



**MIDDLE EAST  
NAVIGATION  
AIDS SERVICE**

**Branch**



World-Class Safety of Navigation Service Provider

**Memberships/Affiliates:**

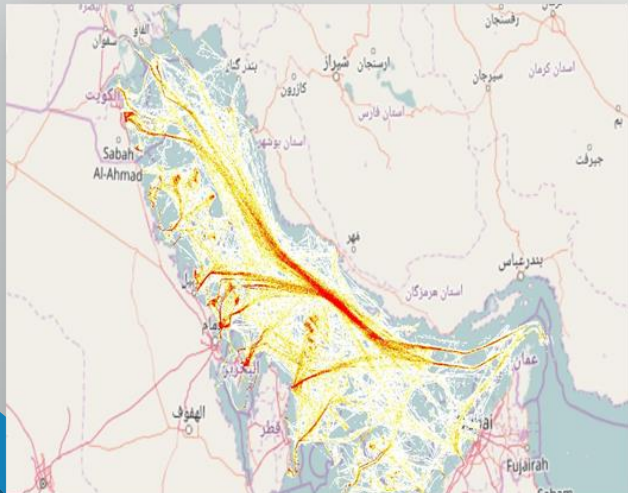


# Core Activity

- Maritime Safety Information via Notices to Mariners and NAVTEX as the NAVAREA IX sub-area coordinator. MENAS is recognised as the most efficient MSI service provider in the Middle East Region
- A short-range visual and radio Aids to Navigation service to full IALA standards throughout the Gulf and its approaches
- A Differential GPS service covering the Gulf and its approaches
- These services are funded through the payment of Navdues

# MEANS Short Range AtoNs

MENAS owns and maintains extensive network of buoys, lighthouses, racons & AIS in the Gulf and all AtoNs are essential in providing visual orientation and spatial awareness for safe navigation of vessels.

