

NAV 08: WE ARE HERE

- THE DREAM



?

- THE REALITY



2006 BUILT BULK CARRIER!

JOHN CLANDILLON-BAKER FNI



- **CLASS 1 MASTER MARINER AND NOW A SENIOR CLASS 1 PILOT**
- **PILOTING SINCE 1983**
- **LAST 19 YEARS WITH:
PORT OF LONDON AUTHORITY**
- **SINCE 1996 THE VOLUNTEER
EDITOR OF THE UK MARITIME
PILOTS' ASSOCIATION
MAGAZINE: *THE PILOT***
- **BUT I'M SPEAKING TODAY AS AN
INDEPENDENT SEAFARER**



**THE MAJORITY OF SHIPS'
MASTERS AND OFFICERS
ARE UNAWARE OF
E-NAVIGATION**

IF WE ARE HERE



PHOTO: SPERRY MARINE

WHY ARE SO MANY HERE?



PHOTO: CARGOLAW WEBSITE

CASUALTY STATISTICS

ALTHOUGH THE NUMBER OF TOTAL
LOSSES HAS REMAINED MORE OR LESS
STEADY AT AROUND 100 PER YEAR

FOLLOWING A STEADY FALL IN THE 1980'S
AND 1990'S, SINCE 1998 THE NUMBER OF
SERIOUS CASUALTIES HAS BEEN RISING
STEADILY:

1998 = APPROX 200 2006: APPROX 700

**ALTHOUGH MANY DISASTERS MAY NOT DIRECTLY BE RELATED TO BRIDGE EQUIPMENT,
THE POOR STANDARD OF EQUIPMENT AND BRIDGE LAYOUTS ON THE AVERAGE
MERCHANT SHIP DOESN'T ASSIST THE WATCHKEEPER IN HIS ESSENTIAL TASK OF
ENSURING SAFE NAVIGATION OF THE VESSEL.**



STARTING WITH THE BASICS

NAVTEX

IS A SOURCE OF ESSENTIAL NAVIGATION INFORMATION



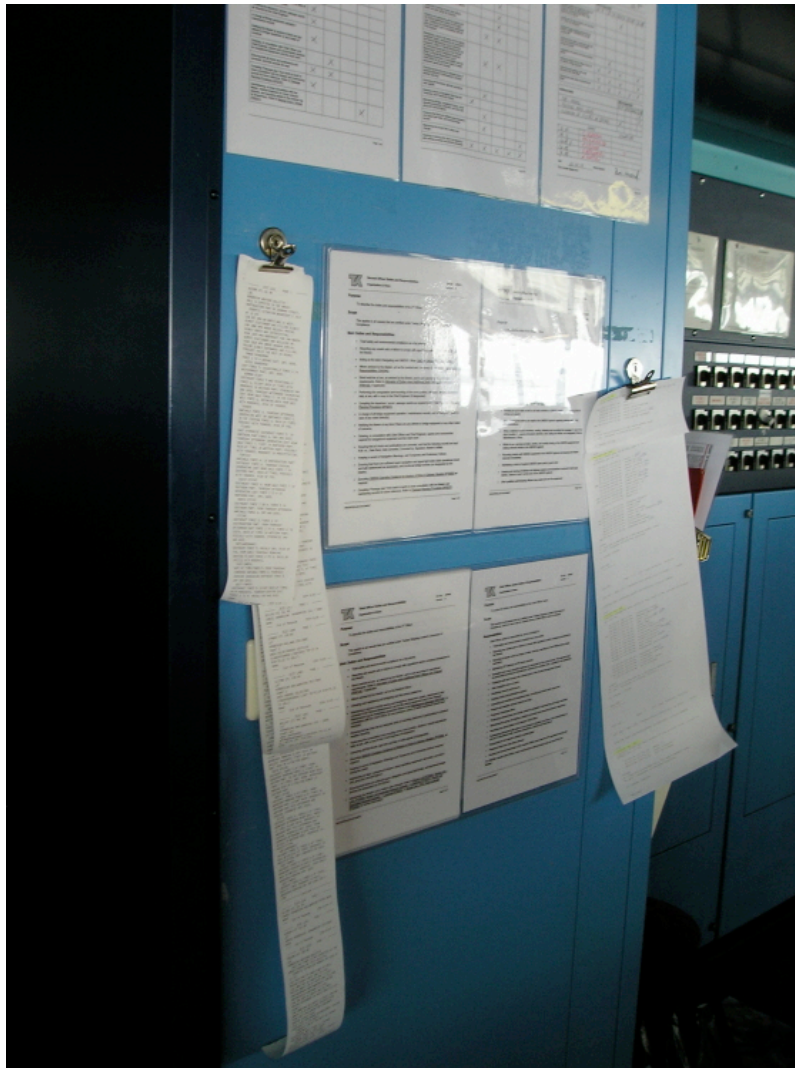
**THIS 1970'S STYLE NAVTEX
RECEIVER IS STILL COMMON!**

**NOTE THE HOME MADE
SPOOLING ARRANGEMENT,
THIS IS AN ON BOARD
MODIFICATION
FREQUENTLY OBSERVED!**

THIS IS HOW IT SHOULD BE MANAGED



**WITH THE RELEVANT NOTICES TORN OFF, NOTED ON THE
CHART AND FILED FOR REFERENCE.**



RARELY SEEN!

THE “MODERN” ELECTRONIC VERSION



DESIGNED FOR YACHTS

**A SMALL, ALMOST
UNREADABLE SCREEN**

**IT IS HARDLY SURPRISING
THAT IMPORTANT
INFORMATION SOMETIMES
GETS MISSED.**

ESPECIALLY IN DAYLIGHT!



**E-NAVIGATION WILL FACILITATE THE INTEGRATION OF
NAVTEX DATA DIRECTLY ONTO AN ECDIS.**

BUT

**IF SUCH INTEGRATION IS AN “OPTIONAL EXTRA”
MY EXPERIENCE IS THAT THE AVERAGE SHIP WILL NOT
HAVE THIS FACILITY INSTALLED**

ECHO SOUNDERS?



**THIS IS ANOTHER
ESSENTIAL PIECE OF
NAVIGATION KIT.**

**THIS MODEL IS FOR THE
LEISURE MARKET.**

**ALTHOUGH DESIGNED
MAINLY FOR THE FISHING
INDUSTRY IT CONTAINS ALL
THE FEATURES THAT
WOULD FIT INTO THE
E-NAVIGATION CONCEPT**

IT COSTS AROUND £2000

THE OLD 1970'S STYLE PAPER MODELS ARE STILL POPULAR!



