

**IALA Survey on Aids to Navigation Provision for High Speed  
Craft**

**Survey Information**

***Submitted by Northern Lighthouse Board***

## **Northern Lighthouse Board**

### **IALA Survey on Aids to Navigation Provision for High Speed Craft**

#### **Survey Information**

#### **Introduction**

1. At the recent ANM2 meeting the Northern Lighthouse Board undertook to carry out analysis of the IALA Survey on Aids to Navigation Provision for High Speed Craft (Working Group 1 task).
2. A total of 33 completed questionnaires were received however not all questionnaires were fully completed. The results have been analysed and are attached for comment and discussion at ANM3.

#### **Highlights**

3. The survey shows some extremely interesting trends and, although only 33 responses were received, does provide a reasonable snapshot as to the current situation.
  - a. GNSS and DGNS are the primary position verification tools used by operators followed closely by Radar. Many users attach great importance on the provision of RACONS.
  - b. Visual aids such as lighthouses, lightvessels, buoys and beacons are no longer relied on so heavily for position verification (although still important) however they are still considered vital for visual reference (i.e. spatial awareness).
  - c. There were mixed opinions as to the value of shortening the overall period of the light although in port approaches this was considered important. Users also expressed a preference for longer flashes within the breakdown of the light character particularly during coastal navigation.
  - d. Interest was expressed by a number of users for the potential in AIS as an AtoN.

#### **Conclusion**

4. Working Group 1 will consider the results of this questionnaire and will draft a final report and advice to Council during ANM3.

Guy Platten  
Scotland Representative  
IALA Aids to Navigation Management Committee  
11 July 2003



## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 3.7- What equipment do you use for positioning?

<b><u>Company</u></b>	<b><u>1st Choice</u></b>	<b><u>2nd Choice</u></b>	<b><u>3rd Choice</u></b>
SEA CONTAINERS FERRIES (SCOTLAND) LTD	GPS	RADAR	ELECTRONIC CHART SYSTEMS
HELLAS FLYNIG DOLPHING S.A.	GPS	PADAR/ARPA	ELECTRONIC CHART SYSTEMS/ECDIS
AG EMS EMDEN	DGPS	RADAR	ELECTRONIC CHART SYSTEMS
BAYFERRIES LIMITED	DGPS & RADAR	ECDIS & TWO DGPS	VISUAL BEARING
BUQUEBUS S.A.	GPS	RADAR	
SEA CONTAINERS FERRIES (SCOTLAND) LTD	GPS	RADAR	ELECTRONIC CHART SYSTEMS
SEACAT SCOTLAND LTD	GPS	RADAR	TRANSAS CHARTS
NORTHERN MARINE MANAGEMENT	RADAR	DGPS	ARCS CHARTS
STENA LINE	TRIMBLE GPS RECEIVERS	RTK/RTCM & COMMERCIAL SATELLITE	
STENA LINE	DGPS - FUGRO	DGPS - IALA	RADAR
NORTHERN MARINE MANAGEMENT	GPS	RADAR	
STENA LINE HOLLAND BV	DGPS	RADAR	VISUAL BEARING
STENA LIGHTS	GLS	DGPS	ECDIS&CONNING BERTHING SYSTEM
MIKE JACKSON	DGPS	RADAR	ELECTRONIC CHART
ROVAERFJORD A/S	ELECTRONIC CHART SYSTEMS	DGPS	VISUAL BEARING
GULEN SKYSSBATSERVICE AS	RADAR	VISUAL BEARING	

<b><u>Survey Results</u></b>	<b><u>1st Choice</u></b>	<b><u>2nd Choice</u></b>	<b><u>3rd Choice</u></b>
	GPS (8) DGPS (5) RADAR (2) CHARTS (1)	RADAR (9) DGPS (6) VISUAL BEARING (1)	ELECTRONIC CHARTS (5) VISUAL BEARING (3) CHARTS (1) RADAR (1)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

		Coastal Passage											
Aid to Navigation Type		Lighthouse	Lighthouse Sected	Beacon	Lightvessel	Buoy	Racon	GNSS (eg. GPS)	DGNSS (eg. DGPS)	AIS (on an AtoN)	Loran-C	VTS	Fog Signals
Visual Reference	Day	62	53	62	58	51	58	55	45	24	4	8	7
	Night	70	67	61	58	50	63	52	45	24	4	8	7
	Restricted Visibility	17	15	21	15	32	65	53	46	25	4	12	17
Position Verification/ Situational Awareness	Day	48	43	54	41	50	64	73	57	25	4	17	8
	Night	48	46	54	41	52	65	73	57	25	4	17	8
	Restricted Visibility	21	18	26	15	34	67	73	57	21	4	17	17
Turning Mark	Day	45	42	58	43	50	54	55	44	19	4	10	7
	Night	47	45	61	43	51	58	55	45	19	4	10	7
	Restricted Visibility	19	19	24	16	32	51	53	41	20	4	12	13
Transit / Leading Lines	Day	21	22	21	12	23	16	14	10	4	4	10	7
	Night	22	24	23	12	23	19	15	11	2	4	10	7
	Restricted Visibility	16	18	19	11	22	19	15	14	2	4	9	8
Track Error	Day	21	21	22	8	27	19	29	21	5	4	12	8
	Night	22	23	24	9	28	24	30	19	5	4	12	8
	Restricted Visibility	15	16	23	8	26	23	30	25	6	4	12	11
Electronic Reference Mark	Day	15	14	21	12	18	19	13	13	4	4	8	7
	Night	15	14	22	12	18	22	16	11	4	4	8	7
	Restricted Visibility	15	14	21	21	19	24	16	14	4	4	9	7

**Note: Survey results converted to percentage of total points available.**

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

		Coastal Passage											
Aid to Navigation Type		Lighthouse	Lighthouse Sected	Beacon	Lightvessel	Buoy	Racon	GNSS (eg. GPS)	DGNSS (eg. DGPS)	AIS (on an AtoN)	Loran-C	VTS	Fog Signals
Visual Reference	Day	62	53	62	58	51	58	55	45	24	4	8	7
	Night	70	67	61	58	50	63	52	45	24	4	8	7
	Restricted Visibility	17	15	21	15	32	65	53	46	25	4	12	17
Position Verification/ Situational Awareness	Day	48	43	54	41	50	64	73	57	25	4	17	8
	Night	48	46	54	41	52	65	73	57	25	4	17	8
	Restricted Visibility	21	18	26	15	34	67	73	57	21	4	17	17
Turning Mark	Day	45	42	58	43	50	54	55	44	19	4	10	7
	Night	47	45	61	43	51	58	55	45	19	4	10	7
	Restricted Visibility	19	19	24	16	32	51	53	41	20	4	12	13
Transit / Leading Lines	Day	21	22	21	12	23	16	14	10	4	4	10	7
	Night	22	24	23	12	23	19	15	11	2	4	10	7
	Restricted Visibility	16	18	19	11	22	19	15	14	2	4	9	8
Track Error	Day	21	21	22	8	27	19	29	21	5	4	12	8
	Night	22	23	24	9	28	24	30	19	5	4	12	8
	Restricted Visibility	15	16	23	8	26	23	30	25	6	4	12	11
Electronic Reference Mark	Day	15	14	21	12	18	19	13	13	4	4	8	7
	Night	15	14	22	12	18	22	16	11	4	4	8	7
	Restricted Visibility	15	14	21	21	19	24	16	14	4	4	9	7

**Note: Survey results converted to percentage of total points available.**

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

		Port Approaches											
Aid to Navigation Type		Lighthouse	Lighthouse Sected	Beacon	Lightvessel	Buoy	Racon	GNSS (eg. GPS)	DGNSS (eg. DGPS)	AIS (on an AtoN)	Loran-C	VTS	Fog Signals
Visual Reference	Day	50	43	63	44	56	50	49	62	22	4	12	8
	Night	53	52	65	45	56	54	52	62	22	4	12	9
	Restricted Visibility	23	22	32	21	36	54	52	65	24	4	13	15
Position Verification/ Situational Awareness	Day	50	53	70	50	59	59	67	74	22	4	16	10
	Night	57	56	72	51	59	61	69	75	23	4	17	11
	Restricted Visibility	25	24	28	18	33	61	70	76	24	4	18	18
Turning Mark	Day	45	45	67	40	54	52	48	55	24	4	12	7
	Night	46	48	67	40	54	53	49	53	24	4	12	7
	Restricted Visibility	21	22	27	18	35	48	47	52	25	4	11	14
Transit / Leading Lines	Day	24	23	27	16	28	21	15	17	2	4	11	7
	Night	24	25	28	16	29	22	16	18	2	4	11	7
	Restricted Visibility	20	23	26	15	28	24	16	18	2	4	10	8
Track Error	Day	21	17	27	13	26	19	27	28	6	4	11	7
	Night	21	20	28	11	29	19	25	28	5	4	11	7
	Restricted Visibility	16	18	27	13	30	22	24	28	6	4	12	8
Electronic Reference Mark	Day	16	12	21	14	21	15	15	21	4	4	7	5
	Night	16	12	21	14	22	19	15	21	4	4	7	5
	Restricted Visibility	17	12	21	15	22	19	16	21	5	4	8	5

