The Britannia Steam Ship Insurance Association Limited

PILOTAGE AND PASSAGE PLANNING WORKSHOP

Shajed Khan

Introduction

- Raise awareness
- Pilotage
- Passage plan
- Summary

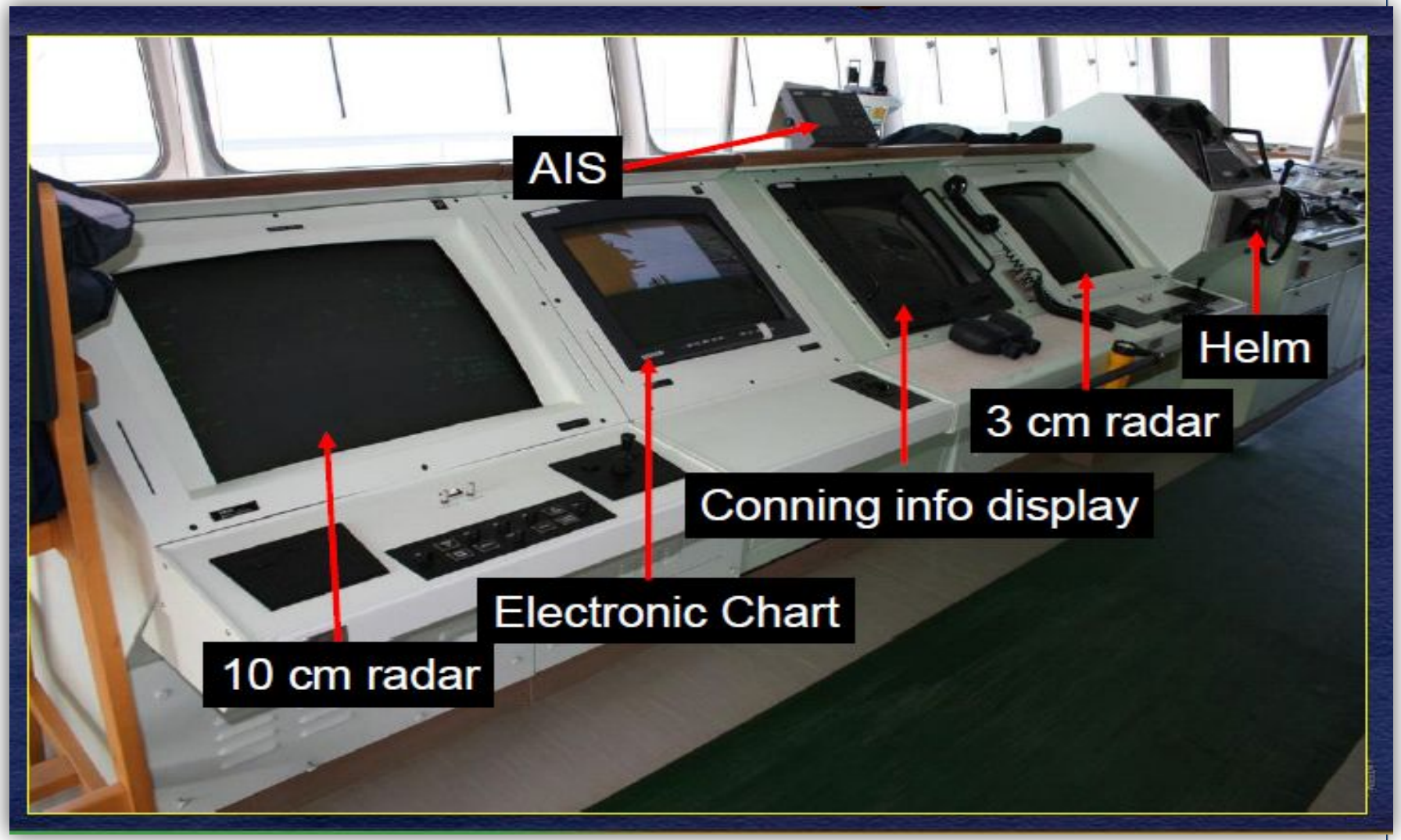
Pilots

- Pilot’s role
- Master’s role
- Benefit of having a pilot on board

Pilotage

- Is a Pilot part of the bridge team? How does he fit in?
- What should the bridge team do ?
- Preparation for navigation with a pilot- arriving port and departing port

Bridge


AIS
Helm
3 cm radar
Conning info display
Electronic Chart
10 cm radar

How would you prepare for a Pilot?

- Visibility 3-4 miles , departing a berth
- How responsibility should be distributed within the team?- including equipments

Pilot on board in reduced visibility

- Scheduled to depart berth at 0700
- Dense fog restricted visibility when pilot boarded
- What is Master's role ?

- What are the roles of the bridge team?

- Visibility now reduced to 50 meter
- What has changed?

Decision making

- Master asking the pilot- “should we sail”?
- What do you think?
- Pilots view –”wait and see!”
- Pilot was not satisfied with the tuning of the radar
- Is the Pilot fit or reliable? How would you monitor?
- If he is not familiar with the equipment-action?

Factors for decision making

- Master’s competence and understanding
- Support available from the bridge team
- Support from ashore

The Master's statement- Do you agree?

- It is not [for] me to decide whether to set sail or not under such condition. Basically, I have to follow his [the pilot's] direction. Even though I realize that the master has full authority, but under such a condition, when we have the pilot on board, I have never encountered any times that, the Captain would overrule the pilot in even both shipboard safety and environment.

Discussion on Masters statement

Why did he think that?

May be..

- No confidence
- Cannot delay the ship due to commercial pressure?
- Fear of losing job?
- Fear of shore management?

Prior departing

- Pilot advises VTS re imminent departure & route
- Visibility 0.15 - 0.25 nautical miles all the way
- 0650: the pilot tells the Master that they should wait for a tug and tow to pass and then leave, as visibility was improving
- What would you do?

Think for a moment

- If obliged to sail, what is your safe speed?
- What additional precautions would you take?
- How often will you plot the vessel's position?
- Too fast can damage any object seriously
- Often misjudging the distance, tide, speed can have serious consequences
- Sometimes actions taken but too late to have any good result

Planning

- Have you discussed manoeuvring ? Does this happen every time?

- Use of tugs?
- Mooring plan?
- Passage plan?
- Effect of squat ?
- Interactions?

Departing

- Is there anything missing?

- 0721: pilot advises the Master to single up
- 0730: the pilot estimates visibility 0.25 mile
- Master and Pilot agree to commence the voyage

Missing information

- Passage plan was not discussed –agreed

- Safe speed ?
- What factors would you consider?

- In 50 meter visibility what is safe speed?

Zero visibility

- Experience?
- Would you sail or not sail?
- Why?

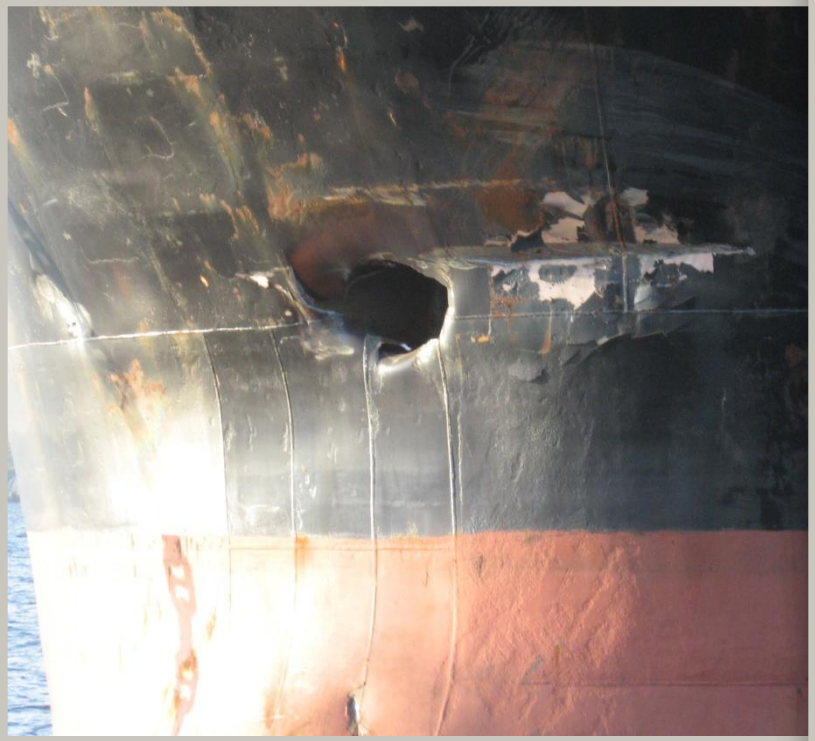
Speed

- Case study:
- Master usually defers to pilot in these ports
- POB at port limits; Pilot says that vessel going ‘too fast’, stops engine
- Vessel ‘out of position’ at checkpoints
- Tug not made fast; anchors ready, not used
- Bow not swinging around, engine run astern
- Bow hits jetty

How fast?