**THIS ONE WAS ON BOARD A
(LESS THAN 10 YEAR OLD)
100,000 TONNE TANKER.**

**ALTHOUGH AWAITING REPAIR IT IS
FAIRLY TYPICAL OF A “MODERN”
VARIATION OF THE TRADITIONAL
MODEL.**

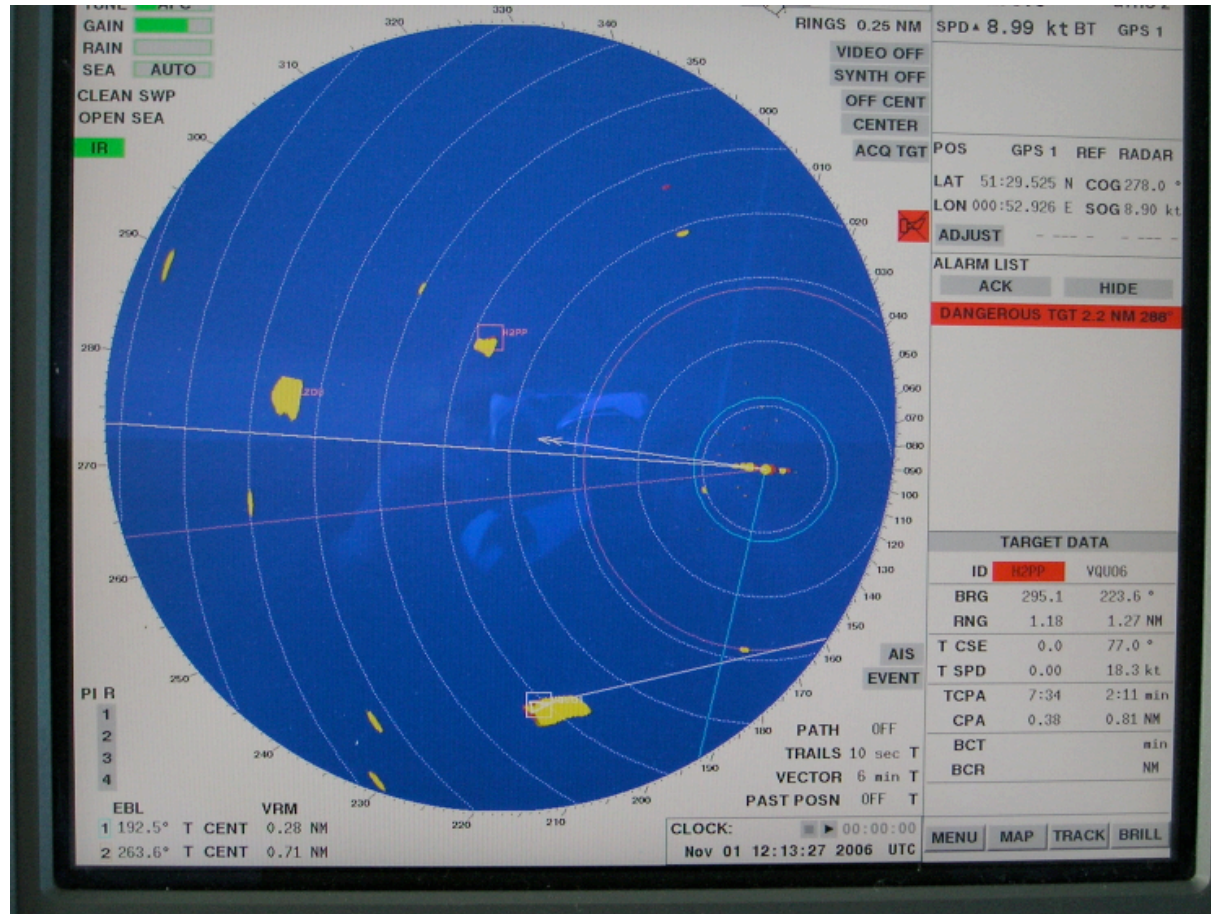
**FOR VETTING PURPOSES THE
WATCHKEEPER HAS TO WRITE THE
TIMES AND LOCATIONS AT
REGULAR INTERVALS IN PEN ON
THE PAPER PRINT OUT!**