**Note:** Survey results converted to percentage of total points available.

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

		Port Approaches											
Aid to Navigation Type		Lighthouse	Lighthouse Sected	Beacon	Lightvessel	Buoy	Racon	GNSS (eg. GPS)	DGNSS (eg. DGPS)	AIS (on an AtoN)	Loran-C	VTS	Fog Signals
Visual Reference	Day	83	71	104	73	93	83	81	103	36	6	19	14
	Night	87	86	107	74	93	89	85	103	36	6	20	15
	Restricted Visibility	38	37	53	35	59	89	85	108	39	6	21	25
Position Verification/ Situational Awareness	Day	83	88	115	83	98	98	111	122	37	6	26	17
	Night	94	93	119	84	98	101	114	123	38	6	28	18
	Restricted Visibility	41	39	46	30	55	100	115	125	40	6	30	29
Turning Mark	Day	75	75	110	66	89	85	80	90	39	6	19	12
	Night	76	79	110	66	89	87	81	88	39	6	19	11
	Restricted Visibility	34	37	45	30	57	80	77	86	42	6	18	23
Transit / Leading Lines	Day	39	38	45	26	46	35	25	28	3	6	18	11
	Night	39	42	47	26	48	36	26	29	3	6	18	11
	Restricted Visibility	33	38	43	25	46	39	27	30	3	6	17	14
Track Error	Day	34	28	44	21	43	32	44	46	10	6	18	12
	Night	34	33	46	18	48	31	42	46	9	6	18	12
	Restricted Visibility	26	29	45	22	49	36	40	47	10	6	19	14
Electronic Reference Mark	Day	27	20	34	23	34	25	25	34	7	6	12	9
	Night	27	20	34	23	36	31	25	34	7	6	12	9
	Restricted Visibility	28	20	35	24	36	32	26	34	9	6	13	9

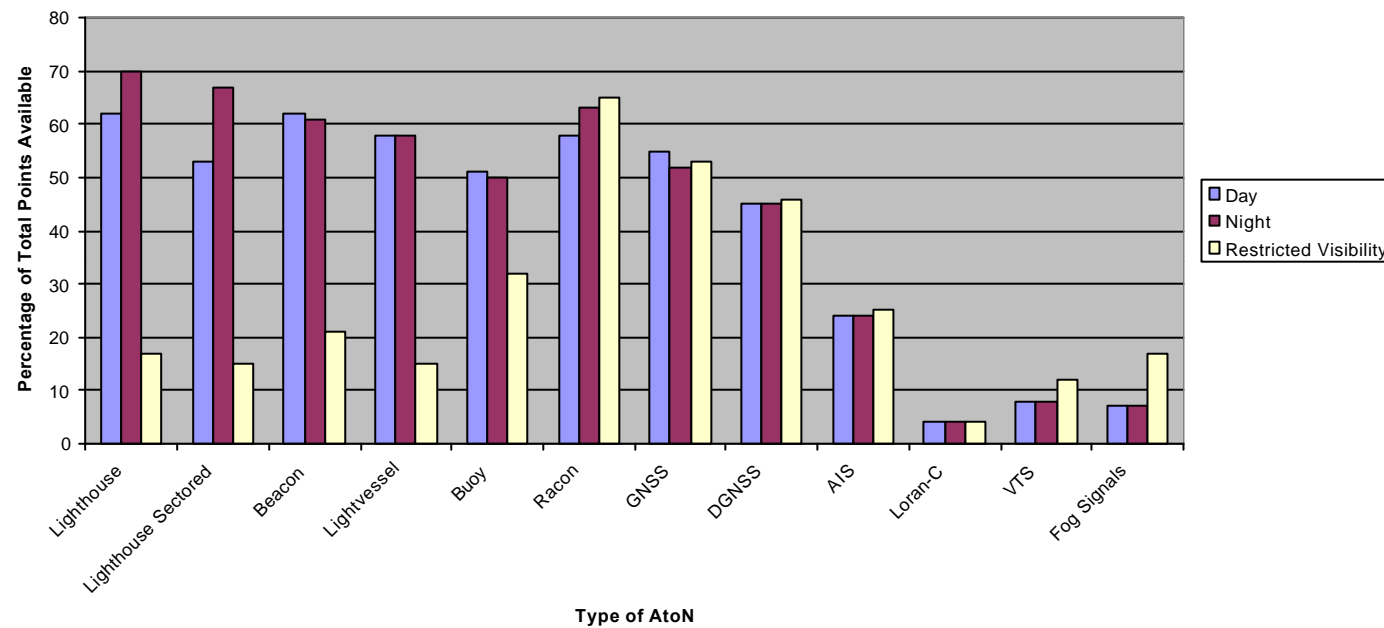
**Note: Total points received from the surveys completed (out of a maximum of 165).**



## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Visual Reference

Coastal Passage - Visual Reference



#### Top Three Results:

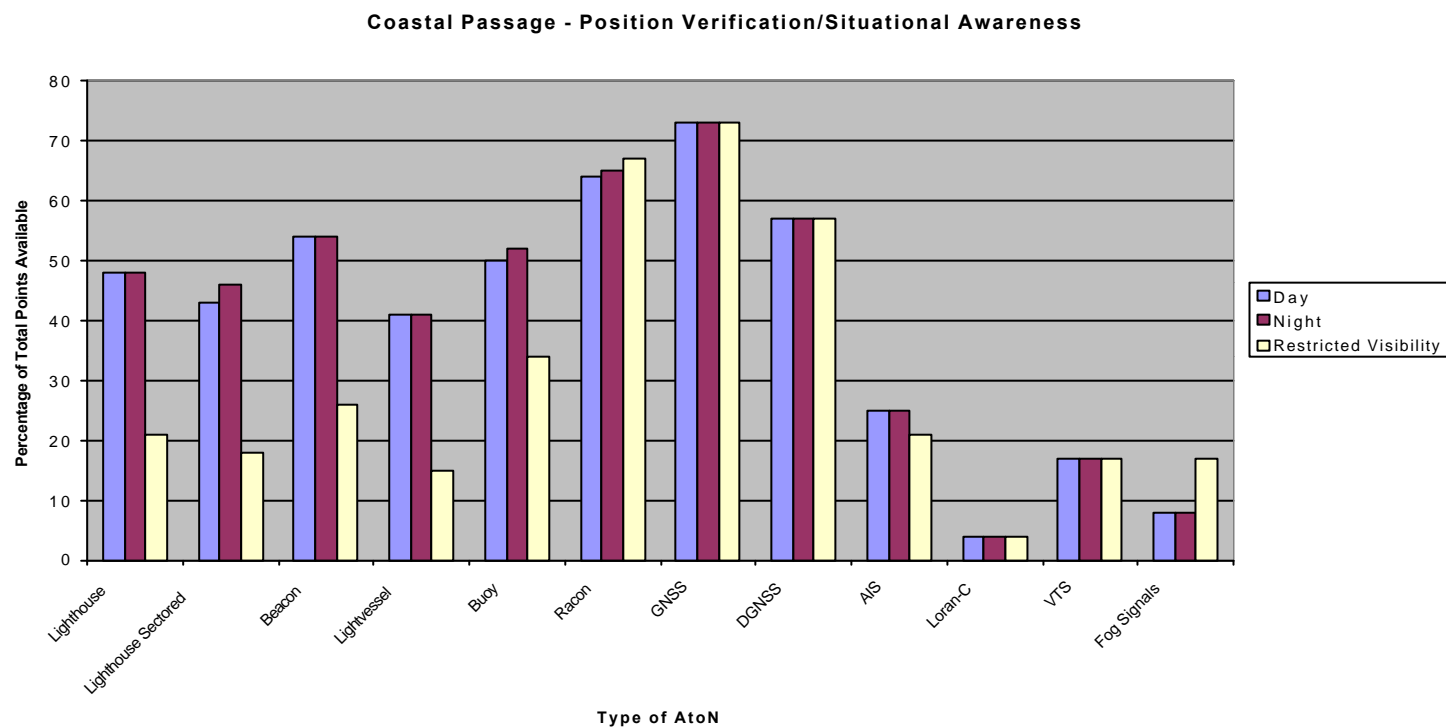
Day - Lighthouse (62%); Beacon (62%); Lightvessel (58%)

Night – Lighthouse (70%); Lighthouse Sectored (67%); Racon (63%)

Restricted Visibility – Racon (65%); GNSS (53%); DGNSS (46%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Position Verification / Situational Awareness



#### Top Three Results:

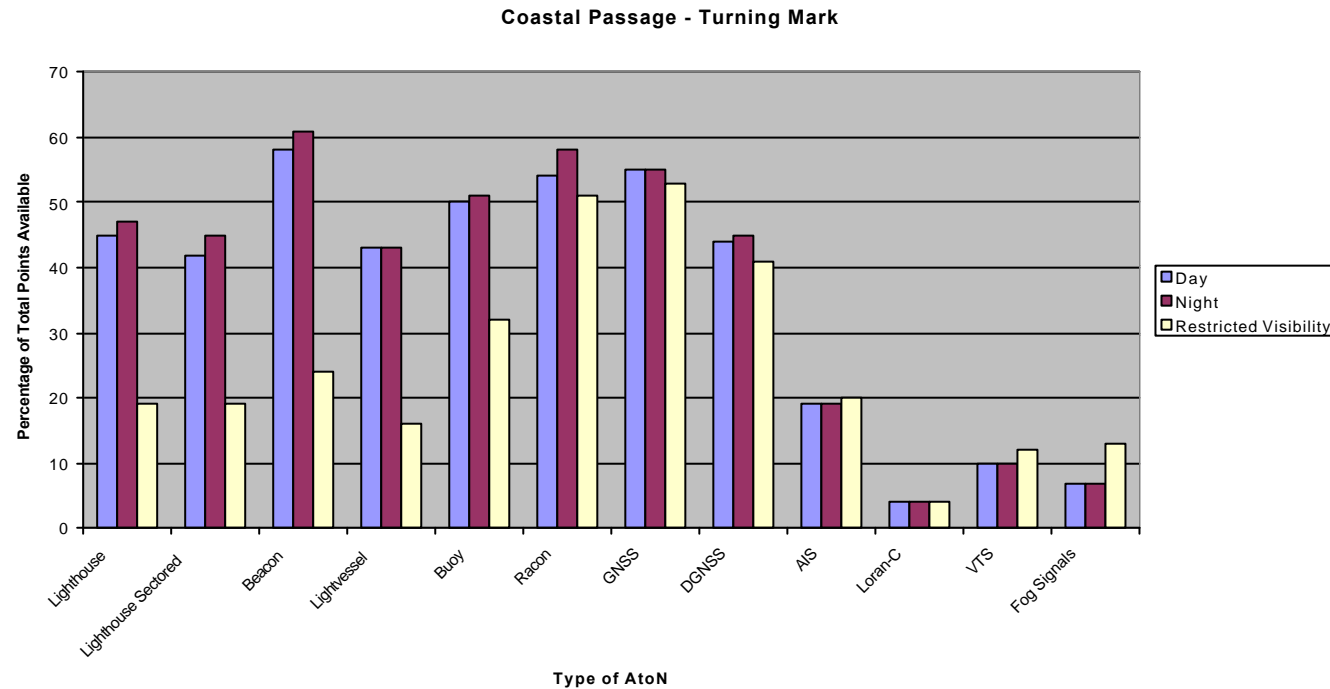
Day – GNSS (73%); Racon (64%); DGNSS (57%)