What happens next

The result



Points for concern

- Master and Pilot interaction? Sufficient?
- Experience of the Master and Pilot
- Perception of the Master and other officers
- No one queried the tug not making fast
- Complacency or incompetence?
- In a routine operation, complacency often prevents important questions being raised

What would you do?

- Speed
- Tug is pushing too hard? Or taking inappropriate action
- Pilot's action?
- If you are a Master? An officer of the watch?
- Angle of approach?

- Losing manoeuvrability or control

The incident

Passage Plan: Tide table

PDT

#		High		Low		High		Low	
1	Thu	0232	4.6	0707	2.8	1303	5.7	1951	-0.1
2	Fri	0317	4.5	0747	3.0	1339	5.5	2030	0.0
3	Sat	0405	4.4	0833	3.2	1421	5.3	2114	0.2

PST begins November 4 at 0200 hours

4	Sun	0357	4.4	0831	3.3	1409	5.0	2103	0.3
5	Mon	0449	4.5	0943	3.2	1506	4.8	2156	0.5
6	Tue	0538	4.6	1058	3.0	1612	4.5	2252	0.7
7	Wed	0621	4.8	1203	2.5	1726	4.4	2347	0.9
8	Thu	0659	5.2	1258	1.9	1843	4.4		

#		Low		High		Low		High	
9	Fri	0038	1.1	0735	5.5	1346	1.2	1955	4.5
10	Sat	0127	1.3	0811	5.9	1432	0.4	2100	4.6
11	Sun	0214	1.5	0848	6.3	1516	-0.3	2200	4.8
12	Mon	0300	1.8	0927	6.6	1601	-0.9	2257	5.0
13	Tue	0347	2.0	1008	6.9	1647	-1.4	2352	5.1
14	Wed	0434	2.2	1052	7.0	1735	-1.6		

#		High		Low		High		Low	
15	Thu	0047	5.1	0524	2.4	1139	6.9	1824	-1.6
16	Fri	0142	5.1	0619	2.6	1230	6.7	1916	-1.4
17	Sat	0238	5.1	0720	2.7	1325	6.3	2010	-1.0
18	Sun	0335	5.1	0832	2.7	1425	5.7	2107	-0.5
19	Mon	0432	5.2	0952	2.6	1533	5.2	2205	0.0
20	Tue	0527	5.4	1113	2.2	1650	4.7	2305	0.5
21	Wed	0618	5.6	1226	1.7	1811	4.4		

#		Low		High		Low		High	
22	Thu	0002	1.0	0704	5.7	1327	1.2	1931	4.3
23	Fri	0055	1.4	0745	5.9	1419	0.7	2041	4.3
24	Sat	0144	1.8	0822	6.0	1503	0.2	2142	4.4
25	Sun	0230	2.1	0855	6.0	1542	-0.1	2234	4.5
26	Mon	0312	2.4	0927	6.1	1617	-0.3	2320	4.6

Currents

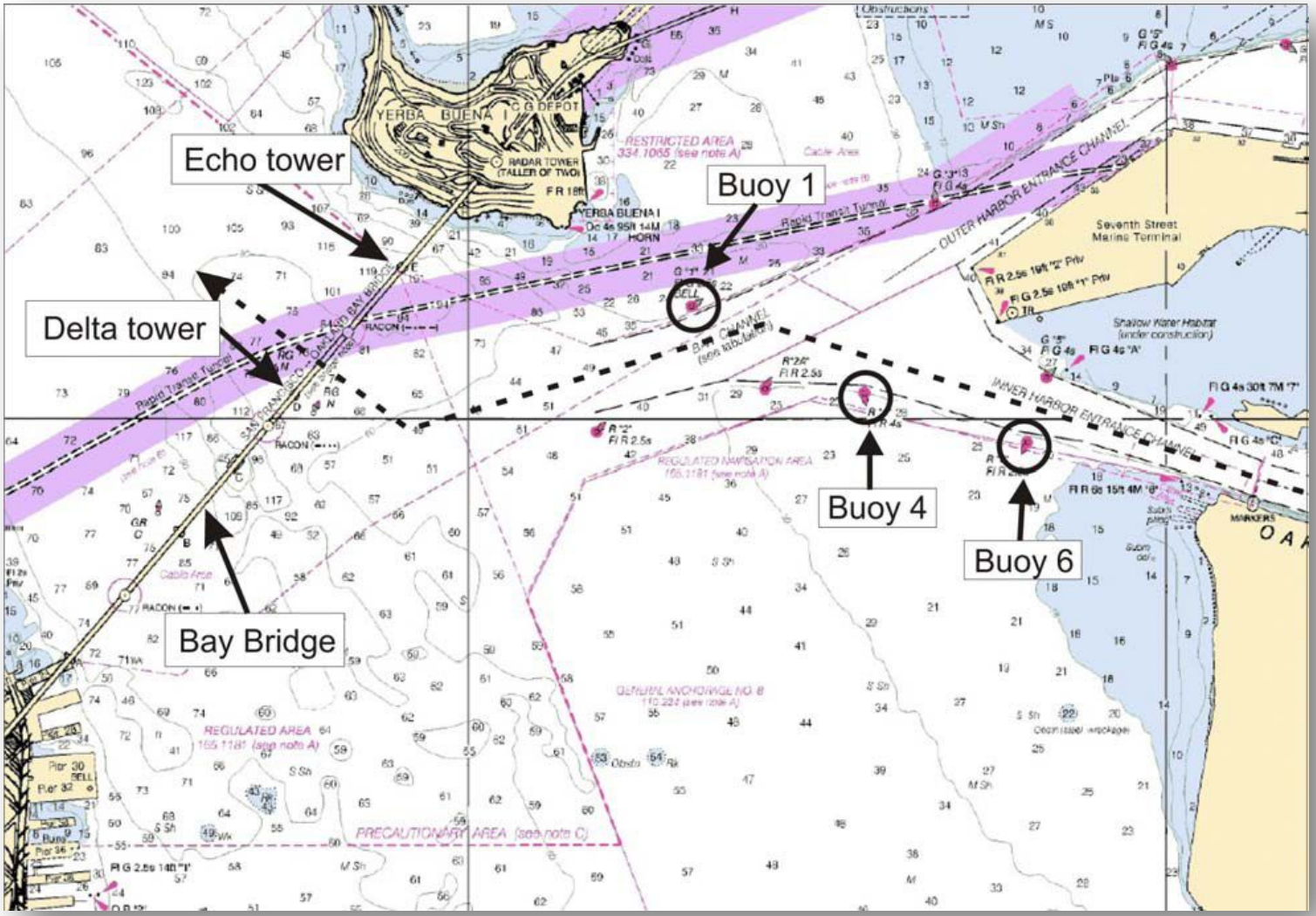
PDT

#		Slack	Max Curr	Slack	Max Curr	Slack	Max Curr	Slack	Max Curr	Slack
1	Th		0043 3.3F	0408	0617 2.1E	0934	1220 2.2F	1504	1825 4.3E	2224
2	Fr		0123 3.1F	0453	0659 2.0E	1011	1300 2.0F	1540	1908 4.1E	2306
3	Sa		0206 2.9F	0540	0744 1.9E	1054	1345 1.8F	1621	1953 3.9E	2351