AIS



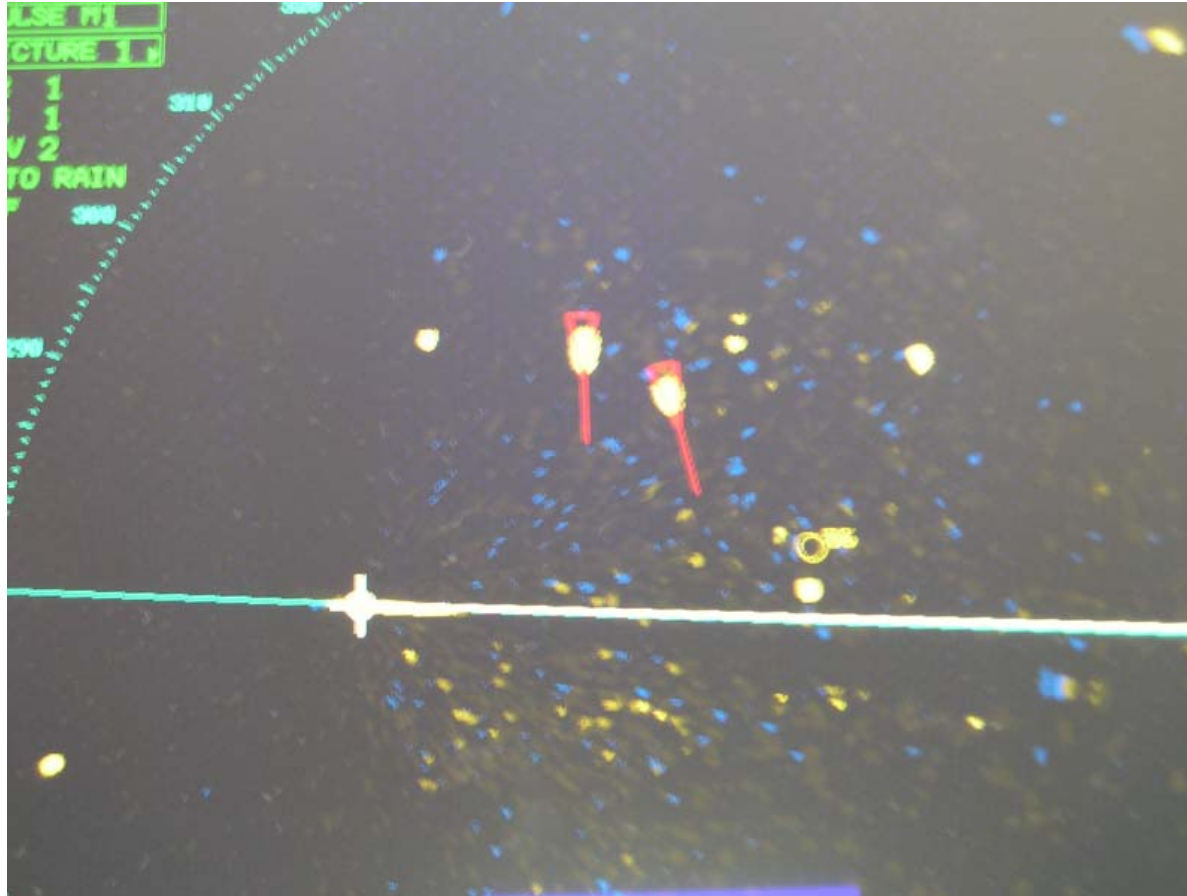
MOST SHIPS STILL HAVE THIS BASIC ALPHA NUMERIC DISPLAY

BUT SINCE 1ST JULY 2008 IT IS NOW A REQUIREMENT FOR NEW RADARS TO HAVE THE AIS INTEGRATED



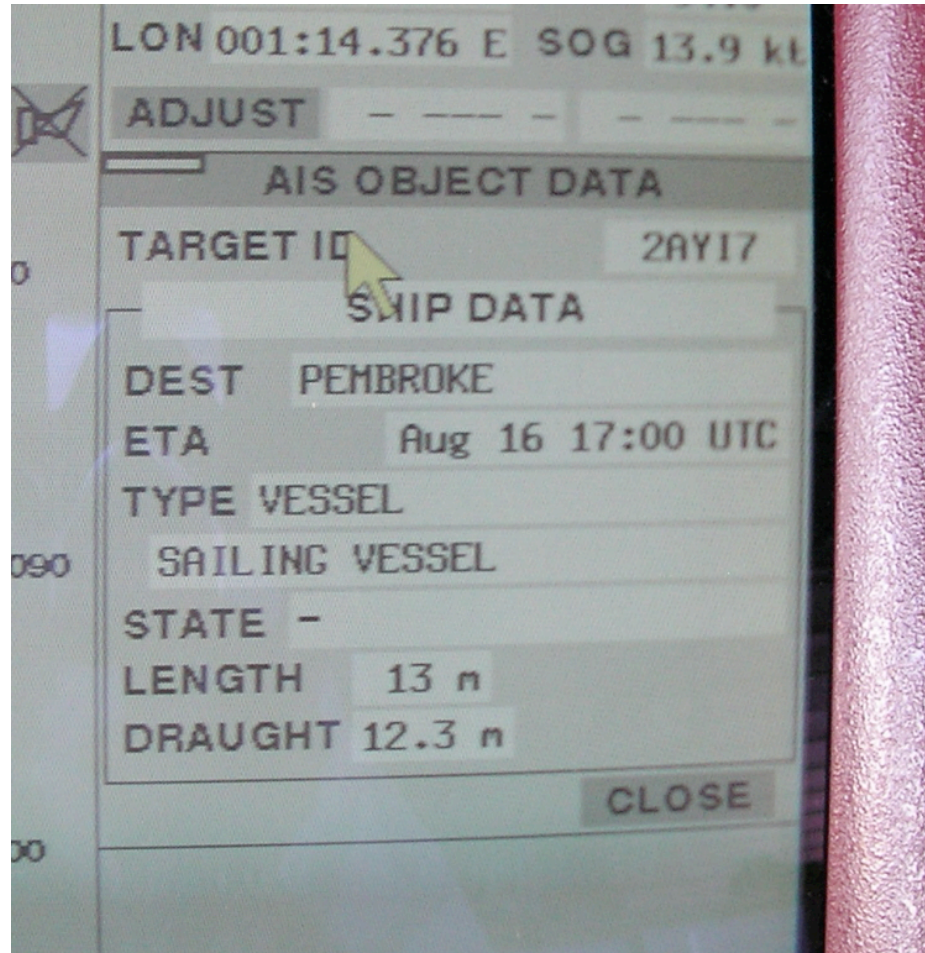
THIS IS AN EXCELLENT FACILITY WHICH CAN ENHANCE SAFETY

**BUT IF THE INFORMATION DISPLAY ISN'T STANDARDISED THEN
CONFUSION CAN ENHANCE DANGER!**



THESE TWO SHIPS ARE SEEMINGLY ON A COLLISION COURSE. THE COLLISION ALARM IS ALERTING THE WATCHKEEPER AND THE AIS SHOWS THEIR HEADING. HOWEVER. THESE ARE ACTUALLY 2 SHIPS AT ANCHOR POSING ZERO RISK!!