Night – GNSS (73%); Racon (65%); DGNSS (57%)

Restricted Visibility – GNSS (73%); Racon (67%); DGNSS (57%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Turning Mark



#### Top Three Results:

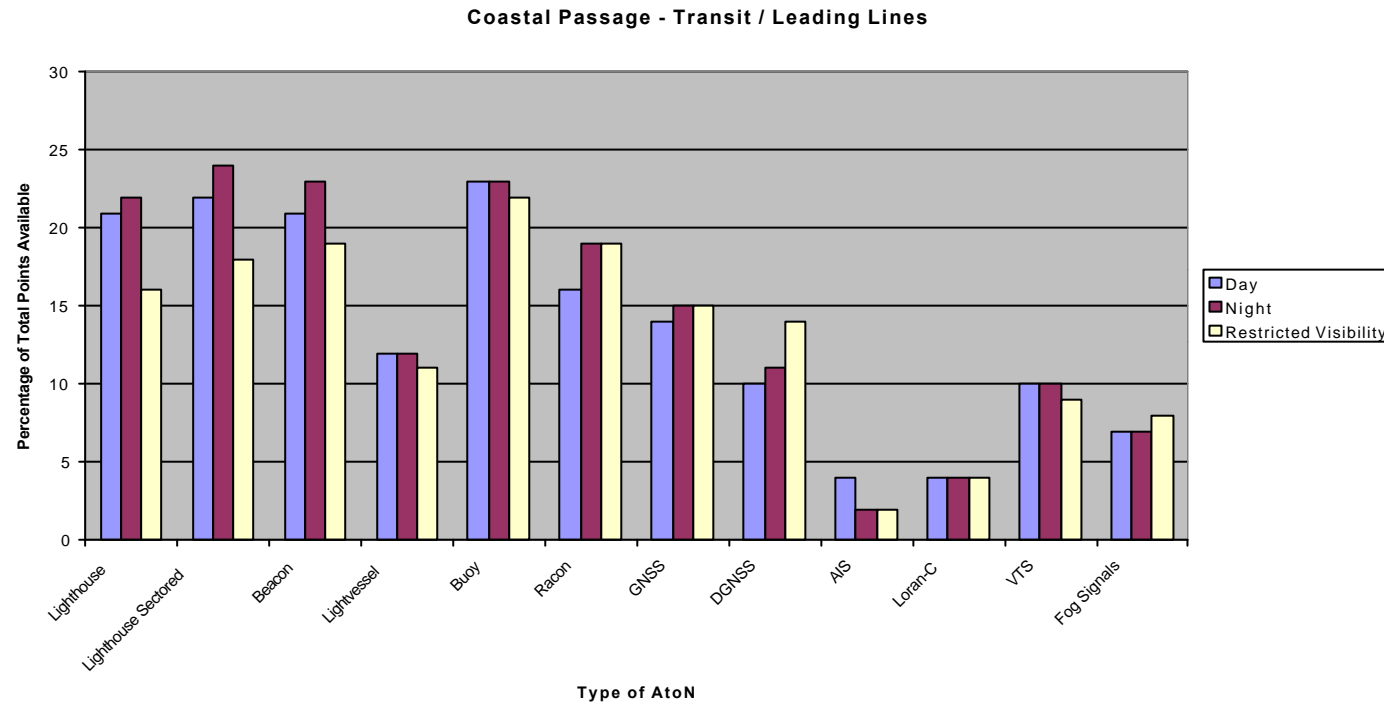
Day – Beacon (58%); GNSS (55%); Racon (54%)

Night – Beacon (61%); Racon (58%); GNSS (55%)

Restricted Visibility – GNSS (53%); Racon (51%); DGNSS (41%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Transit / Leading Lines



#### Top Three Results:

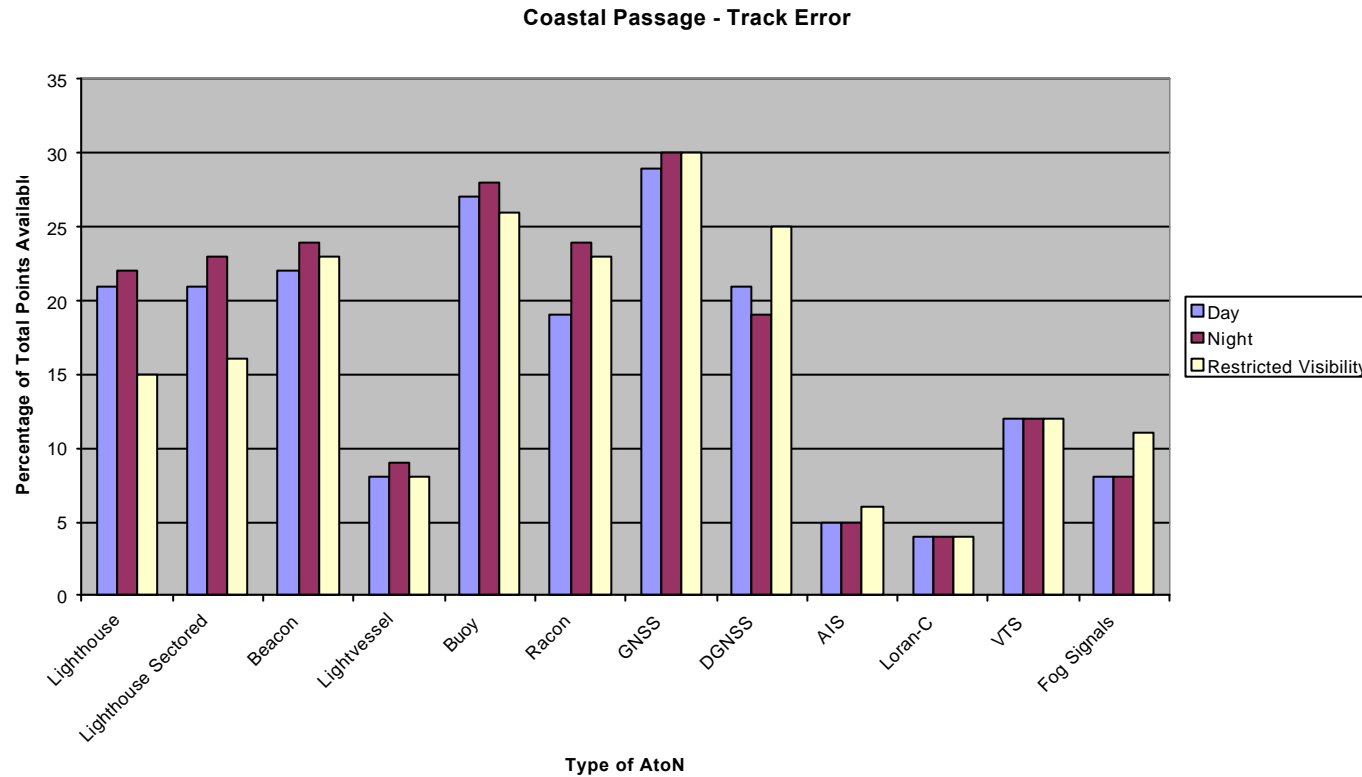
**Day – Buoy (23%); Lighthouse Sector (22%); Beacon/Lighthouse (21%)**

**Night – Lighthouse Sector (24%); Beacon (23%); Buoy (23%)**

**Restricted Visibility – Buoy (22%); Racon (19%); Beacon (19%)**

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Track Error



#### Top Three Results:

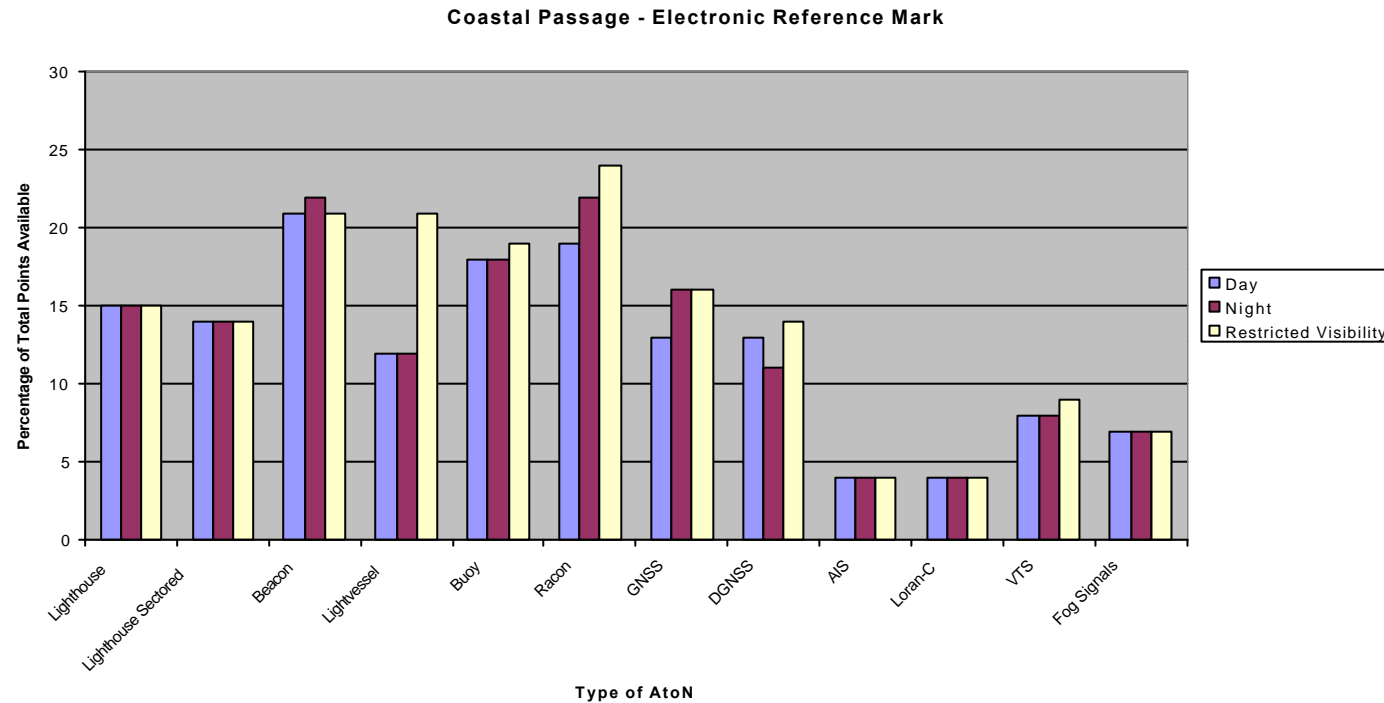
Day – GNSS (29%); Buoy (27%); Beacon (22%)