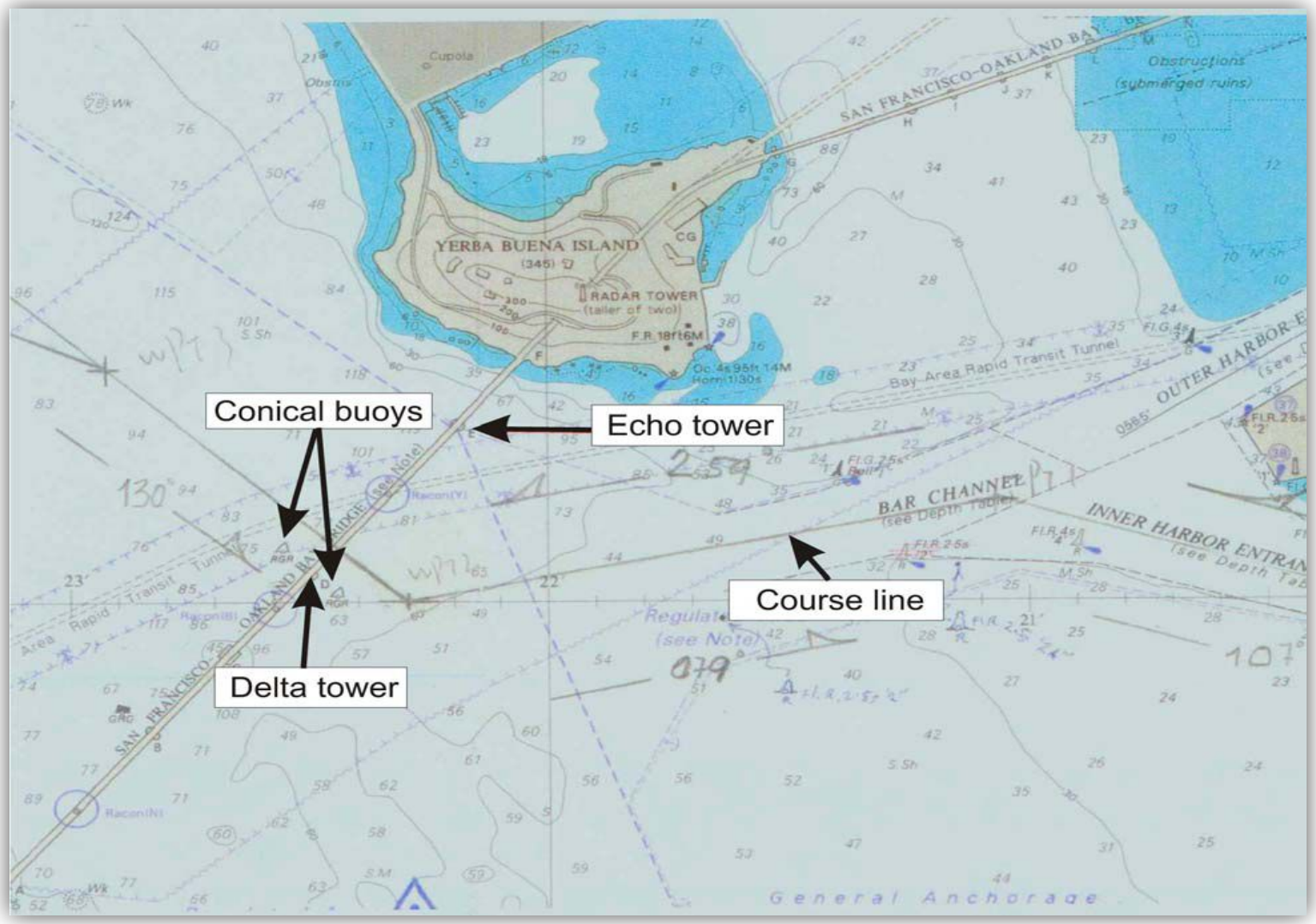
PST begins November 4 at 0200 hours

#		Slack	Max Curr	Slack	Max Curr	Slack	Max Curr	Slack	Max Curr	Slack
4	Su		0152 2.8F	0528	0733 1.8E	1049	1335 1.6F	1609	1942 3.6E	2339
5	Mo		0242 2.7F	0617	0826 1.8E	1154	1432 1.5F	1707	2035 3.4E	
6	Tu	0029	0333 2.7F	0705	0921 2.0E	1304	1534 1.5F	1814	2130 3.2E	
7	We	0120	0425 2.7F	0751	1017 2.4E	1408	1638 1.7F	1927	2227 3.1E	
8	Th	0211	0515 2.9F	0834	1111 2.9E	1504	1741 2.1F	2037	2324 3.1E	
9	Fr	0300	0602 3.0F	0914	1203 3.5E	1555	1840 2.7F	2143		
10	Sa		0021 3.1E	0349	0649 3.1F	0954	1252 4.2E	1644	1935 3.3F	2245
11	Su		0115 3.1E	0437	0734 3.3F	1033	1340 4.8E	1731	2027 3.8F	2344
12	Mo		0208 3.1E	0523	0819 3.3F	1113	1428 5.4E	1818	2118 4.2F	
13	Tu	0040	0300 3.1E	0610	0905 3.4F	1156	1515 5.7E	1907	2209 4.5F	
14	We	0135	0351 3.0E	0658	0953 3.3F	1241	1604 5.9E	1957	2300 4.6F	
15	Th	0229	0443 2.8E	0748	1042 3.2F	1329	1654 5.9E	2049	2353 4.5F	
16	Fr	0323	0535 2.7E	0843	1134 3.0F	1421	1746 5.6E	2143		
17	Sa		0048 4.3F	0418	0629 2.5E	0944	1231 2.7F	1518	1839 5.1E	2238
18	Su		0145 4.0F	0512	0727 2.5E	1052	1333 2.5F	1620	1936 4.5E	2335
19	Mo		0243 3.7F	0605	0828 2.5E	1204	1442 2.3F	1729	2035 3.9E	
20	Tu	0033	0343 3.5F	0657	0933 2.6E	1317	1557 2.2F	1842	2137 3.3E	
21	We	0130	0441 3.3F	0747	1039 2.9E	1424	1714 2.3F	1955	2242 2.9E	
22	Th	0225	0535 3.1F	0833	1140 3.3E	1524	1822 2.6F	2104	2347 2.5E	
23	Fr	0318	0625 3.0F	0917	1231 3.6E	1617	1920 2.9F	2207		
24	Sa		0048 2.3E	0408	0710 2.8F	0958	1313 3.9E	1705	2011 3.2F	2305
25	Su		0139 2.2E	0454	0750 2.7F	1037	1351 4.1E	1748	2056 3.3F	2356
26	Mo		0222 2.1E	0537	0827 2.6F	1114	1427 4.3E	1829	2137 3.4F	
27	Tu	0043	0300 2.0E	0617	0903 2.5F	1150	1504 4.4E	1908	2215 3.5F	

Passage plan



Course as plotted



How would you plan your passage

What is wrong with the previous slide ?

- Allow for tides and currents, local traffic and weather conditions
- Identify reporting points and no-go areas
- Identify safe areas

Passage planning

- Why plan?
- What do I need?
- How do I ensure the plan is appropriate?
- Plan prepared and signed by Master – is that it?
- Implementation and verification – charts, ECDIS, GPS etc
- Review, revise and update