AND NOW WE HAVE CLASS B AIS



HERE WE DETECT A
YACHT ENJOYING A
NICE SUMMER CRUISE
NOTE THE DRAFT!

RADARS



THANKS TO DAVID PATRAIKO, THE E-NAVIGATION AGENDA NOW INCLUDES A REQUIREMENT FOR MANUFACTURERS TO INCORPORATE A BASIC “SAFE MODE” THAT DEFAULTS THE RADAR TO BASIC SETTINGS.

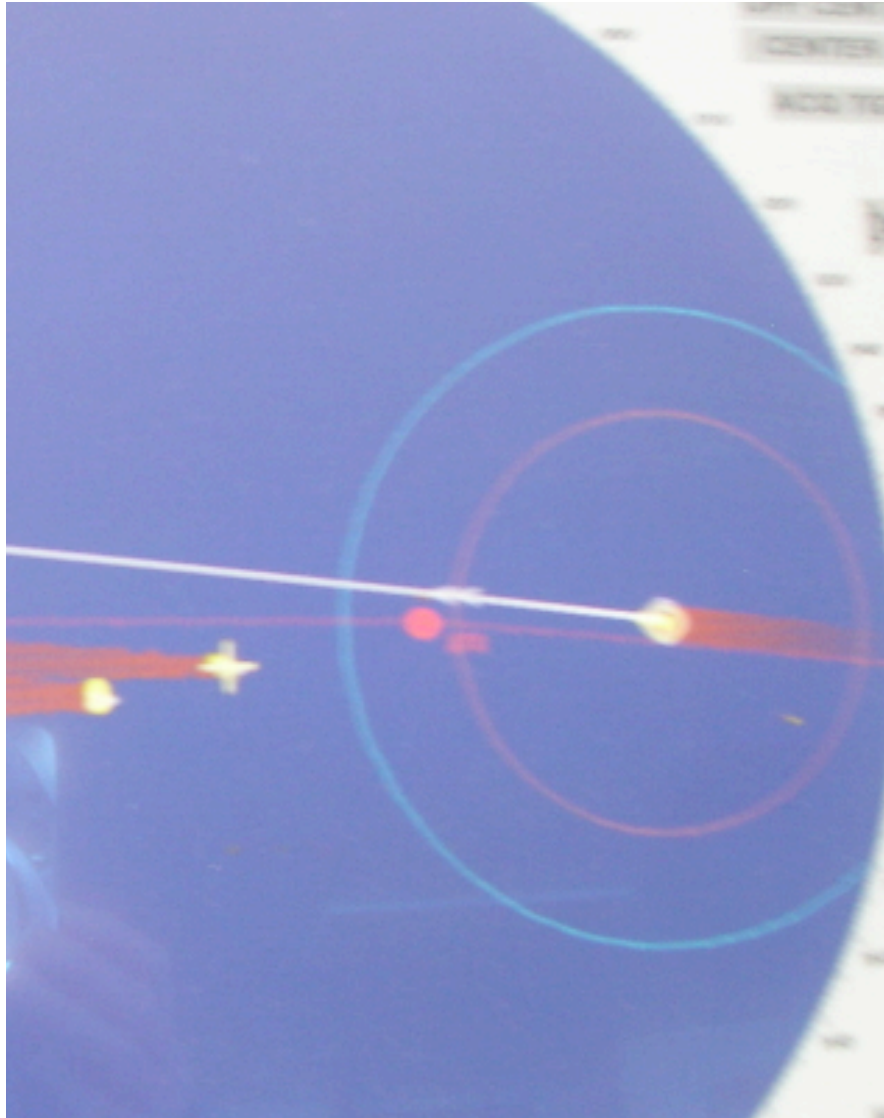
THIS IS LONG OVERDUE SINCE THERE IS CURRENTLY AN ALMOST INFINITE VARIETY OF DISPLAYS AND OPERATING SYSTEMS WHICH RESULTS IN DANGEROUS CONFUSION FOR THE END USER.