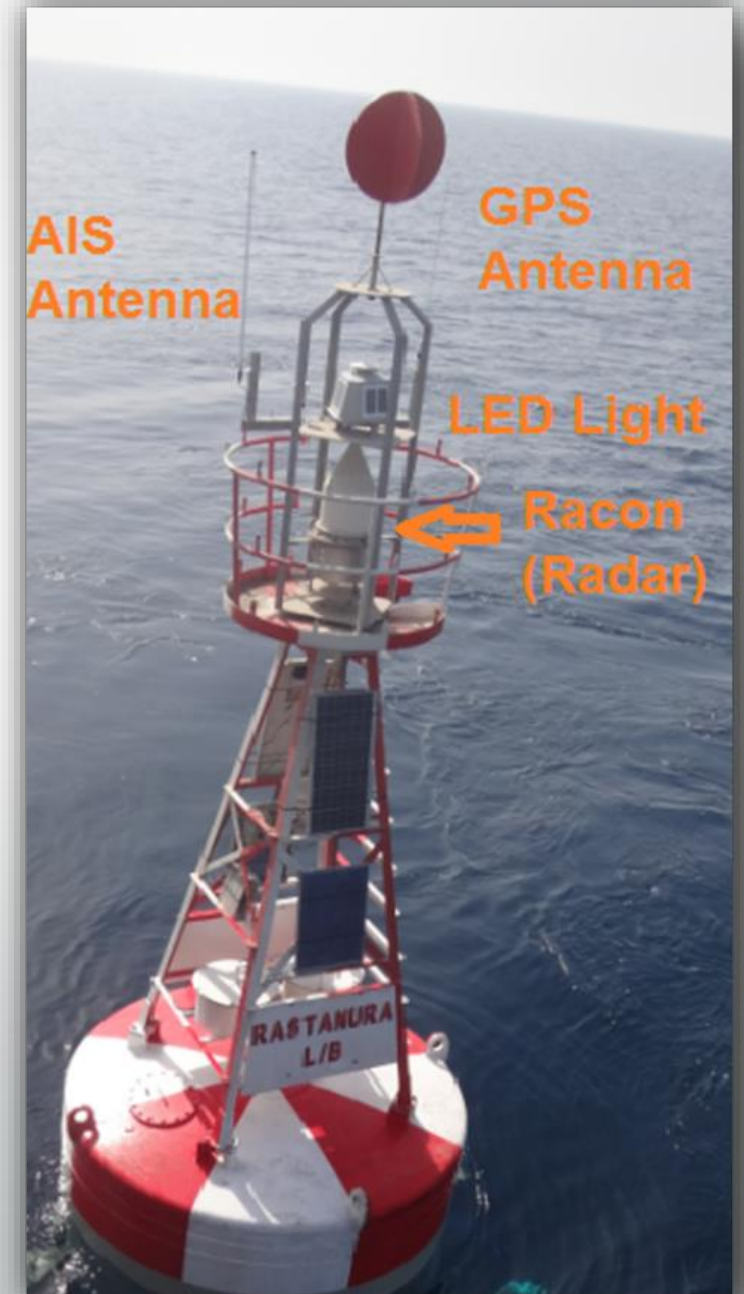
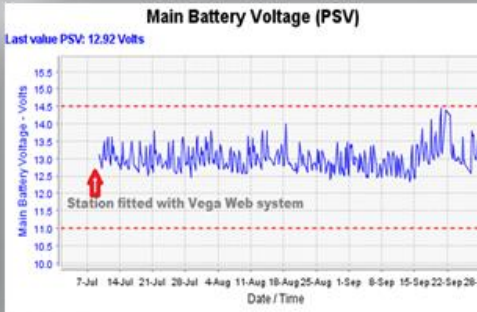
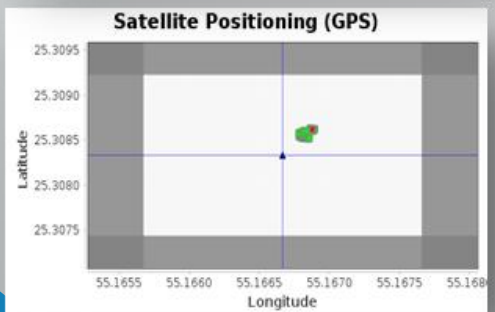
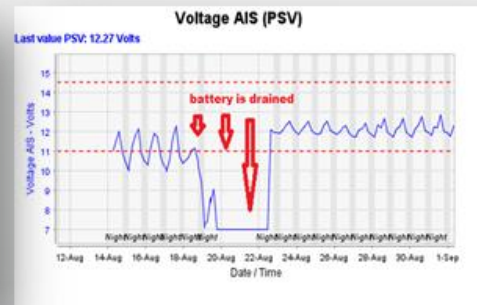
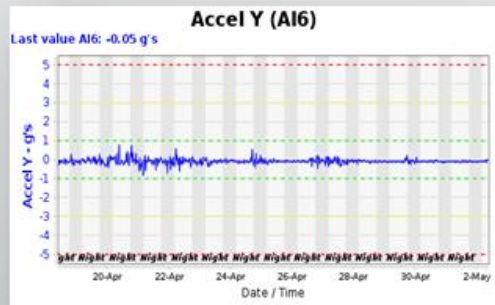




# MENAS AtoNs

## New Technology Equipment / System.

- LED lantern Self-Contained
- Auto. Identification System-AIS
- Monitoring System
- Mooring System



# Quality Control Services

- Fully IALA certified MENAS Managers will inspect both fixed and floating short-range AtoN to determine compliance with IALA standards
- Periodic QC audits undertaken



# Marine Lantern Calibration Range

- The only fully compliant light range in the MENA region
- Marine Lantern effectiveness will be analysed and test certificates issued