Night – GNSS (30%); Buoy (28%); Racon/Beacon (24%)

Restricted Visibility – GNSS (30%); Buoy (26%); DGNSS (25%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Coastal Passage – Electronic Reference Mark



#### Top Three Results:

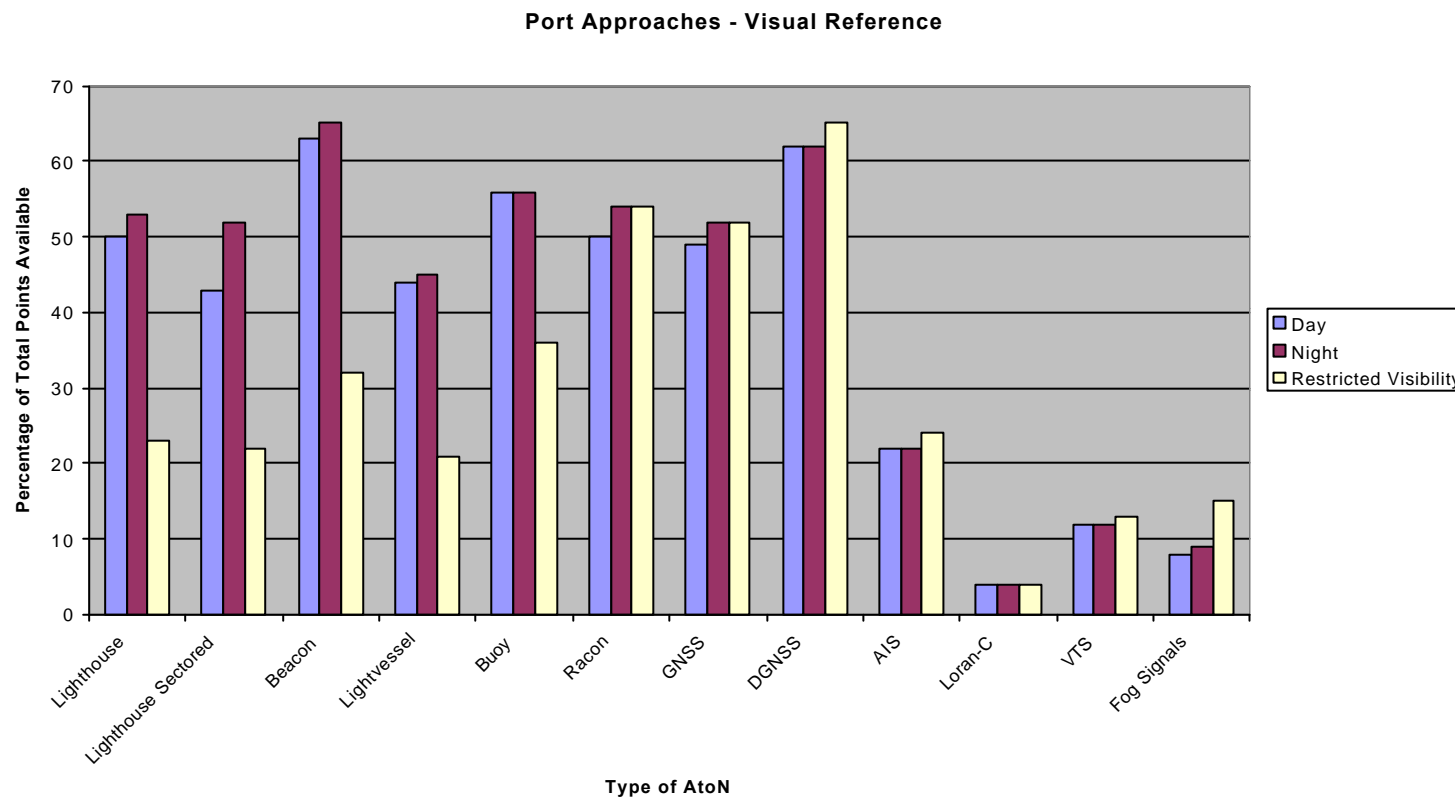
Day – Beacon (21%); Racon (19%); Buoy (18%)

Night – Beacon (22%); Racon (22%); Buoy (18%)

Restricted Visibility – Racon (24%); Beacon (21%); Buoy (19%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Visual Reference



#### Top Three Results:

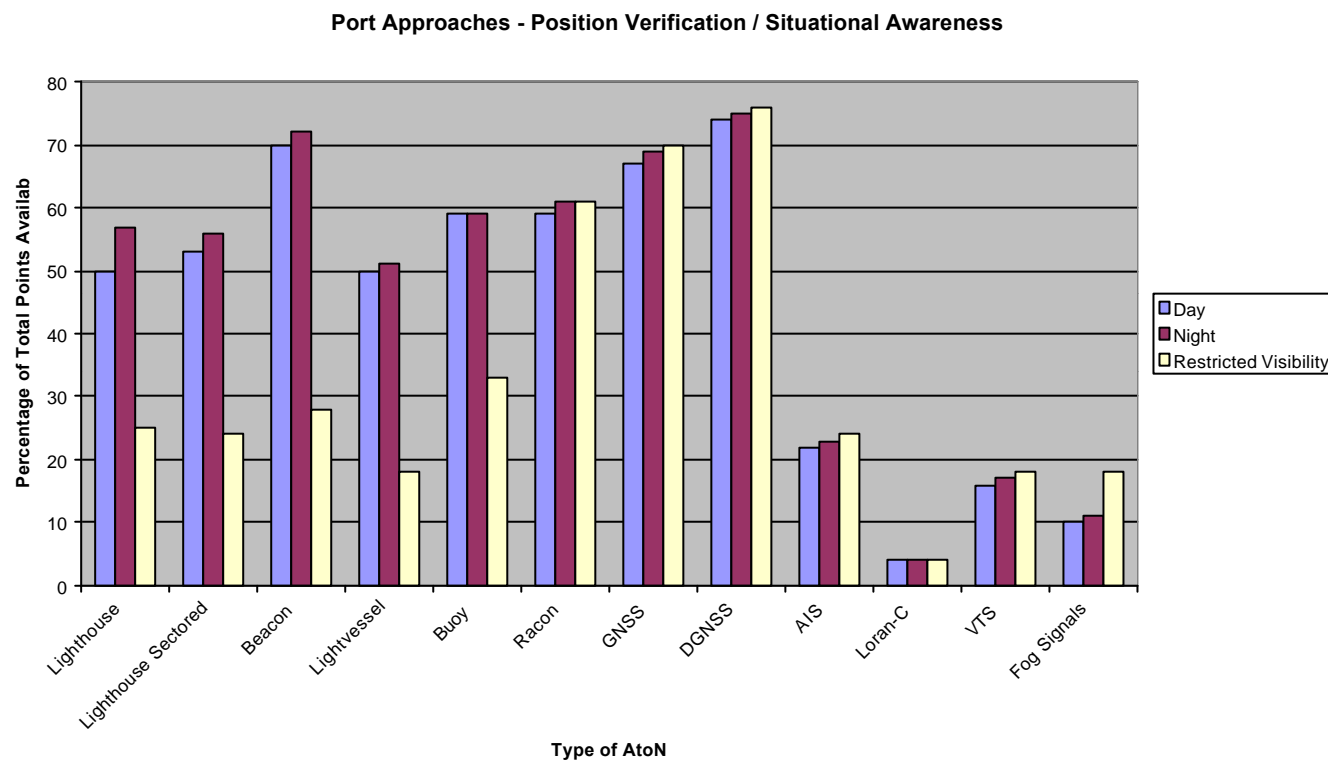
Day – Beacon (63%); DGNSS (62%); Buoy (56%)

Night – Beacon (65%); DGNSS (62%); Buoy (56%)

Restricted Visibility – DGNSS (65%); Racon (54%); GNSS (52%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Position Verification / Situational Awareness



#### Top Three Results:

Day – DGNSS (74%); Beacon (70%); GNSS (67%)