PARALLEL INDEX LINES

**THIS IS ONE OF THE MOST IMPORTANT RADAR FEATURES FOR
PASSAGE PLANNING. BUT:**

- THERE IS NO STANDARD FORMAT FOR THE DISPLAY AND
CONTROL OF THE LINES**
- ON MANY RADARS THE SETTING OF PI LINES IS COMPLEX AND
FIDDLY**
- EVEN WHEN SET UP THERE ARE SOME FRUSTRATING QUIRKS IN
USING PI LINES SUCH AS THEIR STAYING IN THE SAME PLACE ON
THE RADAR SCREEN WHEN CHANGING RANGE RATHER THAN
ADJUSTING TO THE NEW RANGE**
- THERE ARE ALSO A FRIGHTENINGLY HIGH NUMBER OF
WATCHKEEPING OFFICERS WHO ARE UNABLE TO SET THEM UP
AND USE THEM!**

OPERATING MODES

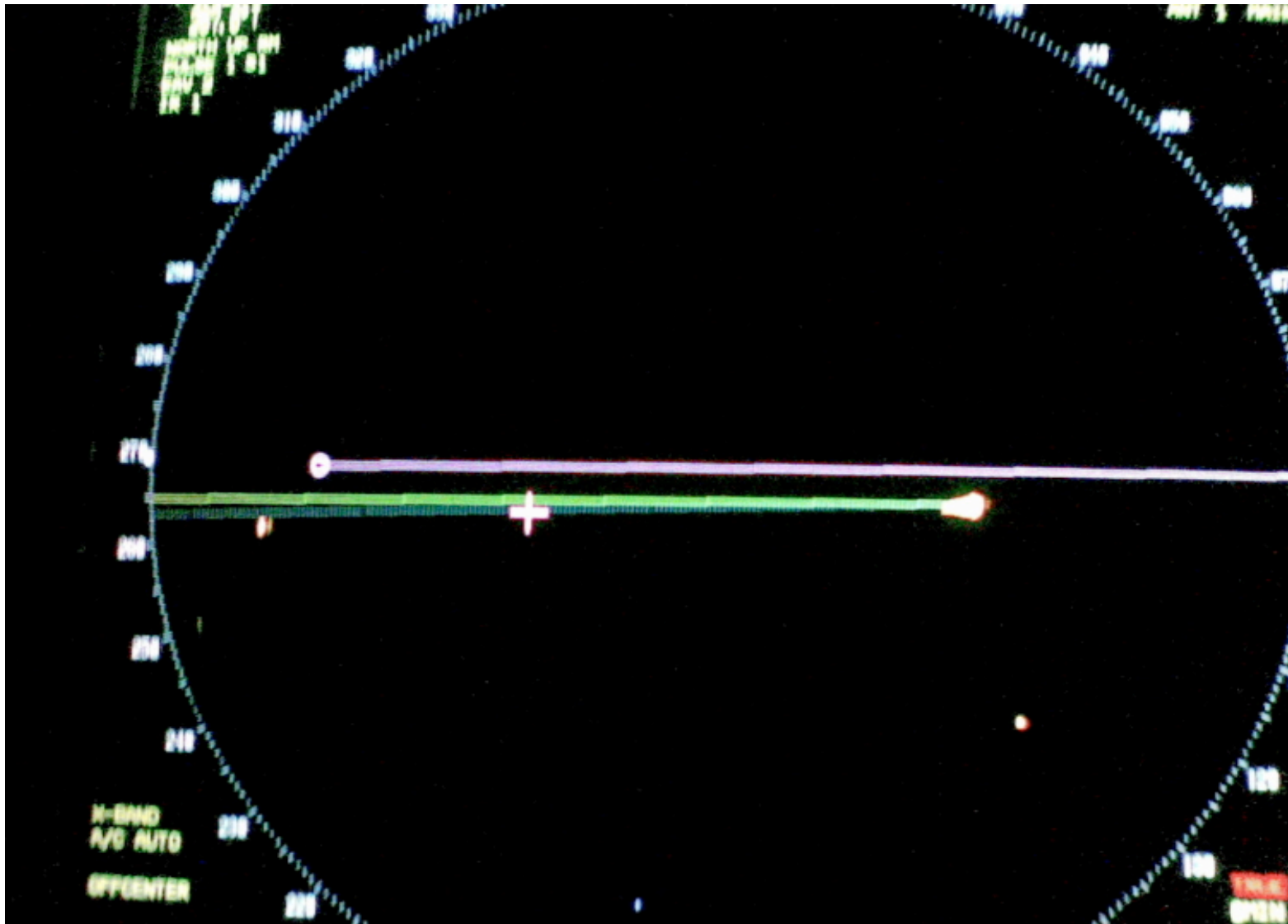


**UNTIL RECENTLY THESE HAVE
BEEN RELATIVELY EASY TO
COMPREHEND**

**BASICALLY, BY LOOKING AT THE
HEADING MARKER:**

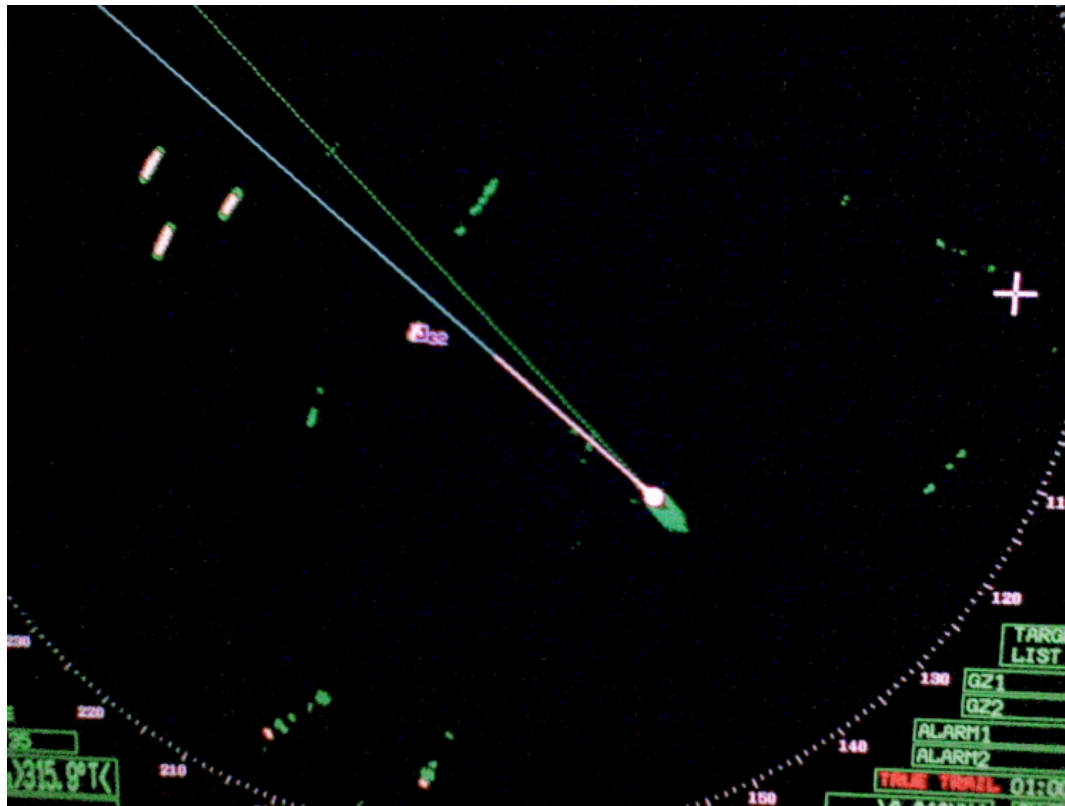
**IF A HEADING VECTOR IS
PRESENT FOR “OWN SHIP” THEN
THE TARGETS ARE BEING
DISPLAYED IN TRUE MOTION
EITHER GROUND OR GPS
STABILISED**

**IF NO “OWN SHIP” HEADING VECTOR IS PRESENT THEN THE RADAR IS IN
RELATIVE MOTION MODE**



WATER TRACK?

THERE IS NOW A REQUIREMENT FOR RADARS TO BE SET TO WATER TRACK MODE FOR ANTI COLLISION PLOTING



MORE CONFUSION?

HERE IS A DISPLAY WITH THE OWN SHIP VECTOR.

IS IT TRUE MOTION OR NOT?

I KNOW THAT THERE IS A STRONG CROSS CURRENT IN THIS AREA SO SOMETHING ISN'T RIGHT!

THE SECRET IS WELL HIDDEN

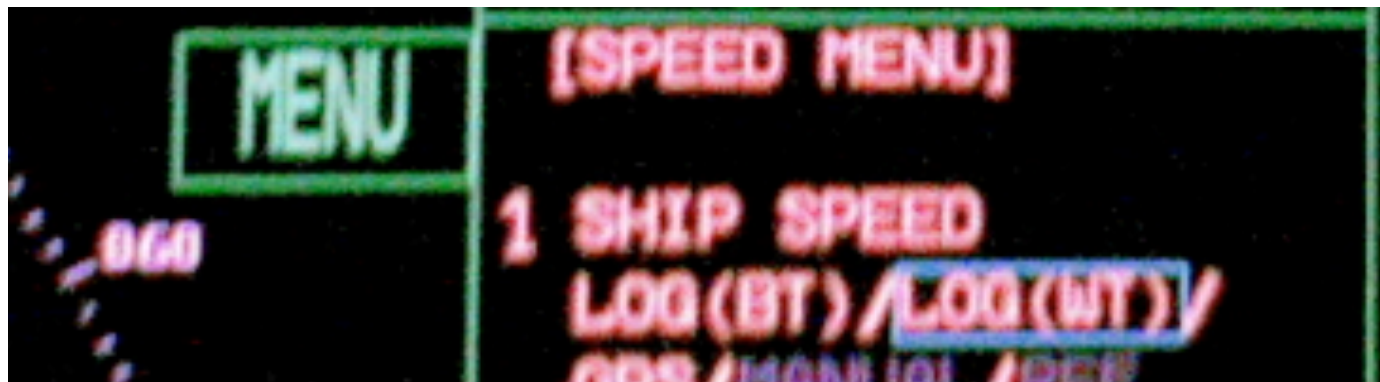


NEXT TO “SPD” IT STATES “WT LOG” AND THE COG
REVEALS THE TRUE TRACK

HELP

“MR MATE, CAN YOU GET ME INTO THE SPEED MENU”