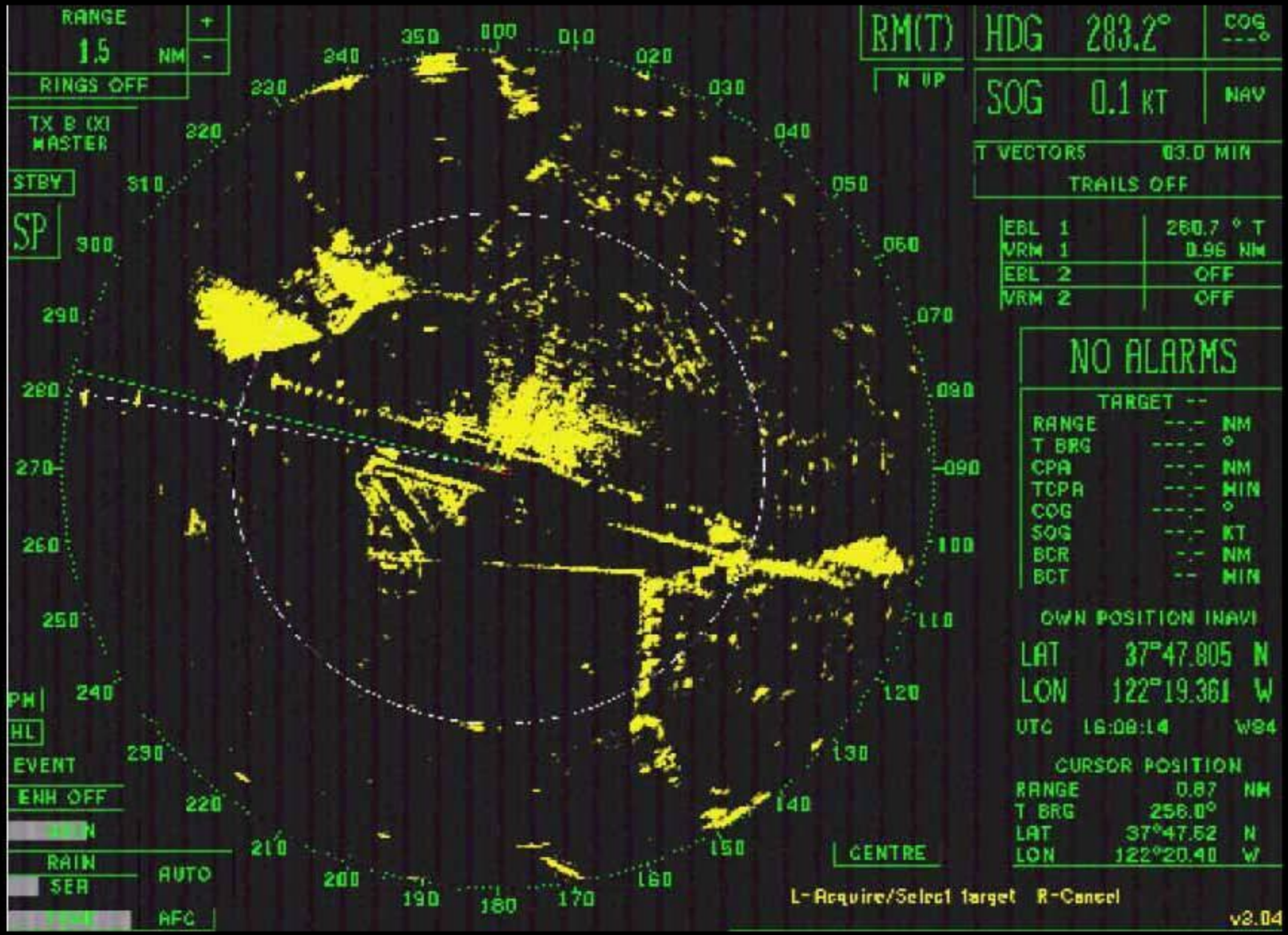
Departure and Enroute

- 0800: the vessel moves away from berth
- The VDR recorded a crewmember on the bridge saying in Mandarin " ..*American ships under such conditions, would not be under way*"
- A Tug is made fast aft

- Exit estuary, increase speed to 10 knots
- Is this safe speed?

Position fixing

- What interval?
- By what means?
- GPS?
- In this case 3/0 position was out by 0.90 miles.....
- Parallel indexing
- Unable to see the buoys : what action?
- If pilot having difficulty to interpret ECDIS, ARPA -Will you still rely on him?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TRAILS OFF
EBL 1 260.7 ° T
VRM 1 0.96 NM
EBL 2 OFF
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NO ALARMS
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RANGE --.- NM
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CPA --.- NM
TCPA --.- MIN
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BCT -- MIN
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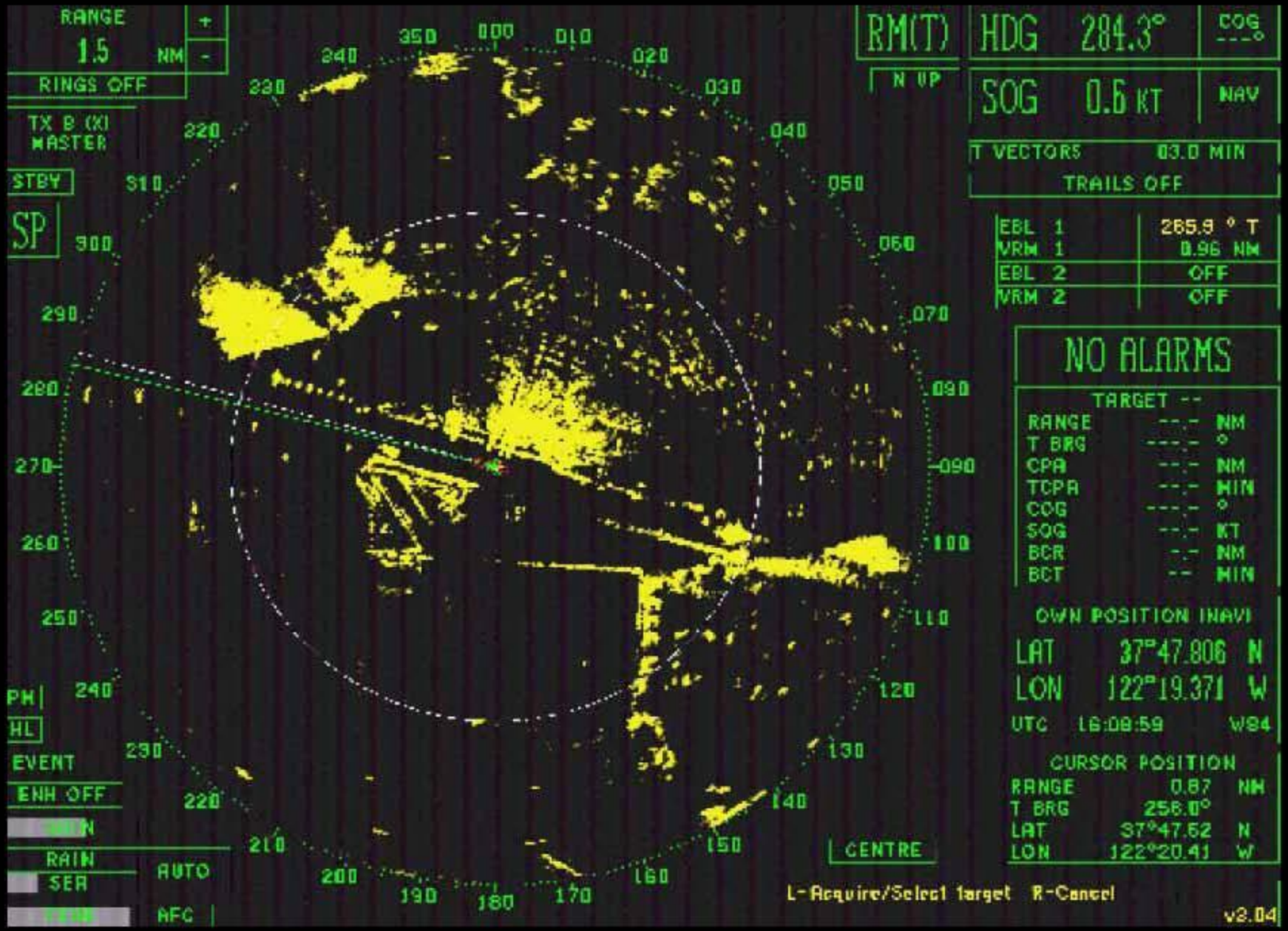
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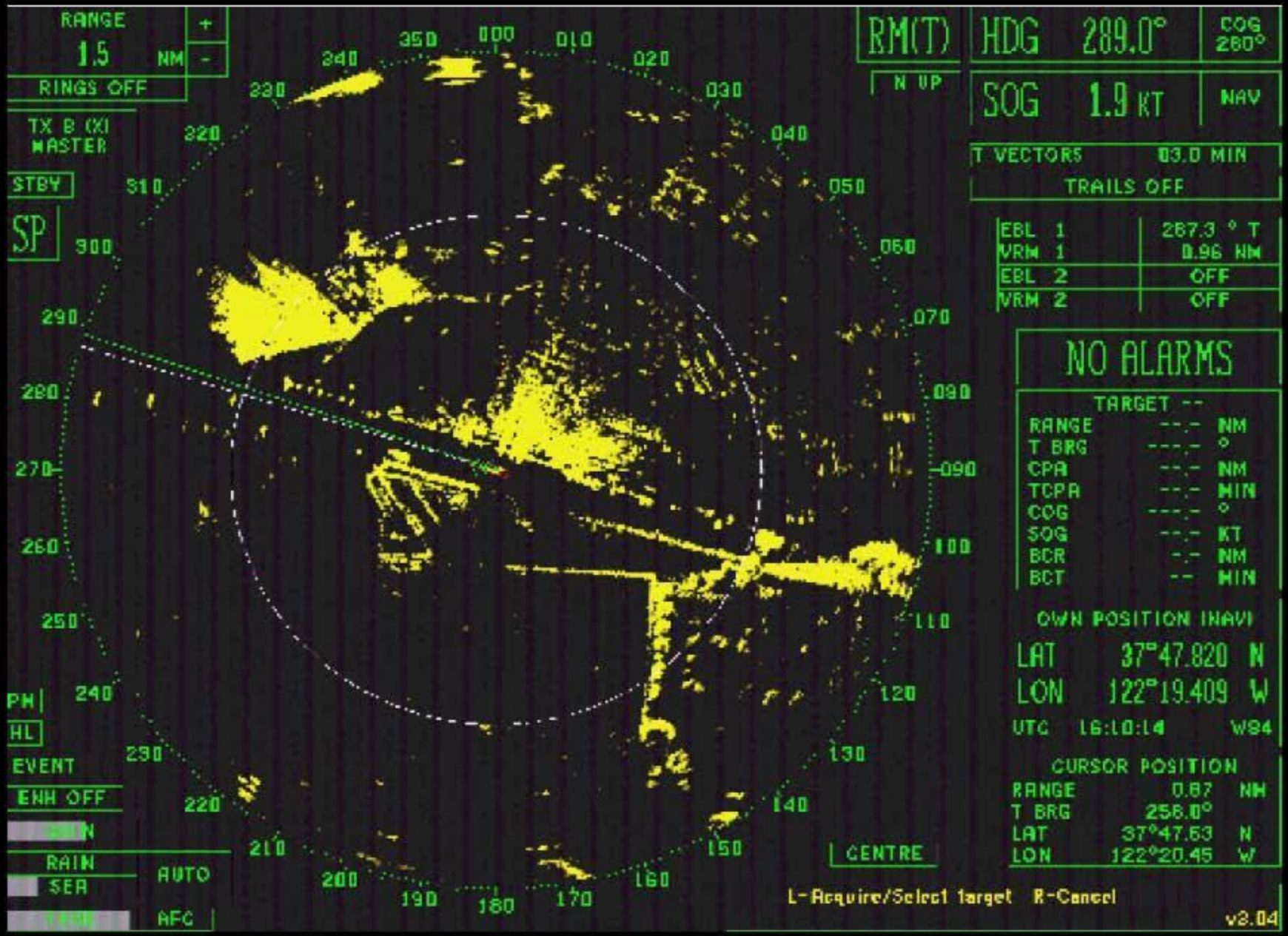
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VRM 2 OFF
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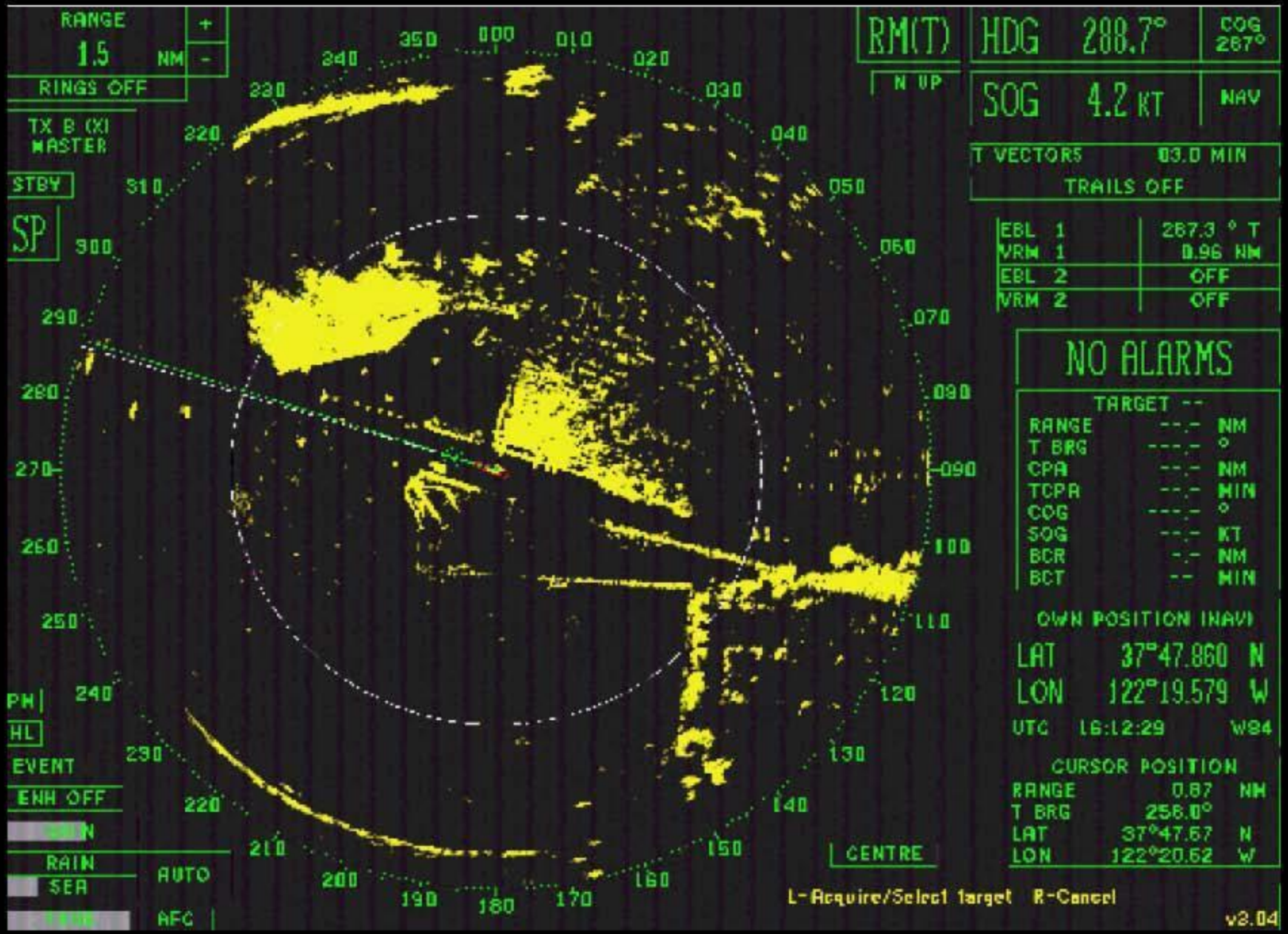
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v3.04