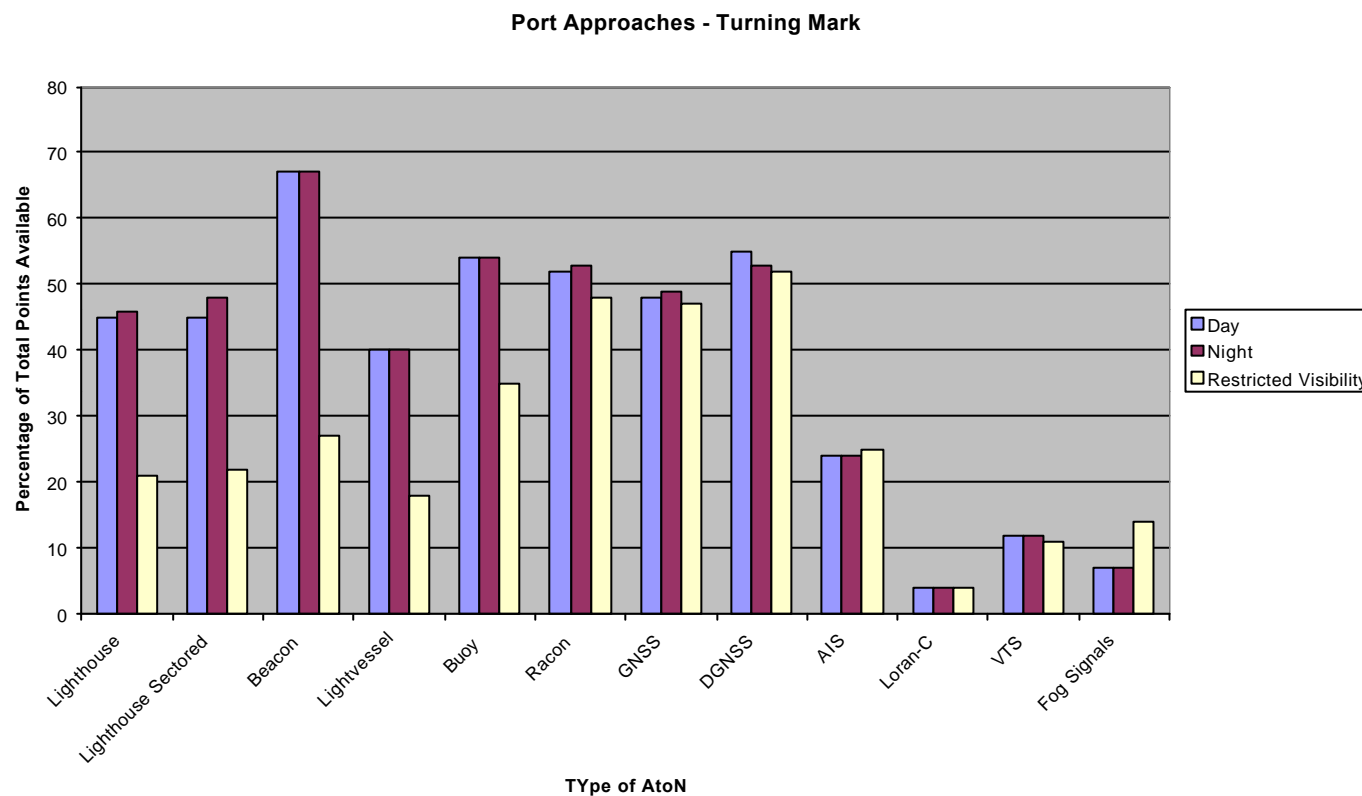
Night – DGNSS (75%); Beacon (72%); GNSS (69%)

Restricted Visibility – DGNSS (76%); GNSS (70%); Racon (61%)



## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Turning Mark



#### Top Three Results:

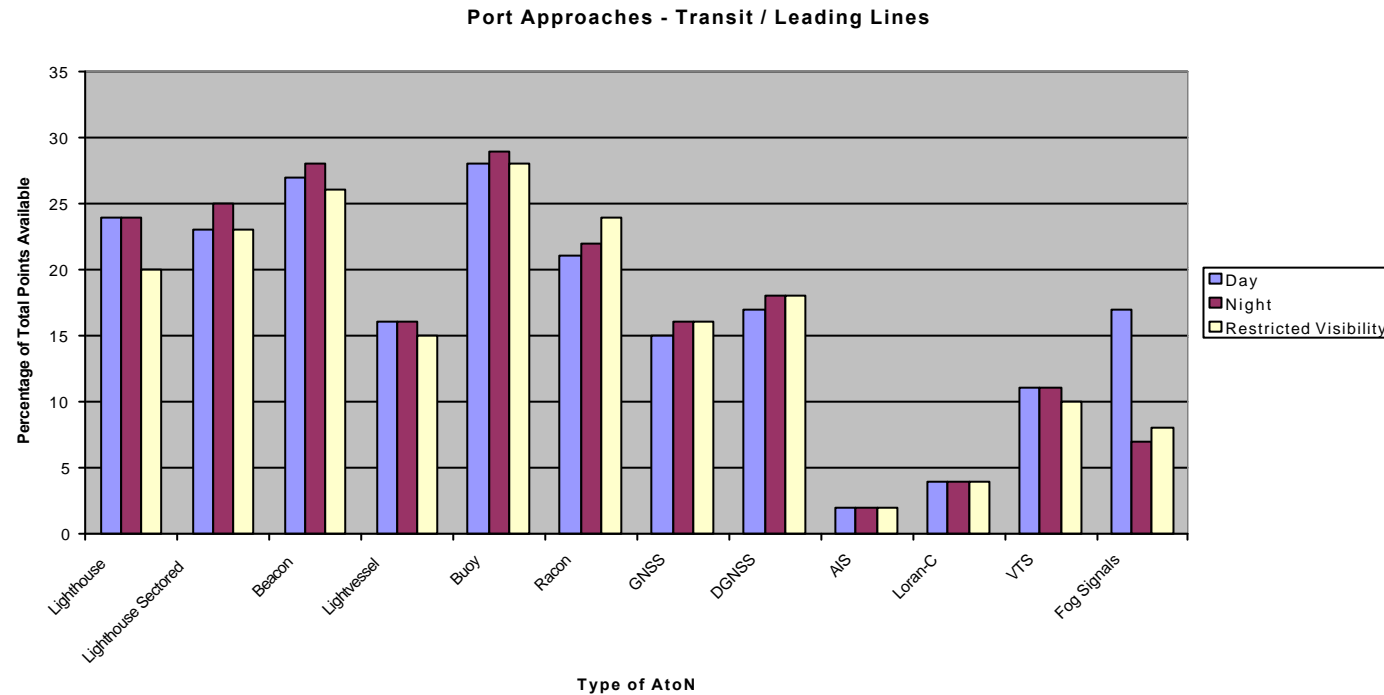
Day – Beacon (67%); DGNSS (55%); Buoy (54%)

Night – Beacon (67%); Buoy (54%); DGNSS (53%)

Restricted Visibility – DGNSS (52%); Racon (48%); GNSS (47%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Transit / Leading Lines



#### Top Three Results:

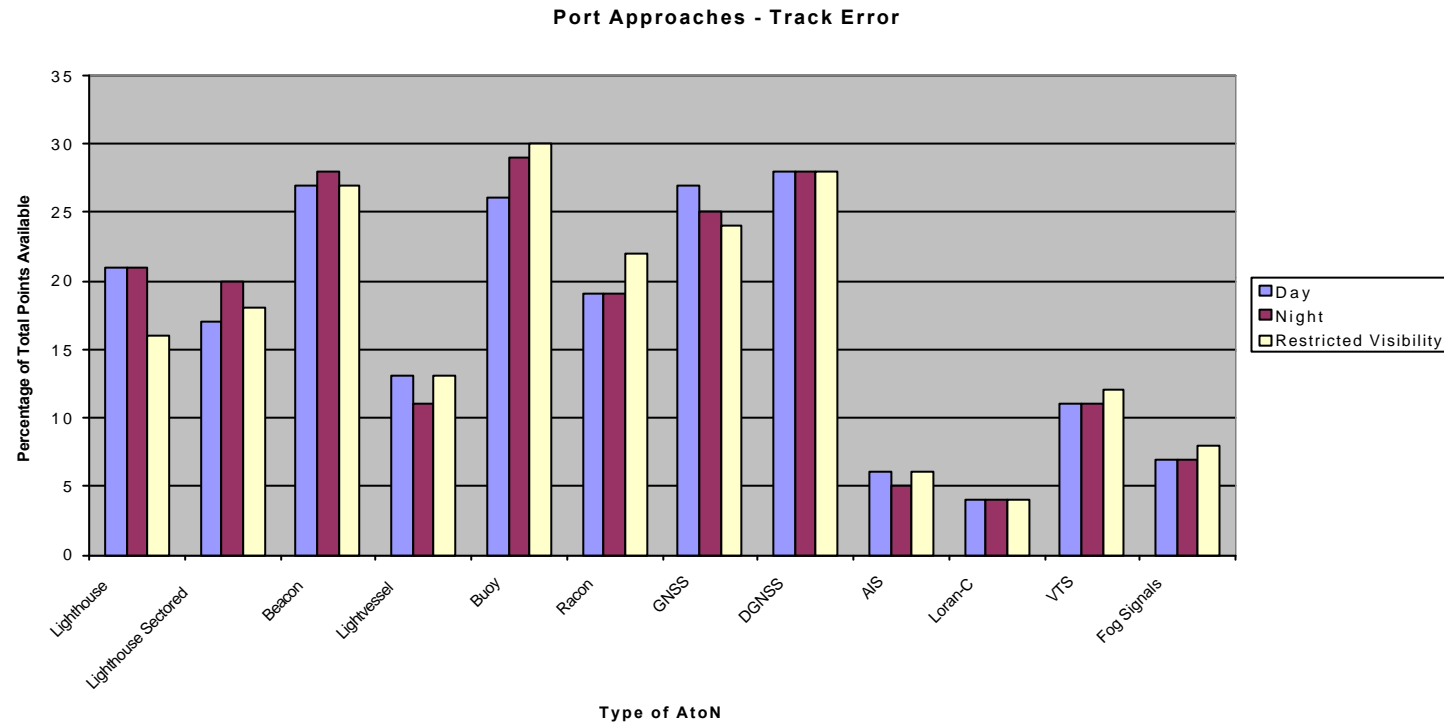
Day – Buoy (28%); Beacon (27%); Lighthouse (24%)