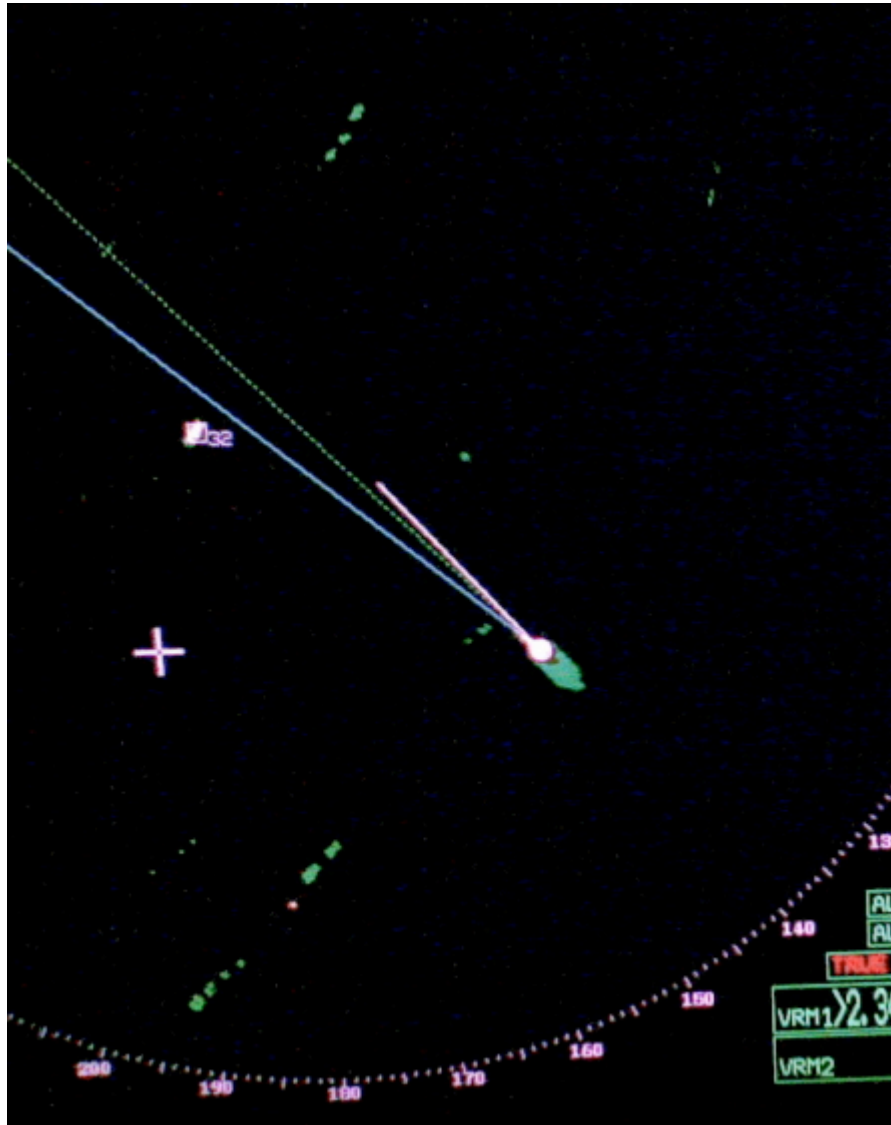
FORTUNATELY THIS OFFICER KNEW THE MENU SYSTEM



AND WAS ABLE TO
RESET THE MODE TO
“BT GPS”

IT IS INTERESTING TO
NOTE THAT THE
VECTOR IS A
FUNCTION OF THE
SPEED RATHER THAN
THE COURSE

THE RESULT



**THE EXPECTED TIDAL
EFFECT IS NOW REVEALED
BY THE GPS STABILISED
VECTOR!**

**I THEREFORE BELIEVE THAT
THE WATER TRACK VECTOR
CAN BE DANGEROUSLY
MISLEADING**

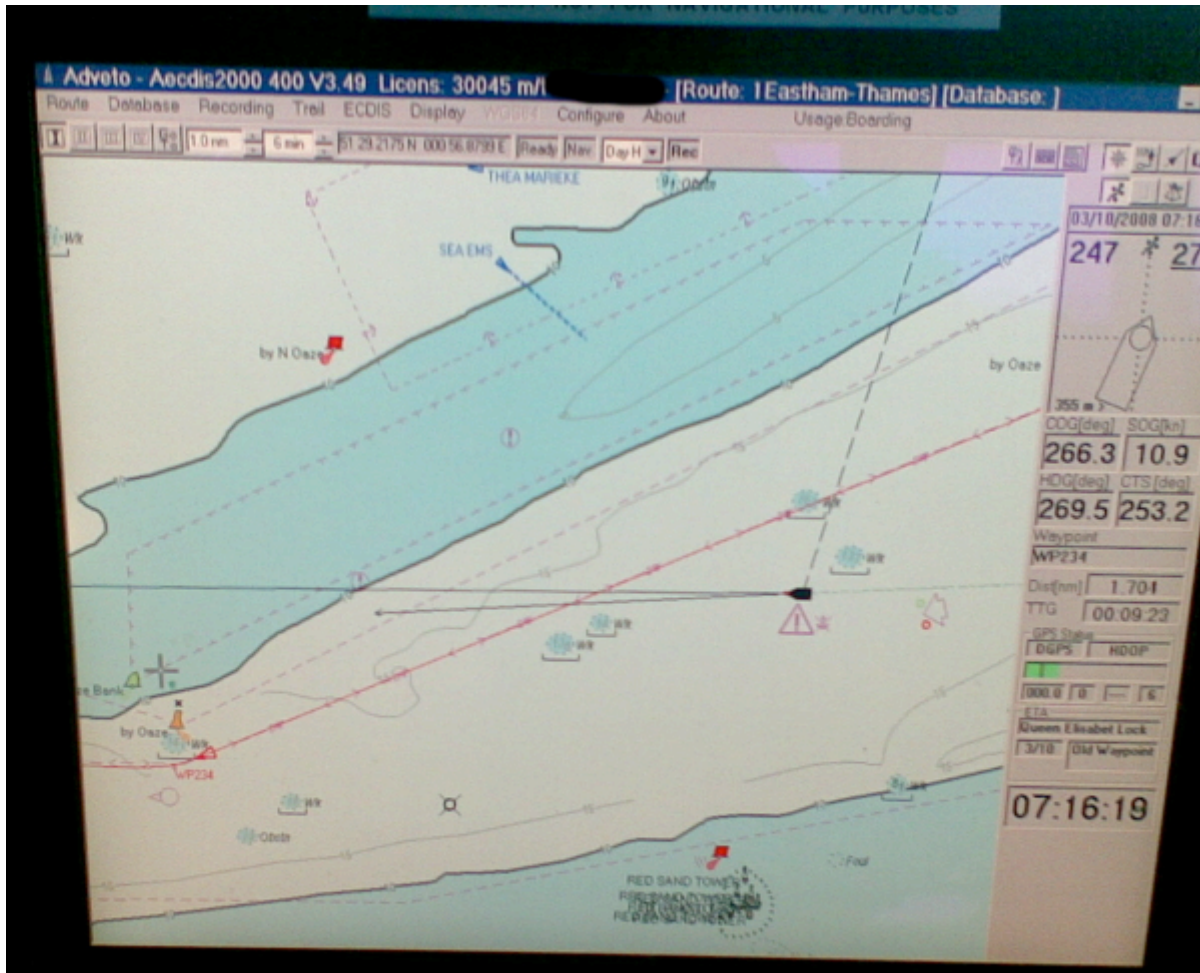
ECDIS

SHORTLY TO BECOME A COMPULSORY
CARRIAGE REQUIREMENT.

WILL THIS END THE EXISTING CONFUSION
OVER WHETHER OR NOT AN ELECTRONIC
CHART IS AN ECDIS?

LET'S HOPE SO BECAUSE THE CURRENT
SITUATION IS APALLINGLY AMBIGUOUS.