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v3.04

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NAV
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TRAILS OFF
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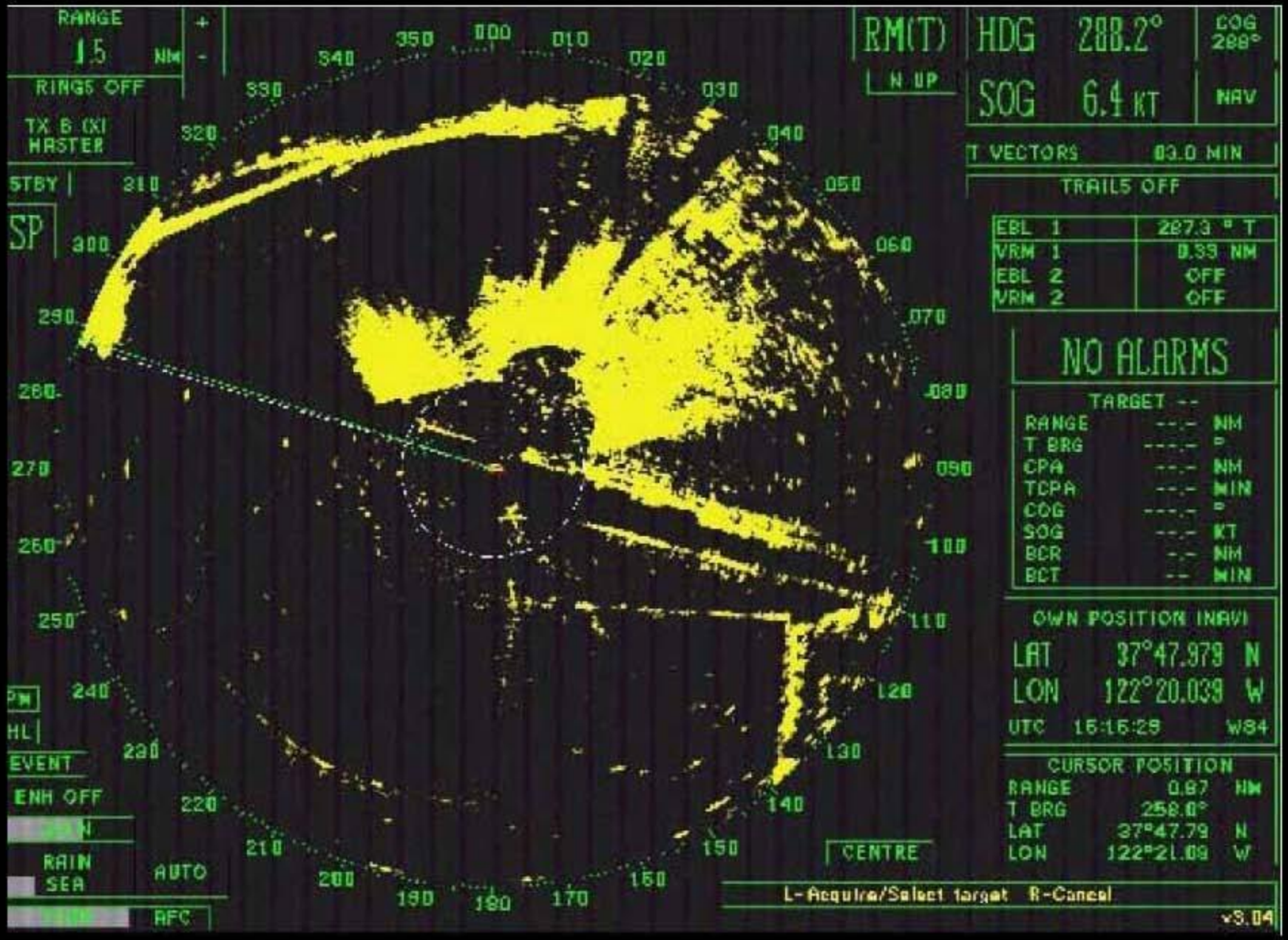
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v3.04