Night – Buoy (29%); Beacon (28%); Lighthouse Sectored (25%)

Restricted Visibility – Buoy (28%); Beacon (26%); Racon (24%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Track Error



#### Top Three Results:

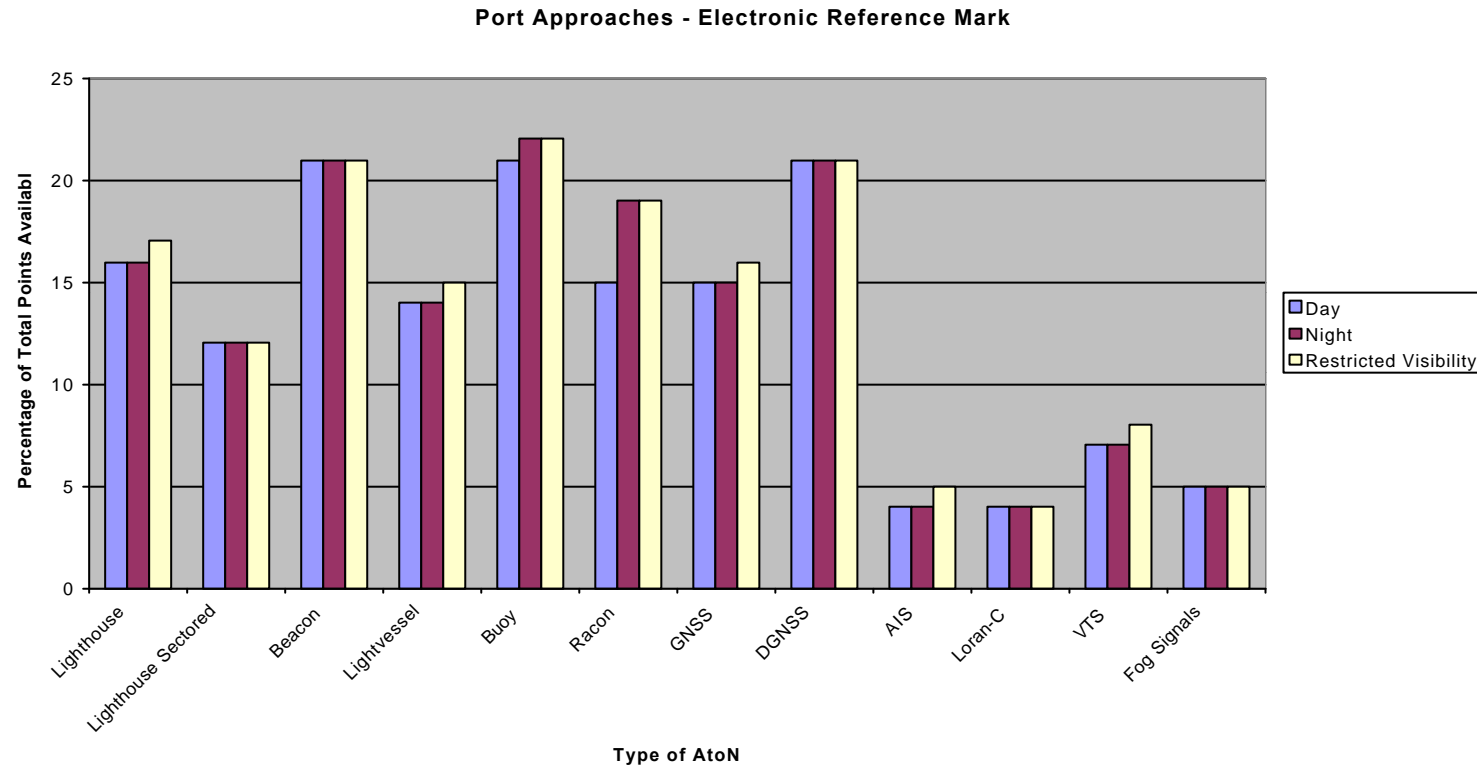
Day – DGNSS (28%); Beacon/GNSS (27%); Buoy (26%)

Night – Buoy (29%); Beacon/DGNSS (28%); GNSS (25%)

Restricted Visibility – Buoy (30%); DGNSS (28%); Beacon (27%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Port Approaches – Electronic Reference Mark



#### Top Three Results:

Day – Beacon (21%); Buoy (21%); DGNSS (21%)

Night – Buoy (22%); Beacon (21%); DGNSS (21%)

Restricted Visibility – Buoy (22%); Beacon (21%); DGNSS (21%)

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 6.1 - Any other comments on Light Characters

<u>Company</u>	<u>Comments</u>
BAY FERRIES LIMITED	THE STATEMENTS OF LENGTH OF LIGHT CHARACTERISTICS DID NOT INCLUDE QUICK FLASHING. MY VIEWS WOULD HAVE BEEN STRONGER IF QUICK FLASHING WERE USED FOR HAZARDS. OPERATING IN AREAS OF THICK FOG WHERE VISIBILITY IS '0', LIGHTS WILL NOT MAKE ANY DIFFERENCE.
SEA CONTAINER FERRIES (SCOTLAND) LTD	SOMETIMES PROBLEMS WITH BACKGROUND LIGHTING, AVIATION (FLASH) LIGHT SEEMS A LOT BRIGHTER, MAYBE THOSE TYPE OF LIGHTS COULD BE USED FOR MARITIME PURPOSES. INTRODUCTION OF BRIGHT BLUE LIGHT TO DIFFERENTIATE FROM BACKGROUND ON APPROACH.
SEACAT SCOTLAND LTD	IN PORT APPROACHES WITH BACK SCATTER OF SHORE LIGHTS, IT WOULD BE ADVANTAGEOUS IF LANDFALL BUOYS WERE STROBE.
NORTHERN MARINE MANAGEMENT	BEING ABLE TO EASILY AND RAPIDLY DIFFERENTIATE BUOYS BY THEIR LIGHT CHARACTERISTICS IS OF PRIMARY IMPORTANCE ESPECIALLY WHEN IN PORT APPROACHES AND BUOYED CHANNELS AGAINST THE BACK SCATTER OF SHORE LIGHTS AND OTHER LIGHT DISTRACTIONS.
STENA LINE	LIGHT COLOURS AGAINST THE NATURAL BACKGROUND OF SHORE LIGHTS SHOULD ACHIEVE GREATEST CONTRAST.
STENA LINE	PORT APPROACHES: FAIRWAY BUOY MARKS NEED TO BE HIGH INTENSITY LIGHTS WITH A QUICK FLASHING CHARACTERISTIC TO ENABLE EASE OF IDENTIFICATION AGAINST SURROUNDING OR BACKGROUND LIGHTS FROM SHIP/SHORE.

**Company****Comments**

HOVERSPEED LIMITED

I HAVE COMPLETED THE ABOVE WITH ONLY SHORT SEA OPERATIONS IN MIND. ARUN PASSAGE FROM BASE PORT TO ANOTHER LOCATION WOULD PUT A HIGHER IMPORTANCE ON LONGER RANGE LIGHTS. ENTRY INTO PORT IN THICK FOG CONDITIONS REQUIRES HI-INTENSITY LIGHTS SITED ON THE ENDS OF BREAKWATERS & PIERS.

STENA LINE

LIGHT CHARACTERISTICS SHOULD BE AS FAST AS POSSIBLE. ANYTHING TO ENHANCE RADAR SIGNALS OF GREAT IMPORTANCE. GPS VITAL

MIKE JACKSON

SYNCHRONISED FAIRWAY LIGHTS ARE VERY USEFUL AT HIGH SPEED AS ARE FIXED SECTORED PEL LIGHTS. GENERALLY SPEAKING FIXED, ISOPHASE OR OCCULTING LIGHTS ARE MORE USEFUL THAN FLASHING LIGHTS.

ROVAERFJORD A/S

ACCORDING TO MY OWN PERSONAL EXPERIENCES, I HAVE GOT USED TO THE PRESENT AND NORMAL CHARACTER AND PREFER THEM AS THEY ARE.

GULEN SKYSSBATSERVICE AS

FIXED INDIRECT LIGHTING SHOULD BE USED TO A LARGER EXTENT.

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 6 - Light Character

The overall period of the light character should be as short as possible (eg. Fl 2.5s rather than Fl 15)

Within the breakdown of the light character, the length of each flash of light should be as long as possible.