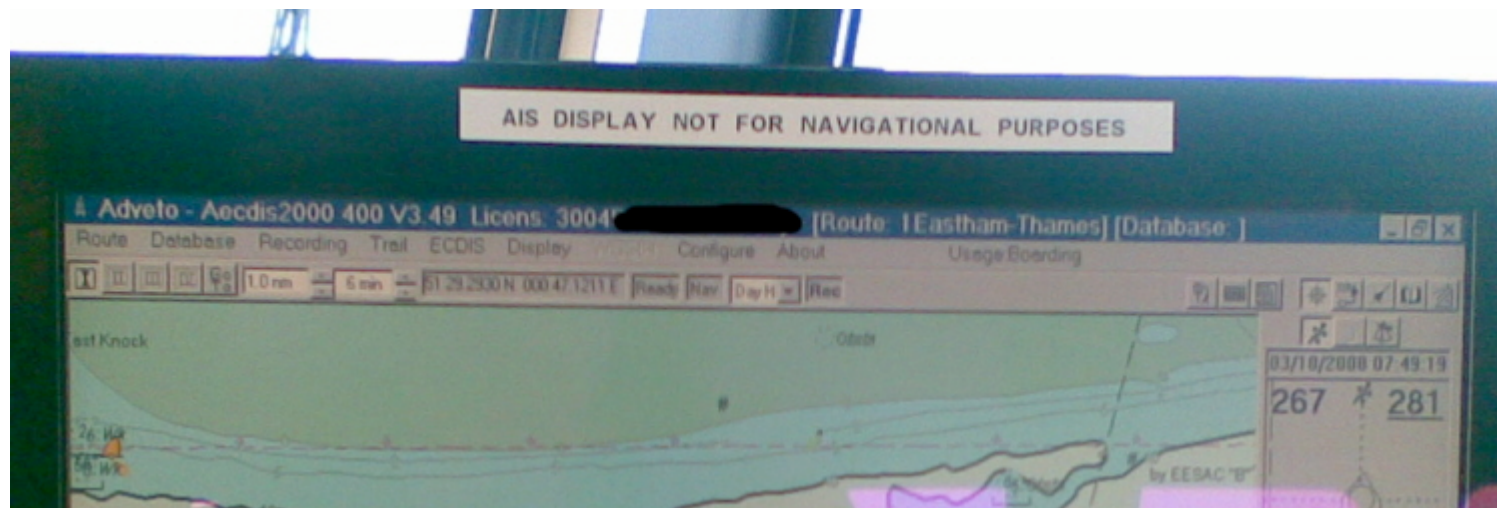
IS THIS AN ECDIS?



**THAT'S WHAT IT
SAYS ON THE TOP
LEFT**

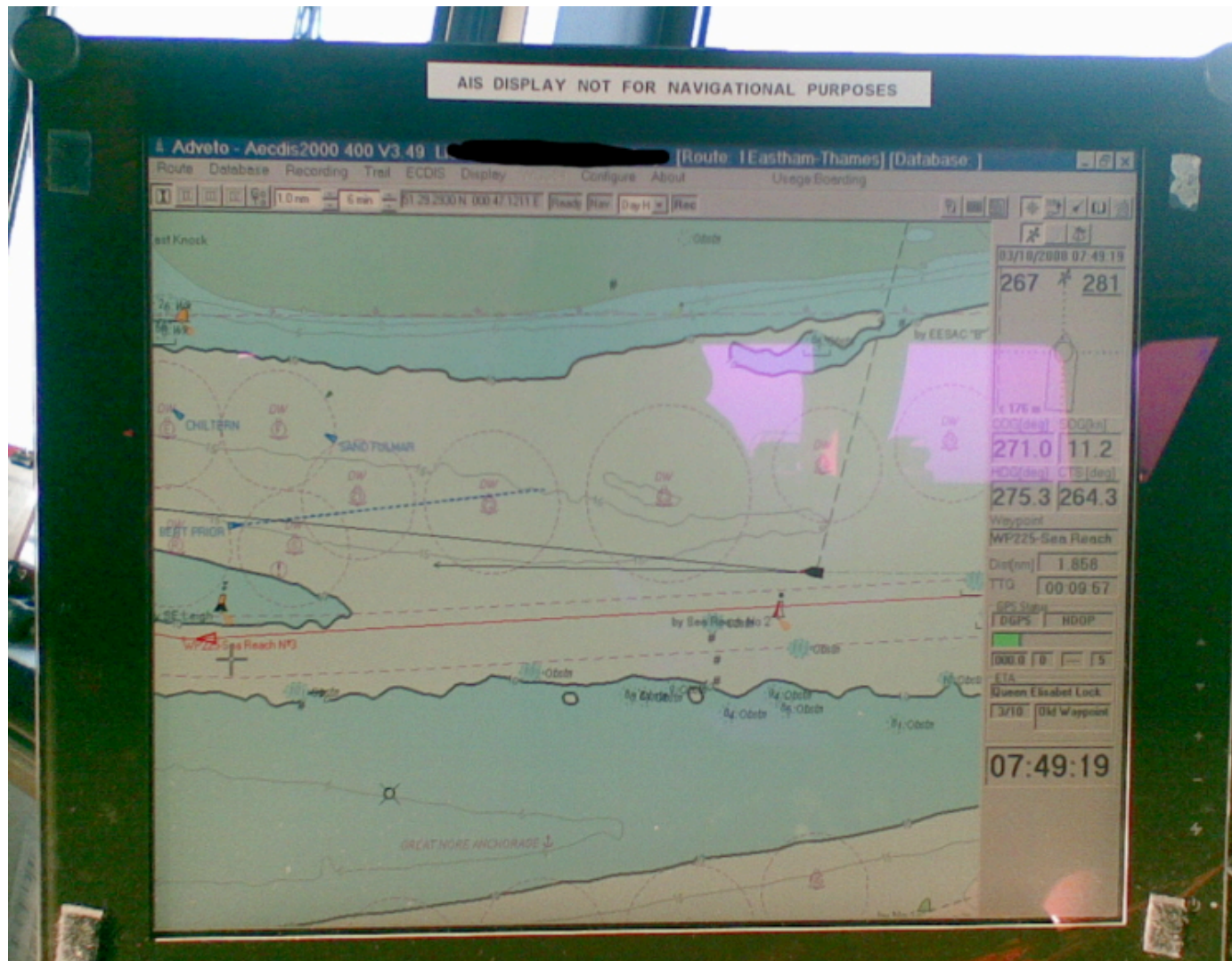
**BUT I KNOW THAT
THE CHART IS WELL
OUT OF DATE**

AND HERE IT STATES



BUT (AGAIN): SOMETHING ELSE IS WRONG HERE
IT IS GIVING A ROUTE

WHICH IS NICELY DISPLAYED ON THE OUT OF DATE CHART!