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EVENT
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NAV
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NO ALARMS
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BCT -- MIN
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L-Acquire/Select target R-Cancel
v2.04

RANGE
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SEA
AUTO
AFC
RM(T)
N UP
HDG 282.5°
COG 297°
SOG 7.1 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 297.3 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.055 N
LON 122°20.322 W
UTC 15:16:29 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.97 N
LON 122°21.36 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

RANGE
1.5 NM
+
-
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 282.5°
COG 261°
SOG 7.4 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.23 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.075 N
LON 122°20.472 W
UTC 16:19:29 WGS4
CURSOR POSITION
RANGE 0.67 NM
T BRG 256.0°
LAT 37°47.85 N
LON 122°21.51 W
CENTRE
L-Acquire/Select target R-Cancel
v2.04

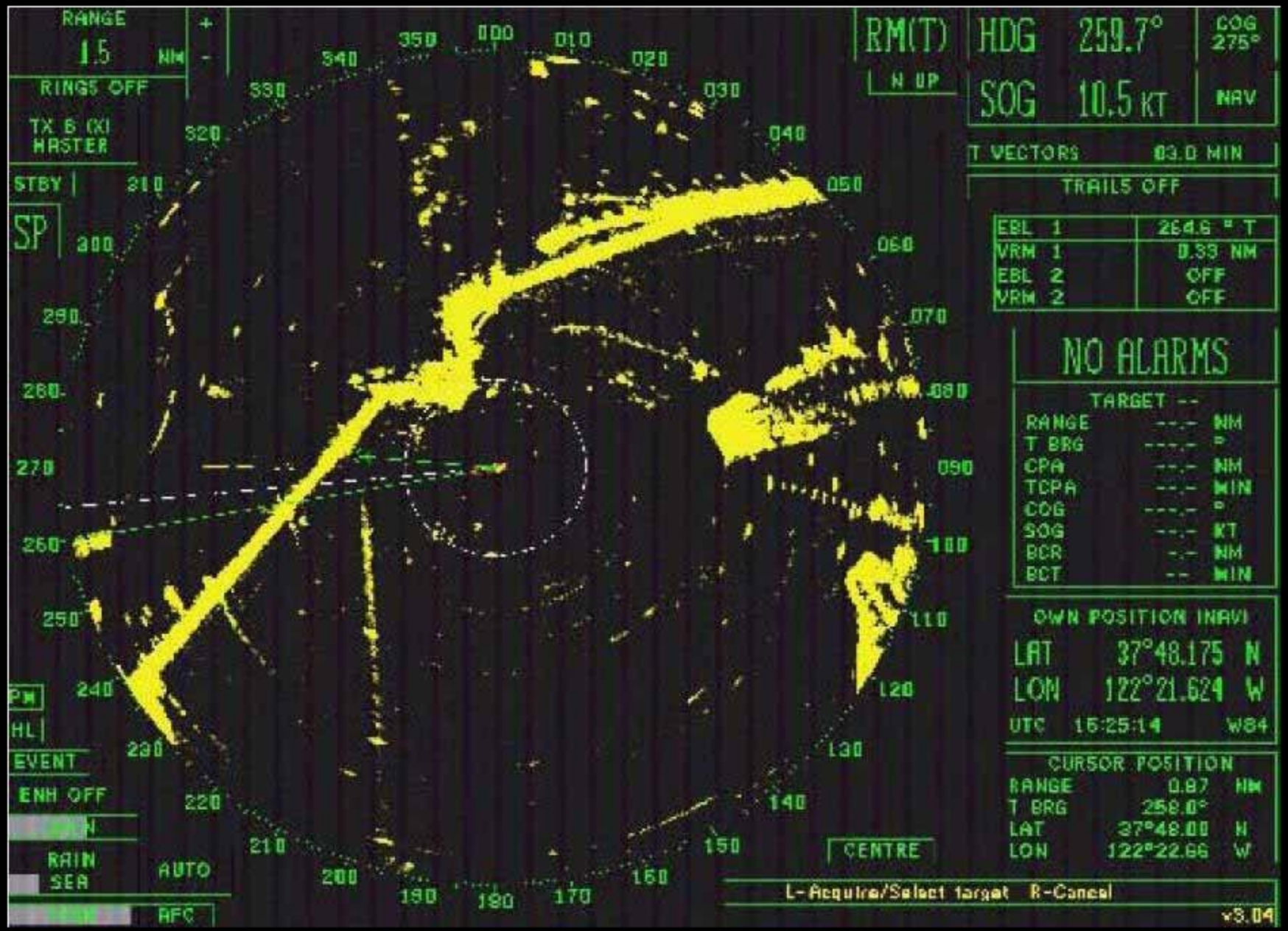
RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 283.2°
COG 278°
SOG 7.7 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.095 N
LON 122°20.631 W
UTC 16:20:29 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.91 N
LON 122°21.57 W
CENTRE
L-Acquire/Select target R-Cancel
v2.04

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
RM(T)
N UP
HDG 283.5°
COG 279°
SOG 8.6 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.115 N
LON 122°20.811 W
UTC 15:21:29 WGS4
CURSOR POSITION
RANGE 0.97 NM
T BRG 258.0°
LAT 37°47.93 N
LON 122°21.95 W
CENTRE
L-Acquire/Select target R-Cancel

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 283.8°
COG 279°
SOG 9.4 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.146 N
LON 122°21.011 W
UTC 16:22:29 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.96 N
LON 122°22.05 W
CENTRE
L-Acquire/Select target R-Cancel
v2.04

RANGE
1.5 NM
RINGS OFF
TX 6 (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 283.0°
COG 279°
SOG 10.2 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.165 N
LON 122°21.221 W
UTC 16:23:29 WGS4
CURSOR POSITION
RANGE 0.97 NM
T BRG 258.0°
LAT 37°47.99 N
LON 122°22.26 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 275.5°
COG 275°
SOG 10.8 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.23 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.189 N
LON 122°21.453 W
UTC 16:24:29 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°48.01 N
LON 122°22.49 W
CENTRE
L-Acquire/Select target R-Cancel
v2.04