The amount of light in the breakdown of a light character should be maximised (eg. Fl (3) 15s rather than Fl 15s)

#### Company

#### Coastal/Port Approaches

AG EMS EMDEN	COASTAL	2	4	4
ANDREW HUMPHRIES	COASTAL	3	5	2
BAY FERRIES LTD	COASTAL	1	1	1
BUQUEBUS S.A.	COASTAL	2	2	2
CONDOR MARINE SERVICES	COASTAL	3	4	2
GUERNSEY HARBOUR AUTHORITY	COASTAL	3	5	3
GULEN SKYSSBATSERVICE AS	COASTAL	0	5	0
HELLAS FLYNIG DOLPHING S.A.	COASTAL	FL2 - FL3	VERY SHORT&DANGEROUS	FL (8) 16S
HEYSHAM PORT LTD	COASTAL	2	5	3
HOVER SPEED	COASTAL	1	5	2
HOVER SPEED	COASTAL	1	5	2
MIKE JACKSON	COASTAL	1	5	5
MOD NAVY	COASTAL	4	5	4
NEWHAVEN PORT & PROPERTIES LTD	COASTAL	2	4	2
NORTHERN MARINE MANAGEMENT	COASTAL	1	5	1
NORTHERN MARINE MANAGEMENT	COASTAL	2	2	2
ROVAERFJORD A/S	COASTAL	2	3	2
SEA CONTAINER FERRIES (SCOTLAND) LTD	COASTAL	3	1	3

**Company****Coastal/Port Approaches**

SEA CONTAINER FERRIES (SCOTLAND) LTD	COASTAL	4	4	4
SEA CONTAINERS	COASTAL	4	5	4
SEA CONTAINERS	COASTAL	4	5	4
SEA CONTAINERS	COASTAL	5	5	2
SEACAT SCOTLAND LTD	COASTAL	3	3	4
STENA LIGHTS	COASTAL	0	5	3
STENA LINE	COASTAL	1	5	1
STENA LINE	COASTAL	2	5	2
STENA LINE	COASTAL	3	2	3
STENA LINE	COASTAL	3	4	5
STENA LINE	COASTAL	3	4	3
STENA LINE	COASTAL	3	4	2
STENA LINE	COASTAL	4	5	5
STENA LINE	COASTAL	5	5	5
STENA LINE HOLLAND BV	COASTAL	4	4	4

**Survey Results**

Score 5 - ( 2)	6%	Score 5 - (17)	53%	Score 5 - ( 4)	13%
Score 4 - ( 6)	19%	Score 4 - ( 8)	25%	Score 4 - ( 7)	22%
Score 3 - ( 9)	28%	Score 3 - ( 2)	6%	Score 3 - ( 6)	19%
Score 2 - ( 7)	22%	Score 2 - ( 3)	10%	Score 2 - (11)	34%
Score 1 - ( 6)	19%	Score 1 - ( 2)	6%	Score 1 - ( 3)	10%
Score 0 - ( 2)	6%	Score 0 - ( 0)		Score 0 - ( 1)	3%



## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 6 - Light Character

The overall period of the light character should be as short as possible (eg. Fl 2.5s rather than Fl 15)

Within the breakdown of the light character, the length of each flash of light should be as long as possible.

The amount of light in the breakdown of a light character should be maximised (eg. Fl (3) 15s rather than Fl 15s)

#### Company

#### Coastal/Port Approaches

AG EMS EMDEN	PORT	2	4	5
	APPROACHES			
ANDREW HUMPHRIES	PORT	3	3	4
	APPROACHES			
BAY FERRIES	PORT	3	2	3
	APPROACHES			
BUQUEBUS S.A.	PORT	5	5	5
	APPROACHES			
CONDOR MARINE SERVICES	PORT	3	2	4
	APPROACHES			
GUERNSEY HARBOUR AUTHORITY	PORT	5	4	5
	APPROACHES			
GULEN SKYSSBATSERVICE AS	PORT	5	0	5
	APPROACHES			
HELLAS FLYNIG DOLPHING S.A.	PORT	FL2 - FL3	VERY	FL (8) 16S
	APPROACHES		SHORT&DANGEROUS	
HEYSHAM PORT LIMITED	PORT	3	3	5
	APPROACHES			
HOVER SPEED	PORT	4	2	5
	APPROACHES			

		The overall period of the light character should be as short as possible (eg. Fl 2.5s rather than Fl 15)	Within the breakdown of the light character, the length of each flash of light should be as long as possible.	The amount of light in the breakdown of a light character should be maximised (eg. Fl (3) 15s rather than Fl 15s)
<b><u>Company</u></b>	<b><u>Coastal/Port Approaches</u></b>			
HOVER SPEED	PORT APPROACHES	4	2	5
MIKE JACKSON	PORT APPROACHES	5	2	5
MOD NAVY	PORT APPROACHES	4	5	5
NEWHAVEN PORT & PROPERTIES LTD	PORT APPROACHES	4	1	4
NORTHERN MARINE MANAGEMENT	PORT APPROACHES	4	3	3
NORTHERN MARINE MANAGEMENT	PORT APPROACHES	5	1	5
ROVAERFJORD A/S	PORT APPROACHES	2	1	1
SEA CONTAINER FERRIES (SCOTLAND) LTD	PORT APPROACHES	5	5	5
SEA CONTAINER FERRIES (SCOTLAND) LTD	PORT APPROACHES	5	1	5
SEA CONTAINERS	PORT APPROACHES	5	4	5
SEA CONTAINERS	PORT APPROACHES	5	3	5
SEA CONTAINERS	PORT APPROACHES	5	4	5
SEACAT SCOTLAND LTD	PORT APPROACHES	4	4	5
STENA LIGHTS	PORT APPROACHES	5	3	5
STENA LINE	PORT APPROACHES	4	3	4

The overall period of the light character should be as short as possible (eg. FI 2.5s rather than FI 15)

Within the breakdown of the light character, the length of each flash of light should be as long as possible.

The amount of light in the breakdown of a light character should be maximised (eg. FI (3) 15s rather than FI 15s)

### Company

### Coastal/Port Approaches

STENA LINE	PORT	5	3	5
	APPROACHES			
STENA LINE	PORT	5	4	5
	APPROACHES			
STENA LINE	PORT	5	5	5
	APPROACHES			
STENA LINE	PORT	5	5	5
	APPROACHES			
STENA LINE	PORT	3	2	4
	APPROACHES			
STENA LINE	PORT	3	4	4
	APPROACHES			
STENA LINE HOLLAND BV	PORT	4	3	5
	APPROACHES			

### Survey Results

Score 5 - (15)	47%	Score 5 - ( 5)	15%	Score 5 - (23)	72%
Score 4 - ( 8)	25%	Score 4 - ( 7)	22%	Score 4 - ( 6)	19%
Score 3 - ( 6)	19%	Score 3 - ( 8)	25%	Score 3 - ( 2)	6%
Score 2 - ( 3)	9%	Score 2 - ( 6)	19%	Score 2 - ( 0)	
Score 1 - ( 0)		Score 1 - ( 5)	16%	Score 1 - ( 1)	3%
Score 0 - ( 0)		Score 0 - ( 1)	3%	Score 0 - ( 0)	

## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 7 - Racons

<u>Company</u>	<b>7.1 Preferred Code</b>	<b>7.2 Other Code</b>	<b>7.3 Need of a Code</b>	<b>7.4 Radar Screen Extended Display</b>	<b>7.6 Comments</b>
SEA CONTAINER FERRIES (SCOTLAND)	M O T D	NO	YES	NO	PASSING CLOSE TO A RACON WITH LONG PLUME CAN 'BLANK OUT' RADARS OCCASIONALLY, CAUSING PROBLEMS FOR HSC IN CONFINED, BUSY WATERS.
HELLAS FLYNIG DOLPHING S.A.	M O T D B C P Q & Y				NONE
AG EMS EMDEN	M O T D B C P Q & NO Y		NO		NONE
BAY FERRIES LTD	M O T D B C P Q & NO Y		YES	YES	IN THE CASE OF YARMOUTH HARBOUR, ON THE APPROACHES TO THE HARBOUR, THE RACON AT THE CAPE FORCHU LIGHT, DISPLAYS ON THE RADAR ACROSS THE CHANNEL, BLINDING ANY TARGETS FROM SEEN. ANY TRAFFIC OUT BOUND WILL BE DELAYED ON BEING SEEN ON RADAR IN ANY CONDITION.
BUQUEBUS S.A.	ANY	NO	YES	NO	NONE

<b><u>Company</u></b>	<b>7.1 Preferred Code</b>	<b>7.2 Other Code</b>	<b>7.3 Need of a Code</b>	<b>7.4 Radar Screen Extended Display</b>	<b>7.6 Comments</b>
SEA CONTAINER FERRIES (SCOTLAND)	M O T	NO	YES-TWO	NO	NONE
SEACAT SCOTLAND LTD	M O T	NO	NO	YES	RACONS ARE USEFUL NORMALLY BUT ESPECIALLY SO IN HEAVY WEATHER WHEN TARGETS CAN BE HARD TO DETECT.
NORTHERN MARINE MANAGEMENT	NO PREFERENCE	NO	YES	NO	RACONS ARE OF BENEFIT, ESPECIALLY WHEN APPROACHING A BUOYED CHANNEL IN HIGHER SEA STATES WHERE IT IS MORE DIFFICULT TO IDENTIFY THE BUOYS ON RADAR (RADAR SCANNERS ARE RELATIVELY LOW ON MOST HSC). IS THUS AN AID TO ORIENTATION, ESPECIALLY IN FOLLOWING SEAS WHERE THE CRAFT MAY BE YAWING WITH CORRESPONDING LARGE CHANGE OF HEADING?
STENA LINE	NO PREFERENCE	NO	POSSIBLY	NO	I TEND TO USE RACONS MORE FOR OPEN WATER AND COASTAL REFERENCE. IN THIS CASE A HIGHER REPETITION FREQUENCY IS PREFERABLE.
STENA LINE	NO PREFERENCE	NO	NO	NO	RACONS IN MY OPERATING AREA ARE MAINLY LIGHT HOUSE BASED, ONE IS ON A FAIRWAY BUOY (BELFAST) WHICH IS VERY USEFUL IN TIMES OF CONGESTION. IT TAKES THE GUESSWORK OUT OF IDENTIFICATION. ALL RACONS SHOULD BE AVAILABLE ON BOTH 3 & 10 CM RANGES.

