PIONEER, SUN NEPTUNE, STELLAR PACIFIC, FATMAH, SIPEA, SEA HARRIER, SEA INT'REPID, ROTA PEMIMPIN, YOSSA BHUM, APL TENNESSEE, MSC GINA, HYUNDAI STAR, TORM KANSAS, PETIR, LEISURE WORLD, CINTAINDOMAS, WARRIOR, SONG LIN WAN, MARINASH, W O SEREPE, MELODY 3, GIMNI TARAN, CHEMSTAR BRAVE, WM FORTUNE 1, SOVEREIGN, TOUCHET TIDE, INDO BERLIAN 3, WIN MASTER, IBUKISAN, SPRING, and APL FLORIDA. The map also shows depth contours and a scale bar in nautical miles.

332 items found in visible view at 13/10/2009 10:24:17 UTC. Clear search

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N 01°17.477', E 104°08.436'

Internet

# Measures to prevent Damage

- Provide port authorities with “overlay” of cable routes for port radars
- Consider creation of cable protection zones with significant fines for infringement
- Monitor cable protection zone using AIS integrated with vessel management software

# Example Guard Zones

Horizon - [ Manual Chart Loading (1:1,500,000) 1123 ARCS 1:500,000 DU=Metres UNDERZOOMED ]

Main Chart Nav Elements AIS Light Level Window Help

AIS Tx	AIS Rx	S57	S57 ?
Chart	Fixed Views	AIS Info	AIS ?

<b>Remote Name</b>	STELLA-WEGA
<b>MMSI Number</b>	245284000
<b>Call Sign</b>	PHHQ
<b>Latitude</b>	50° 10.0200' N
<b>Longitude</b>	005° 52.1900' W
<b>COG</b>	000.0° T
<b>SOG</b>	13.800 Kts
<b>ETA to Cursor Local</b>	21:22:21
<b>Nav Status</b>	Under Way Engine
<b>Destination</b>	BELFAST
<b>Channel</b>	VDL Channel A
<b>DTE Status</b>	N/A
<b>Positional Accuracy</b>	Low
<b>Time Since Last Update</b>	00h 00m 06s
<b>Operating Mode</b>	Autonomous

<b>AIS Target</b>	N/A
<b>Time to CPA</b>	N/A
<b>Distance to CPA</b>	N/A
<b>Distance of CPA</b>	N/A
<b>CPA Latitude</b>	N/A
<b>CPA Longitude</b>	N/A

<b>AIS Target</b>	STELLA-WEGA
<b>Heading</b>	001.0° T
<b>Rate of Turn</b>	720°/Min

AIS Targets	CPA	Type
HEINRICH G.	N/A	Cla...
KIZHI	N/A	Cla...
LARGS BAY	N/A	Cla...
LES HANDIS	N/A	Cla...
MARIA THERESA	N/A	Cla...
MARIBEL	N/A	Cla...
MELODY	N/A	Cla...
NAUTICAST	N/A	Cla...
NAOS	N/A	Cla...
PANDA	N/A	Cla...
PILOTVESSEL ...	N/A	Cla...
RMS LIBAVA	N/A	Cla...
RMS WEDDALL	N/A	Cla...

UNDERZOOMED

UTC 14:17:58 Entry TAT12 Seg F  
 UTC 14:19:23 Deleted Target: ARKLOW RULER  
 UTC 14:21:10 Deleted Target: NORTH POINT

Start Microsoft Excel - AIS Ala... Horizon - [ Manual Ch... Sent Items - Microsoft O... Document1 - Microsoft ... 15:21