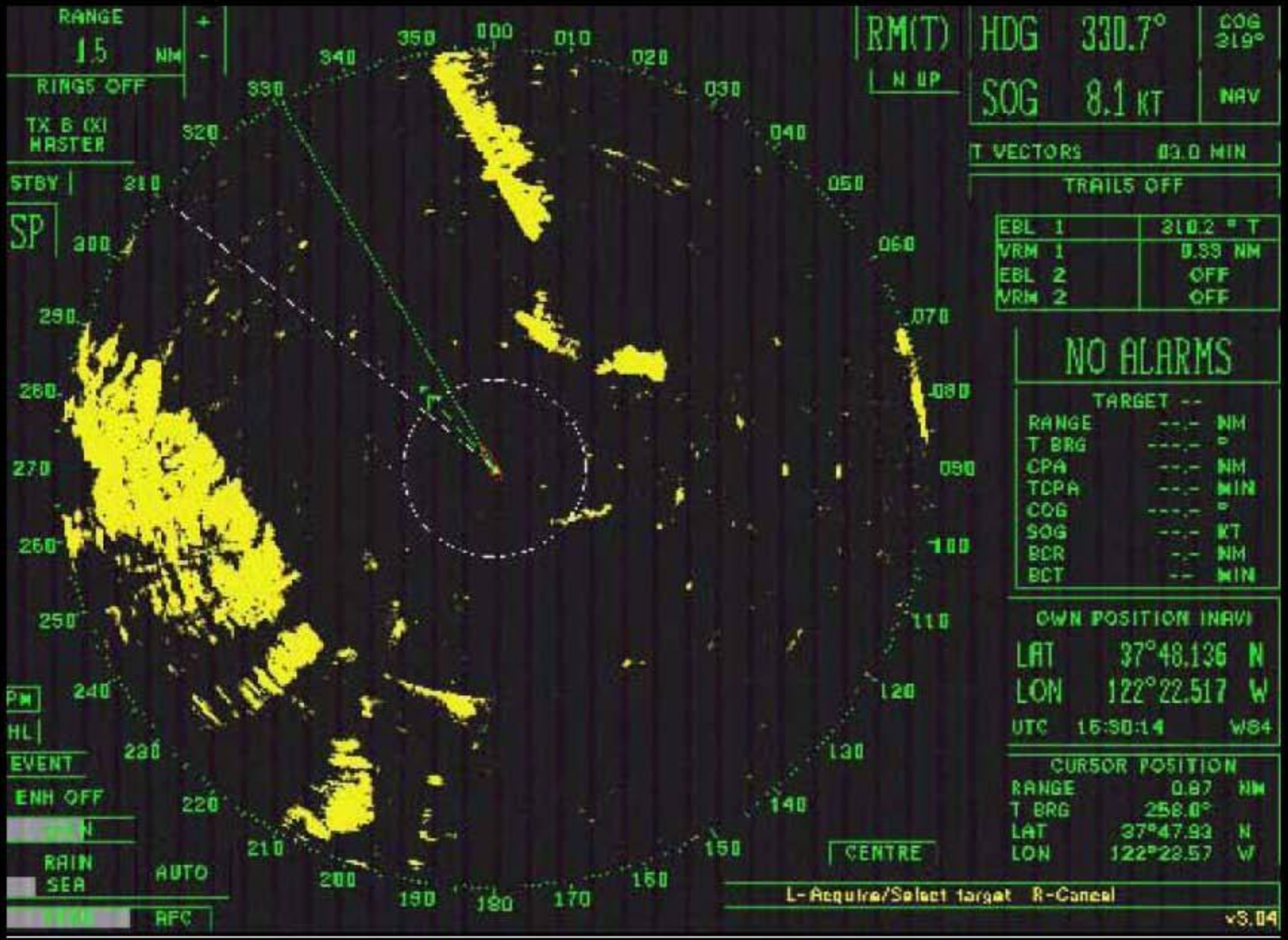

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 259.7°
COG 275°
SOG 10.5 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 264.6 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.175 N
LON 122°21.624 W
UTC 15:25:14 WGS
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°48.00 N
LON 122°22.66 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 241.2°
COG 248°
SOG 10.5 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 210.2 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.069 N
LON 122°21.878 W
UTC 15:26:29 W84
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.90 N
LON 122°22.92 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

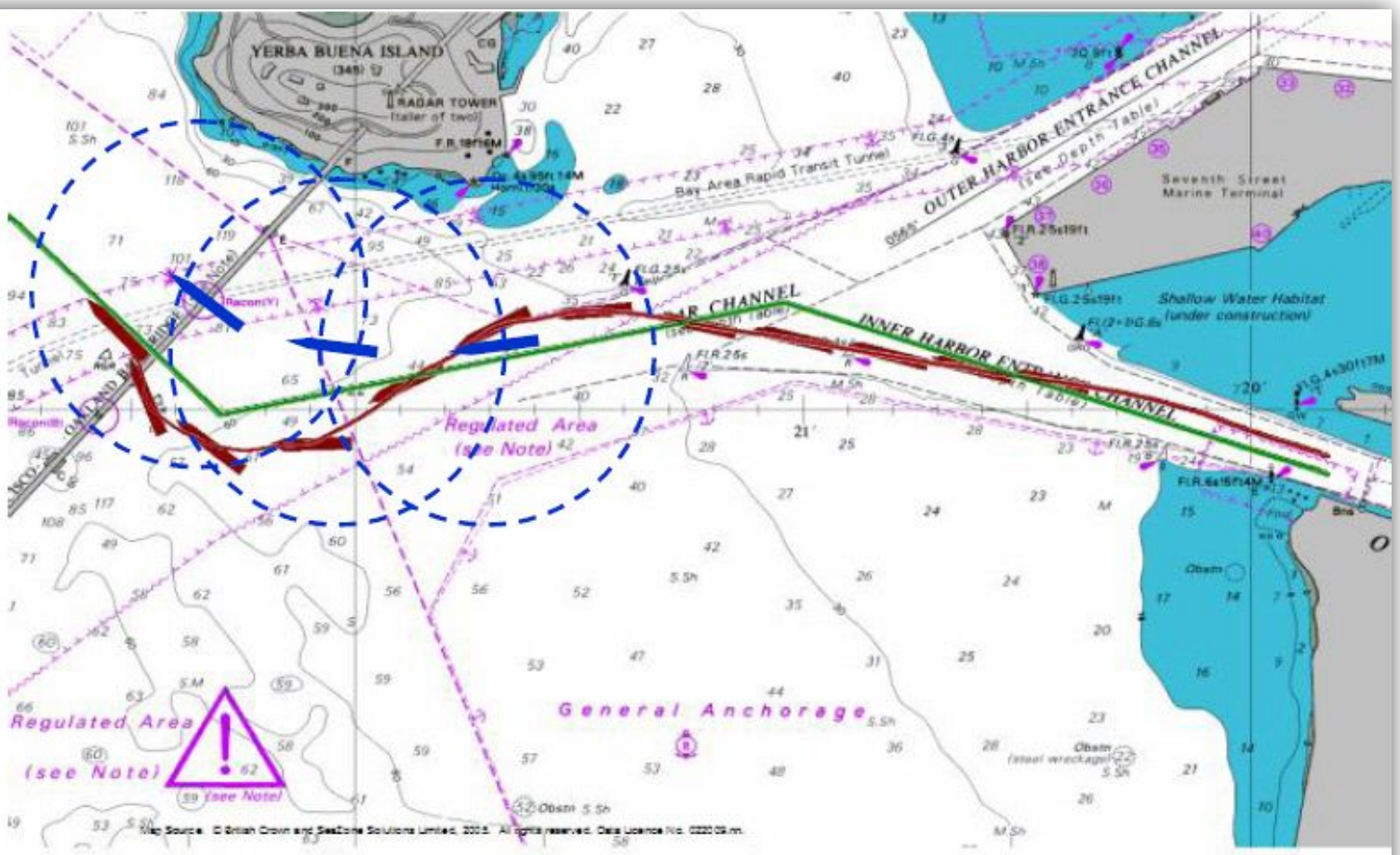
RANGE
1.5 NM
+
-
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 253.8°
COG 234°
SOG 10.6 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 310.2 ° T
VRM 1 0.22 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°47.980 N
LON 122°22.083 W
UTC 16:27:29 W84
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.81 N
LON 122°23.12 W
CENTRE
L-Acquire/Select target R-Cancel
v2.04

RANGE
15 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 285.5°
COG 249°
SOG 9.3 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 310.2 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°47.967 N
LON 122°22.301 W
UTC 15:28:29 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.79 N
LON 122°23.34 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 334.8°
COG 294°
SOG 7.5 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 310.2 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION INAVI
LAT 37°48.077 N
LON 122°22.493 W
UTC 15:25:44 WGS4
CURSOR POSITION
RANGE 0.97 NM
T BRG 258.0°
LAT 37°47.97 N
LON 122°23.54 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04


RANGE
1.5 NM
RINGS OFF
TX B (X)
MASTER
STBY
SP
PM
HL
EVENT
ENH OFF
RAIN
SEA
AUTO
AFC
RM(T)
N UP
HDG 330.7°
COG 319°
SOG 8.1 KT
NAV
T VECTORS 03.0 MIN
TRAILS OFF
EBL 1 310.2 ° T
VRM 1 0.33 NM
EBL 2 OFF
VRM 2 OFF
NO ALARMS
TARGET --
RANGE --.- NM
T BRG ---.- °
CPA --.- NM
TCPA --.- MIN
COG ---.- °
SOG --.- KT
BCR -.- NM
BCT -- MIN
OWN POSITION (NAV)
LAT 37°48.136 N
LON 122°22.517 W
UTC 15:50:14 WGS4
CURSOR POSITION
RANGE 0.87 NM
T BRG 258.0°
LAT 37°47.93 N
LON 122°23.57 W
CENTRE
L-Acquire/Select target R-Cancel
v3.04

What will you do?



Red – actual track

Green – charted course line drawn by 2nd mate

Blue – Pilot's intended track

Pilot exchange

- Equipments
- Manoeuvrability
- Speed: Engine speed /response etc
- Intended courses and speed
- Anticipated hazard
- Weather
- Composition of bridge and deck team
- Look out

VHF exchange - VTS and Pilot (Romeo)

- VTS 08:27:24 Unit Romeo, Traffic.
- Pilot 08:27:29 Traffic, Romeo.
- Pilot 08:27:45 Traffic, Romeo, did you call?
- VTS 08:27:48 Unit Romeo, Traffic. AIS shows you on a 235 heading. What are your intentions? Over
- Pilot 08:27:57 Well, I'm coming around; I'm steering 280^0 right now. (Actual Course 262^0)
- VTS 08:28:04 Roger, understand you still intend the Delta–Echo span. Over.
- Pilot 08:28:15 Yeah, we're still Delta–Echo.
- VTS 08:28:21 Uh, roger, Captain.