<b><u>Company</u></b>	<b>7.1 Preferred Code</b>	<b>7.2 Other Code</b>	<b>7.3 Need of a Code</b>	<b>7.4 Radar Screen Extended Display</b>	<b>7.6 Comments</b>
NORTHERN MARINE	T M O	NO	YES	NO	NONE
STENA LINE HOLLAND BV	ANY	NO	NO	NO	NONE
SEA CONTAINERS	M O T	YES		YES	NONE
SEA CONTAINERS	X OR Z	YES		YES	IF A RACON IS MISSED ON A HSC IT CAN BE CRITICAL, THERFORE PERIOD SHOULD BE AS SHORT AS REASONABLE PRACTICAL.
HOVERSPEED	NO PREFERENCE	NO	YES	YES	VALUABLE IN CONGESTED SHIPPING LANES.
HOVERSPEED	NO PREFERENCE	NO	YES	YES	VALUABLE IN CONGESTED SHIPPING LANES.
STENA LINE	M	YES	YES		NONE
STENA LINE	NO	NO	YES	YES	NONE
NEWHAVEN PORT & PROPERTIES LTD	M O D	NO	YES	YES	NONE
STENA LINE	M T D	YES	YES	YES	NONE
STENA LIGHTS	NO PREFERENCE	NO	YES	NO	W.R.T. HSS DUBLIN (IRISH LIGHTS) BUOYS IN APPROACH ROUTE NEEDS BETTER RECOGNITION FEATURES.
STENA LINE	NO PREFERENCE	NO	YES	NO	NONE

<b><u>Company</u></b>	<b>7.1 Preferred Code</b>	<b>7.2 Other Code</b>	<b>7.3 Need of a Code</b>	<b>7.4 Radar Screen Extended Display</b>	<b>7.6 Comments</b>
STENA LINE	ANY	NO	YES	YES	NONE
MIKE JACKSON	O	NO	NO	NO	NONE
GUERNSEY HARBOUR AUTHORITY	T	NO	YES	YES	NONE
HEYSHAM PORT LTD			YES	YES	NONE
MOD NAVY	M O T	NO	YES	YES	NONE
ANDREW HUMPHRIES	NO PREFERENCE	NO	YES	YES	NONE
STENA LINE	NO PREFERENCE	NO	YES	YES	NONE
CONDOR MARINE SERVICES	M D B C	YES	YES		COMBINED COULD PRODUCE A USEFUL RESTRICTED VISUAL LEADING MARK.
SEA CONTAINERS	M O T	YES	YES		NONE
ROVAERFJORD A/S	NO PREFERENCE	NO	NO	YES	NONE
GULEN SKYSSBATSERVICE A/S	NO PREFERENCE		YES	NO	RACONS SHOULD BE USED TO IDENTIFY DANGEROUS POINTS OF PASSAGE

**Survey Results**

7.1 Preferred Code	7.2 Other Code	7.3 Need of a Code	7.4 Radar Screen Extended Display	7.6 Comments
M (1)	NO (25) 75%	NO (6) 25%	NO (12) 36%	
O (1)	YES (6) 25%	YES (23) 70%	YES (16) 48%	
T (1)		POSSIBLY (1) 3%		
MOTD (1)				
X or Z (1)				
MDBC (1)				
MTD (1)				
MOD (1)				
MOTD & BCPQY (3)				
MOT (6)				
NO PREFERENCE (16)				



## IALA Survey on Aids to Navigation Provision for High Speed Craft (HSC)

### Question 8 - Are there any other comments you wish to make on the AtoNs required by HSC or current and future provision?

<u>Company</u>	<u>Comments</u>
SEA CONTAINERS FERRIES SCOTLAND LTD	ADDITION OF AIS TO ATON COULD DEFINITELY OPEN UP POSSIBILITIES OF OTHER USEFUL INFORMATION (WEATHER, SIG SEA HT) BEING TRANSMITTED TO HSC.
BAY FERRIES LIMITED	NAVIGATIONAL RUNNING LIGHTS DO NOT HAVE PROVISION FOR HSC FOR IDENTIFYING A HSC. NONE DISPLACEMENT VESSELS EXHIBIT AN ALL ROUND FLASHING YELLOW LIGHT, BUT UNCLEAR FOR HSC. ALTHOUGH BOTH CAN BE HAIGH SPEED, BUT NOT THE SAME DUE TO DIRECTIONAL PATH OF NON-DISPLACEMENT VESSEL.
SEA CONTAINER FERRIES SCOTLAND LTD	PERSONALLY MOST IMPORTANT IS THAT PERIODS OF LIGHTS ARE REDUCED, SOMETIMES IT'S HARD TO KEEP VISUAL TRACKING THEM AT HIGH SPEED.
SEACAT SCOTLAND	MOST OF MY CONCERNS WOULD SEEM TO BE ADDRESSED IN QUESTIONS 6 & 7 ABOVE.
NORTHERN MARINE MANAGEMENT	I HAVE NEVER USED AIS AND ONLY READ BRIEFLY IN SOME PERIODICALS ABOUT IT'S USE, BUT I FEEL THAT THERE IS A REAL DANGER OF INFORMATION OVERLOAD AND WILL BE A DISTRACTION RATHER THAN A BENEFIT TO SAFE NAVIGATION ON HSC. CERTAIN NAVIGATION AIDS HAVE DIFFERENT PRIORITIES DEPENDANT ON THE ROUTE, EG. I HAVE OPERATED OUT OF DOVER AND BELFAST WHERE VTS IS OF GREATER IMPORTANCE THAN THE SOUTHERN IRISH SEA. BELFAST AND STRANRAER HAVE LONG BUOYED AND BEACONED APPROACH CHANNELS, DIEPPE AND NEWHAVEN HAVE STRONG CROSS HARBOUR ENTRANCE TIDES WHERE LIGHTHOUSES PLAY A GREATER IMPORTANCE.
STENA LINE	WIDESPREAD USE OF AIS ON IMPORTANT FIXED & TEHTERED MARKS SHOULD PROVE BENEFICIAL. MORE DUAL BAND RACONS.

<b><u>Company</u></b>	<b><u>Comments</u></b>
STENA LINE	NOT AWARE OF ANY FUTURE PROVISIONS OR DIRECTIVES THAT ARE BEING CONSIDERED. AS LONG AS RADAR SCREENS ARE NOT GETTING CLUTTERED WITH EXTRA INFORMATION.
SEA CONTAINERS	THE POSSIBILITY OF NAVIGATION MARKS BEING LINKED TO THE AIS.
HOVERSPEED	HIGH SPEED NAVIGATION RELIES UPON DEDICATED RADAR MONITORING AND POSITION FIXING, AIDED BY DGPS INPUTS AND RADAR MAPPING. ALSO WHERE FITTED ELECTRONIC CHART DISPLAYS. LIGHTS ARE USEFUL FOR CLOSE IN (BUOYED CHANNELS) NAVIGATION BUT OUTSIDE OF THAT HAVE LITTLE USE. APART FROM LONG DISTANCE TRANSITS WHEREBY ALL NAVAIDS WILL HAVE THE SAME IMPORTANCE AS ANY OTHER SHIP.
HOVERSPEED	HIGH SPEED NAVIGATION RELIES UPON DEDICATED RADAR MONITORING & POSITION FIXING, AIDED BY DGPS INPUTS AND RADAR MAPPING.
NEWHAVEN PORT & PROPERTIES	RADAR IS THE PRIME TOOL FOR ANTI COLLISION AND NAVIGATION (OTHER THAN A GOOD LOOK-OUT). ALL AIDS TO AUGMENT THIS ARE WELCOME.
STENA LIGHTS	BREAKWATER LIGHT AND PORT APPROACH LIGHTS, BUOYS ETC NEED BETTER/HIGHER FREQUENCY LIGHTS. POSSIBLY STROBES UNDERSTANDABLY MAINTAINED BY HARBOUR AUTHORITY - POSSIBLY LOCALLY OPERATED STROBES INITIATED DURING TRANSIT / APPROACH TIMES.
STENA LINE	HIGH INTENSITY LIGHTS USED IN AREAS OF HIGH BACKSCATTER AND/OR SHORE LIGHTS.
MIKE JACKSON	WHEN NAVIGATING AT HIGH SPEED IT IS ALWAYS PREFERABLE TO HAVE PARALLEL INDEX LINES DISPLAYED ON THE RADAR AS A CROSS CHECK AGAINST VISUAL AND ELECTRONIC CHART NAVIGATION. RADAR CONSPICUOUS OBJECTS ARE REQUIRED FOR PARALLEL INDEXING. WHEN NAVIGATING IN CHANNELS, A RADAR REFLECTOR FITTED TO BEACONS ARE VERY HELPFUL. COLOUR IS IMPORTANT. IT IS EASIER TO SEE DAYGLO OR ORANGE PAINTED LEAD MARKS THAN WHITE ONES. THE USE OF BRIGHT DAYLIGHT LIGHTS ON LEAD MARKS IS ALSO HELPFUL.

<b><u>Company</u></b>	<b><u>Comments</u></b>
HEYSHAM PORT LIMITED	IN RESTRICTED WATERS AND AREAS OF HIGH TRAFFIC DENSITY THE FREQUENCY OF AIDS IE. QFL AND PERIOD IS IMPORTANT AS IS THE FITTING OF TRANSPONDERS.
CONDOR MARINE SERVICES	IMPORTANT THAT AIS FILTERING IS LIMITED TO THE MOST IMPORTANT NAVIGATION MARK TO AID CLARITY.
SEA CONTAINERS	I THINK THE INTRODUCTION OF AIS ON ATON WOULD CONSIDERABLY HELP NAVIGATORS TO IDENTIFY ATON IN COASTAL AND PORT APPROACHES WHERE BACKGROUND SCATTER IS A PROBLEM. IT WOULD ALSO OPEN UP POSSIBILITY OF TRANSMITTING OTHER RELEVANT INFORMATION TO THE NAVIGATORS AT THE SAME TIME, IE. WIND SPEED, SEA HEIGHT ETC.
ROVAERFJORD A/S	THEY ARE VERY USEFUL, ESPECIALLY WHEN YOU ARE SAILING IN UNKNOWN AREAS, BUT SINCE WE ARE NORMALLY SAILING IN NARROW WATERS, WE USE RADAR MOSTLY AS A SUPPLEMENT TO OUR VISUAL PICTURE OF THE ROUTE. ONLY IN DARK AND FOGGY WEATHER WE BENEFIT FROM THE APPEARANCES OF THE RCO.
GULEN SKYSSBATSERVICE AS	USE OF INDIRECT, FIXED LIGHTNING IN RESTRICTED AREAS WILL GREATLY IMPROVE THE SAFETY FOR HSC.