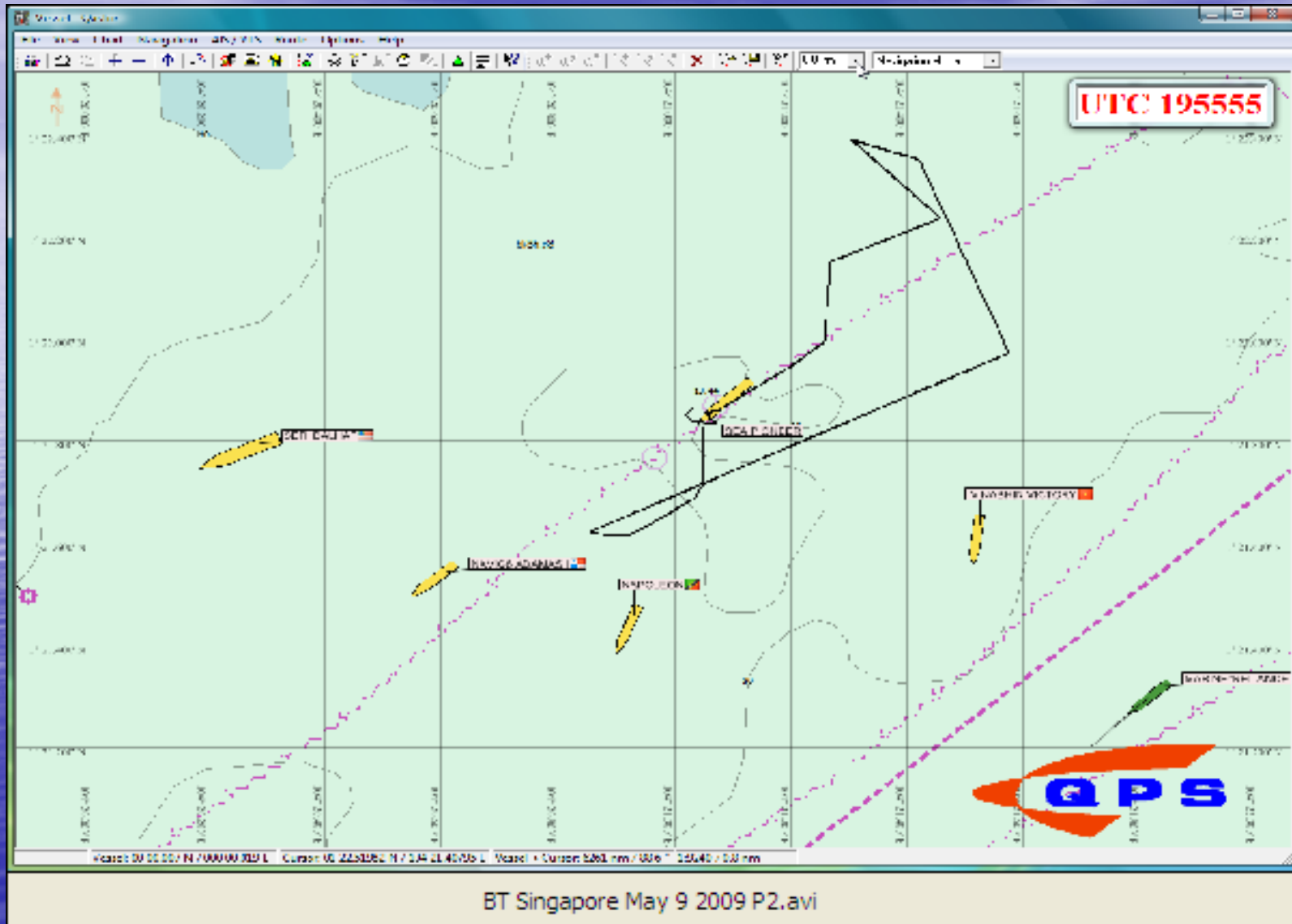
# AIS Alarm Flow Chart



# Using AIS to Prevent Damage

- An integrated AIS system can:
  - prevent damage by a ship dragging at anchor
  - prevent a multiple failure from a ship dragging anchor whilst underway (assuming sufficient diversity)
  - reveal the full extent of damage due to anchors

# Ship Dragging at Anchor off Singapore



■ Courtesy of QPS

# Damage Claims

- AIS data can be used to support legal actions against vessel owner for damage to cable
- Key data is position of vessel and any changes in course or speed at point of crossing cable
- Need to accurately record:
  - time of fault
  - location of fault
  - location of any other damage to cable





Sharing the seabed in harmony