Intensity vs. Angle (symmetrical)		Intensity (cd)	
Angle (deg)	Intensity (cd)	Angle (deg)	Intensity (cd)
0	1.50	180	1.50
1	1.48	181	1.48
2	1.46	182	1.46
3	1.44	183	1.44
4	1.42	184	1.42
5	1.40	185	1.40
6	1.38	186	1.38
7	1.36	187	1.36
8	1.34	188	1.34
9	1.32	189	1.32
10	1.30	190	1.30
11	1.28	191	1.28
12	1.26	192	1.26
13	1.24	193	1.24
14	1.22	194	1.22
15	1.20	195	1.20
16	1.18	196	1.18
17	1.16	197	1.16
18	1.14	198	1.14
19	1.12	199	1.12
20	1.10	200	1.10
21	1.08	201	1.08
22	1.06	202	1.06
23	1.04	203	1.04
24	1.02	204	1.02
25	1.00	205	1.00
26	0.98	206	0.98
27	0.96	207	0.96
28	0.94	208	0.94
29	0.92	209	0.92
30	0.90	210	0.90
31	0.88	211	0.88
32	0.86	212	0.86
33	0.84	213	0.84
34	0.82	214	0.82
35	0.80	215	0.80
36	0.78	216	0.78
37	0.76	217	0.76
38	0.74	218	0.74
39	0.72	219	0.72
40	0.70	220	0.70
41	0.68	221	0.68
42	0.66	222	0.66
43	0.64	223	0.64
44	0.62	224	0.62
45	0.60	225	0.60
46	0.58	226	0.58
47	0.56	227	0.56
48	0.54	228	0.54
49	0.52	229	0.52
50	0.50	230	0.50
51	0.48	231	0.48
52	0.46	232	0.46
53	0.44	233	0.44
54	0.42	234	0.42
55	0.40	235	0.40
56	0.38	236	0.38
57	0.36	237	0.36
58	0.34	238	0.34
59	0.32	239	0.32
60	0.30	240	0.30
61	0.28	241	0.28
62	0.26	242	0.26
63	0.24	243	0.24
64	0.22	244	0.22
65	0.20	245	0.20
66	0.18	246	0.18
67	0.16	247	0.16
68	0.14	248	0.14
69	0.12	249	0.12
70	0.10	250	0.10
71	0.08	251	0.08
72	0.06	252	0.06
73	0.04	253	0.04
74	0.02	254	0.02
75	0.00	255	0.00
76	0.02	256	0.02
77	0.04	257	0.04
78	0.06	258	0.06
79	0.08	259	0.08
80	0.10	260	0.10
81	0.12	261	0.12
82	0.14	262	0.14
83	0.16	263	0.16
84	0.18	264	0.18
85	0.20	265	0.20
86	0.22	266	0.22
87	0.24	267	0.24
88	0.26	268	0.26
89	0.28	269	0.28
90	0.30	270	0.30
91	0.32	271	0.32
92	0.34	272	0.34
93	0.36	273	0.36
94	0.38	274	0.38
95	0.40	275	0.40
96	0.42	276	0.42
97	0.44	277	0.44
98	0.46	278	0.46
99	0.48	279	0.48
100	0.50	280	0.50
101	0.52	281	0.52
102	0.54	282	0.54
103	0.56	283	0.56
104	0.58	284	0.58
105	0.60	285	0.60
106	0.62	286	0.62
107	0.64	287	0.64
108	0.66	288	0.66
109	0.68	289	0.68
110	0.70	290	0.70
111	0.72	291	0.72
112	0.74	292	0.74
113	0.76	293	0.76
114	0.78	294	0.78
115	0.80	295	0.80
116	0.82	296	0.82
117	0.84	297	0.84
118	0.86	298	0.86
119	0.88	299	0.88
120	0.90	300	0.90
121	0.92	301	0.92
122	0.94	302	0.94
123	0.96	303	0.96
124	0.98	304	0.98
125	1.00	305	1.00
126	1.02	306	1.02
127	1.04	307	1.04
128	1.06	308	1.06
129	1.08	309	1.08
130	1.10	310	1.10
131	1.12	311	1.12
132	1.14	312	1.14
133	1.16	313	1.16
134	1.18	314	1.18
135	1.20	315	1.20
136	1.22	316	1.22
137	1.24	317	1.24
138	1.26	318	1.26
139	1.28	319	1.28
140	1.30	320	1.30
141	1.32	321	1.32
142	1.34	322	1.34
143	1.36	323	1.36
144	1.38	324	1.38
145	1.40	325	1.40
146	1.42	326	1.42
147	1.44	327	1.44
148	1.46	328	1.46
149	1.48	329	1.48
150	1.50	330	1.50
151	1.52	331	1.52
152	1.54	332	1.54
153	1.56	333	1.56
154	1.58	334	1.58
155	1.60	335	1.60
156	1.62	336	1.62
157	1.64	337	1.64
158	1.66	338	1.66
159	1.68	339	1.68
160	1.70	340	1.70
161	1.72	341	1.72
162	1.74	342	1.74
163	1.76	343	1.76
164	1.78	344	1.78
165	1.80	345	1.80
166	1.82	346	1.82
167	1.84	347	1.84
168	1.86	348	1.86
169	1.88	349	1.88
170	1.90	350	1.90
171	1.92	351	1.92
172	1.94	352	1.94
173	1.96	353	1.96
174	1.98	354	1.98
175	2.00	355	2.00