Communications

- Half of the incidents with pilotage caused by miscommunication
- 08:28:08 - the pilot asked, “This [apparently referring to a point on the electronic chart] is the centre of the bridge, right?”
- The Master answered, “Yeah.”
- Over the next 2 minutes, the pilot gave rudder orders of hard starboard, mid-ships, starboard 20, and hard starboard

(Mis) Communication

- Shortly afterwards, the Master can be heard saying, in Mandarin:
- “He should have known - this is the centre of the bridge, not the centre of the channel.”
- Is the helm order being communicated and executed properly
- If pilot is giving instructions in another language ...
- What action?

VDR Recordings

- 0829: The bosun used his radio to report (in Mandarin) “The bridge column; the bridge column”
- Master replied (in Mandarin): “Oh, I see it. I see it.”
- The pilot then said, “Yeah, I see it.”
- About 10 seconds later, the pilot ordered the rudder (which was at hard starboard) to mid-ships.
- After another 5 seconds, the pilot ordered hard port rudder.

VDR Recordings

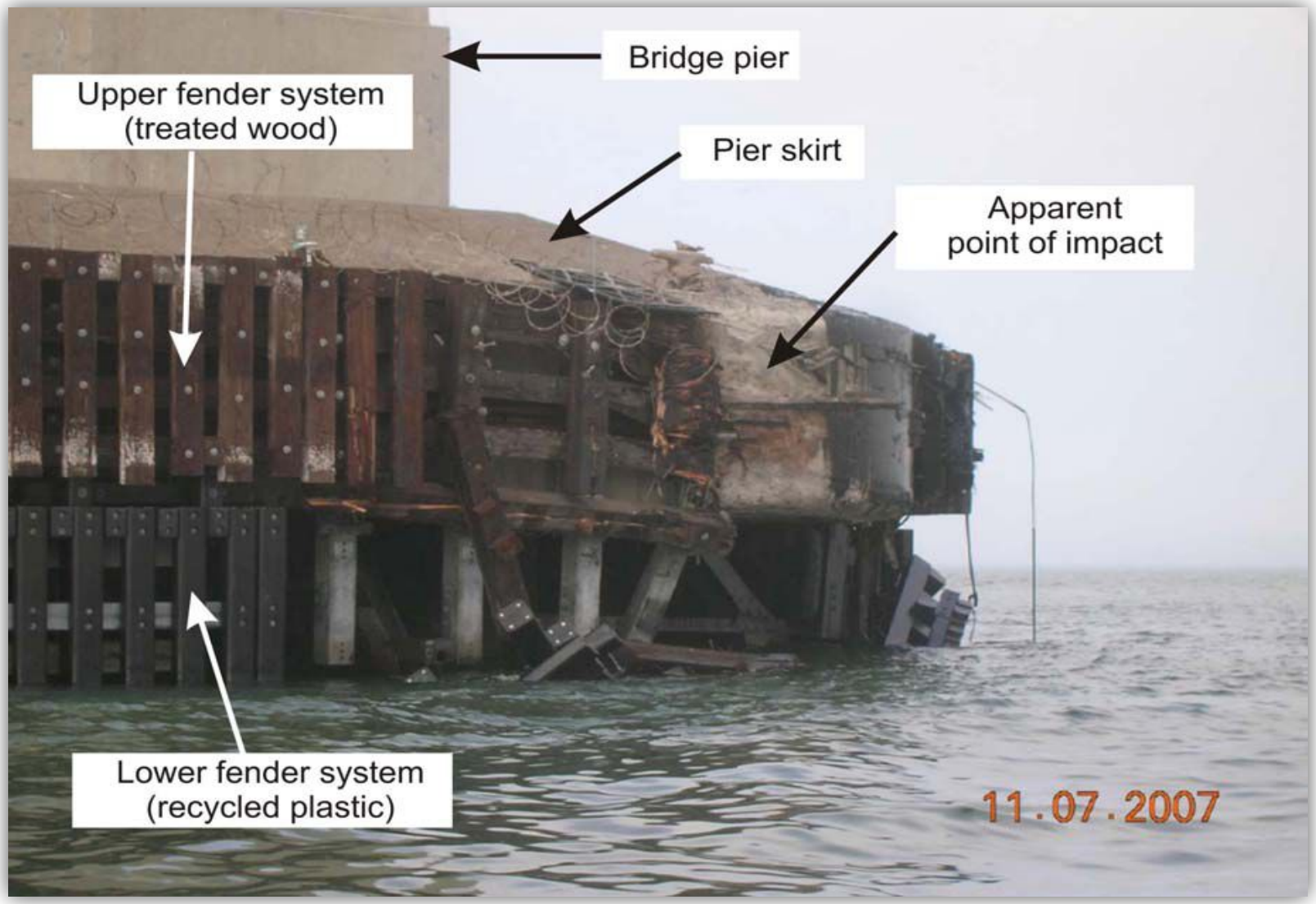
- The forward port side of the vessel struck the corner of the fendering system at the base of the Delta tower at 0830.
- About 30 seconds later, after being reminded by the crew that the rudder was still hard to port, the pilot ordered the rudder to mid-ships and the engine to dead slow ahead
- At that point, the vessel was past the bridge tower

VDR Recordings

- The pilot contacted the VTS operators by VHF, informed them that his ship had “touched the Delta span” and that he was proceeding to anchorage 7 (about 2 miles away)
- The chief officer reported (in Mandarin) that the ship was leaking
- The pilot asked if the ship was all right, and the Master answered, “No, no, no, it’s leaking.”
- The pilot then said, “OK, dead slow ahead. We’re going to anchor.”

Damage to the ship

Damage to the Bridge



Experience

Pilot

- Bar pilot for 26 years
- Thousands of trips under Bay Bridge
- Not uncommon to operate in fog
- Recurrent training for ship-handling in simulators and manned scale model vessels

Experience

Master

- Master for 10 years
- 2 weeks with company, vessel and crew
- 1st time in San Francisco Harbour
- 1st time under way on *Cosco Busan without* company supervisors

Master / Pilot interchange - afterwards

- **Pilot:** You said this was the centre of the bridge
- **Master:** Yes
- **Pilot:** No, this is the centre. That's the tower. That's why we hit it. I thought that was the centre
- **Master:** It's a buoy. [unintelligible] the chart
- **Pilot:** Yeah, see. No, this is the tower

  Captain, you said it was the centre.
- **Master:** Cen… cen… cen… centre
- **Pilot:** Yeah, that's the bridge pier [expletive]. I thought it was the centre

Probable Cause – USCG statement

Probable Cause – USCG

- The cause of this casualty was the failure of the pilot of the COSCO BUSAN to properly direct the movement of the vessel, as he navigated it it at a high, unsafe speed in near zero visibility, failed to monitor the vessel's position and progress, and lost situational awareness, and the failure of the master of the COSCO BUSAN to adequately monitor the navigational actions of the pilot and to maintain sufficient situational awareness to question or correct navigational errors made by the pilot.

NTSB

The exercise

- The vessel is being set into danger – What action do you take ?
  - As Pilot
  - As the Master
  - As the Navigating officer
- The vessel's helm is not responding – Action?
- The Chief Engineer reports a problem with the engine – Action?
- A collision is imminent – Action?

Bridge Resource Management – Pilotage Considerations

- Pilot's knowledge, experience of local conditions must be communicated to the bridge team and incorporated into their information flow via:
  - Initial Master / Pilot interchange
  - Clarification of route to / from berth
  - Monitoring whilst the pilot is on board
  - If in doubt, ask for clarification, and record any problems or lack of response

Recommendation

- Passage plan can be emailed to the ship which will help the pilot to be part of the bridge team
- Abort the attempt and try second time than to fail on the first attempt
- If local language is used must demand an explanation from pilot
- Passage plan berth to berth and should be monitored closely

Summary

Key points:

- To sail or not to sail?
- All contingencies taken into consideration
- Navigating in Restricted visibility - precautions
- Safe speed appropriate to circumstances
- Proper lookout to be maintained
- Monitoring whilst a pilot is on board
- Master’s Orders and Pilot’s advice?

Conclusion

Before arriving, departing or manoeuvring:

- Verify that the passage plan is CURRENTLY relevant, especially to and from the berth
- Conduct a pre-departure or pre-arrival briefing every time
- Participation must be inclusive – everyone should be aware of the potential hazards
- Mistakes by one person should not be overlooked
- The pilot is an advisor unless advised otherwise

The Britannia Steam Ship Insurance Association Limited