ALSO OF INTEREST
HERE IS THE "TRUE"
VECTOR WHICH IS
INACCURATE DUE TO
GYRO ERROR

THIS INACCURATE CHART IS CONVENIENTLY LOCATED AT THE CONNING POSITION



SO, WAS THIS ONE FOR
PORT STATE CONTROL
TO BE ALERTED TO?

APPARENTLY NOT.

- THIS PRACTICE IS
COMMON
- THE PAPER CHARTS
WERE ALL UP TO DATE
- THE VESSEL IS
REGULARLY
SUBJECTED TO
VETTING INSPECTIONS
AND HAS ALWAYS
PASSED

A FEW EQUIPMENT ANOMALIES



AN AUTOPILOT
CONTROL

IT'S JUST AS
WELL WE HAVE
EYE TESTS.

ONE TAP ON THE
ARROWS IS ONE
DEGREE.

MORE THAN A
SHORT TAP ON
THE BUTTON
SENDS THE DIAL
(AND THE SHIP)
INTO A MERRY
SPIN!

HERE IT IS AS PART OF THE INTEGRATED BRIDGE



WHICH AUTOPILOT ARE WE USING CAPTAIN?



A USEFUL FEATURE IS TO BE ABLE TO READ THE HEADING!



WHICH YOU CAN (JUST ABOUT) FROM THE RIGHT ANGLE.



BUT NOT, OF COURSE, FROM THE CONNING CHAIR





WHAT SORT OF RADAR IS THIS?

A NEW FLAT SCREEN RADAR HAS BEEN RECENTLY FITTED TO AN OLD REDUNDANT ONE

THE FLAT SCREEN DISPLAY IS ABOVE THE OLD SCREEN AND THE CONTROLS FOR IT ARE FITTED UNDERNEATH THE OLD CONTROL CONSOLE

WHERE DOES THIS FIT INTO OUR E-NAVIGATION WORLD?

**BY NOW YOU MUST ALL BE OVERLOADED BY THIS
PRESENTATION?**



SO LET'S LOOK OUT OF THE BRIDGE WINDOW

NO SHIPS TO WORRY ABOUT?



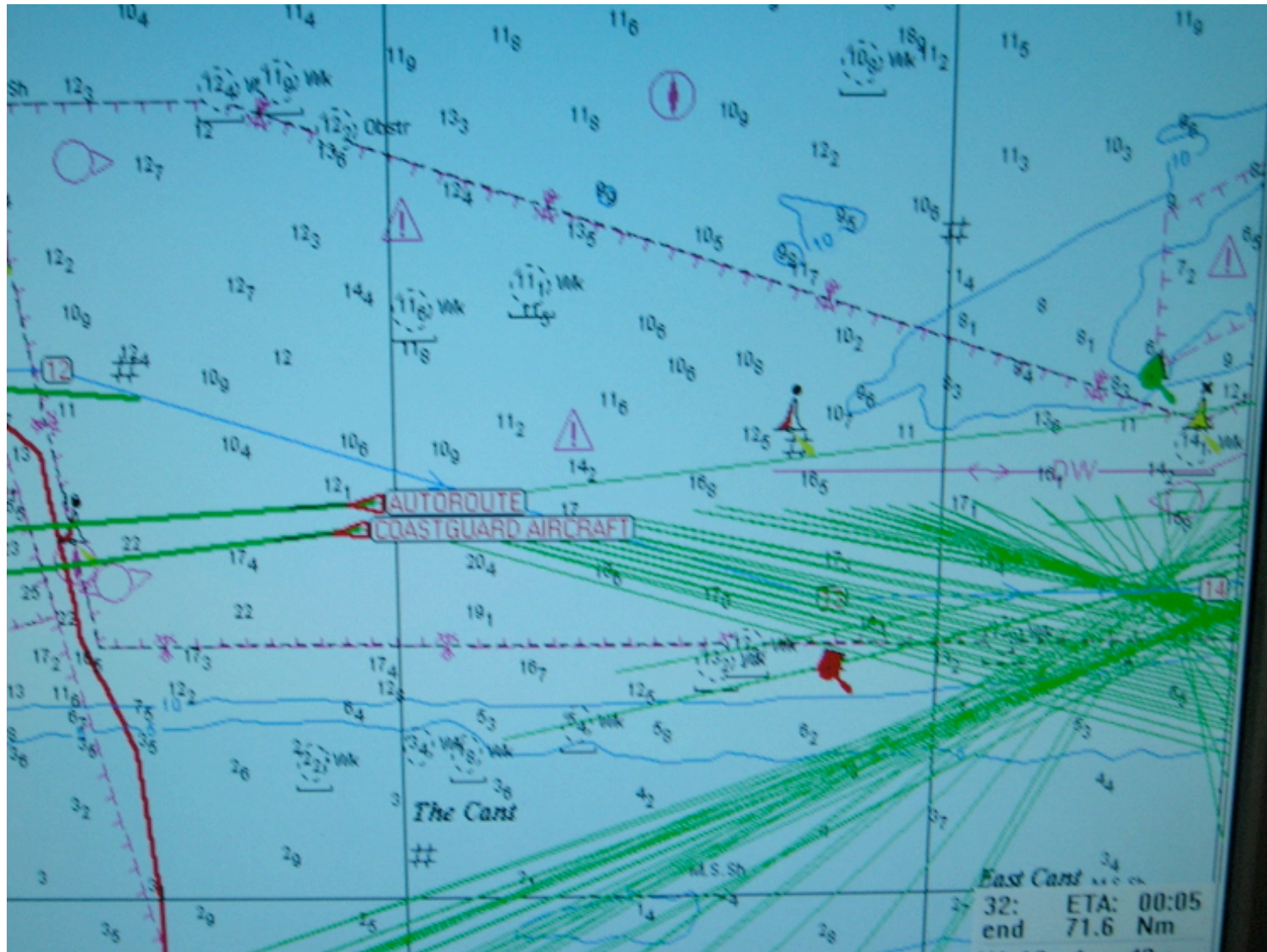
THIS IS THE VIEW FROM A 2008 BUILT CAR CARRIER.

NOTE THE TANKER PASSING DOWN THE PORT SIDE HIDDEN BY THE VENTS.

IN CONCLUSION

ONE PICTURE FOR ANDY NORRIS

THIS IS WHAT YOU GET WHEN YOU PUT AIS ON THE AIR SEA RESCUE HELICOPTER



THANK YOU ALL FOR YOUR ATENTION



BUT IN PARTICULAR A SPECIAL THANK YOU TO ALL
THE (UNFORTUNATELY ABSENT) SHIP MASTERS WHO
GRANTED ME PERMISSION TO PHOTOGRAPH THEIR
BRIDGES AND EQUIPMENT