MIDDLE EAST NAVIGATION AIDS SERVICE  
Light Intensity Certificate



Certificate No: DMA-012-18 Date: 06 Oct. 2018



Light Owner Details:  
Middle East Navigation Aids Services - MENAS  
Kingdom of Bahrain

Lantern Detail  
Light Details : Incandescent / LED / Halogen/ ... other  
Manufacturer : VEGA  
Light Source Profile : Single LED with reflector Mirror / LED Tear / Fresnel Lens  
Model No. : VLB-87  
Serial No. : 84488  
Condition : NEW

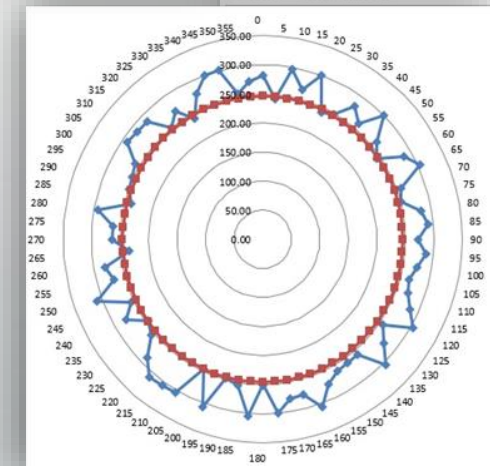
Test Results  
- Intensity vs Angle (Symmetrical) 360 deg : PASS  
- Vertical Deviation @ (+/-) 10 deg : PASS  
- Effective Intensity : PASS  
- Nominal Range : PASS  
- Electrical & Mechanical condition test : PASS

All MENAS tests comply & follows IALA Standards with reference to the following documents  
- E-110 on Rhythmic characters of lights on aids to navigation  
- E-200-3 Marine Signal Lights - Part 3 - Measurement

Performed by:  Approved by: 

Light Intensity Certificate R.1 Oct.2018





# Tests & Trials in-house & with 3<sup>rd</sup> Parties

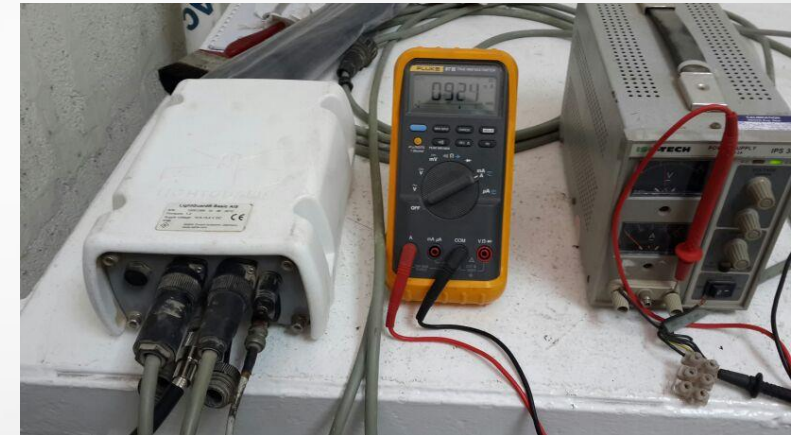
Spar Buoy  
from Spain



Testing new Lanterns from  
deferent manufacturers



AIS Testing features,  
Chaining/Repeating/Synthetic

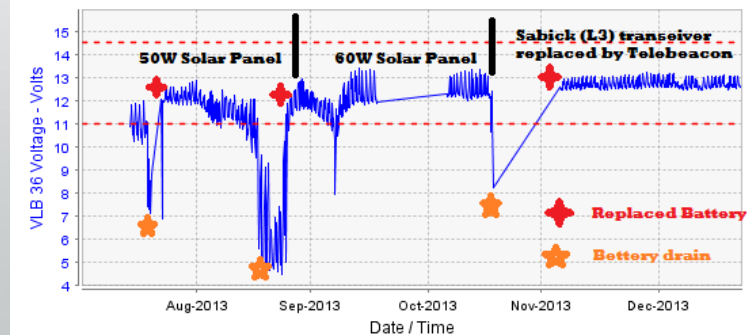


Testing Topcoats and the  
temperature effects



VLB 36 Voltage (AI4)

Last value AI4: 12.57 Volts



# Mooring system R&D



Open-link chain – U<sub>2</sub>



Upgrade



Open-link chain – U<sub>3</sub>

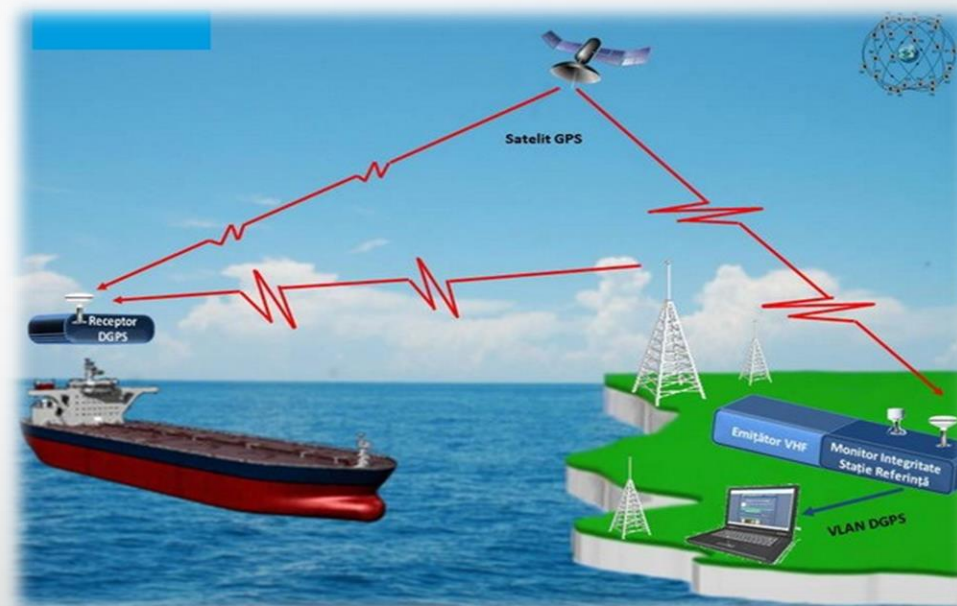
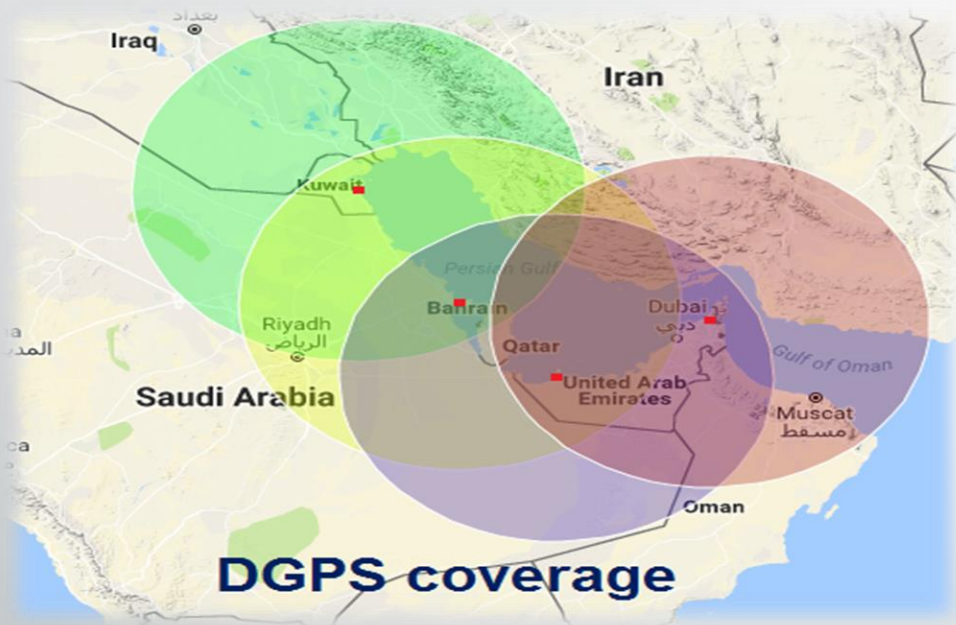


Elastic mooring system test & trial.





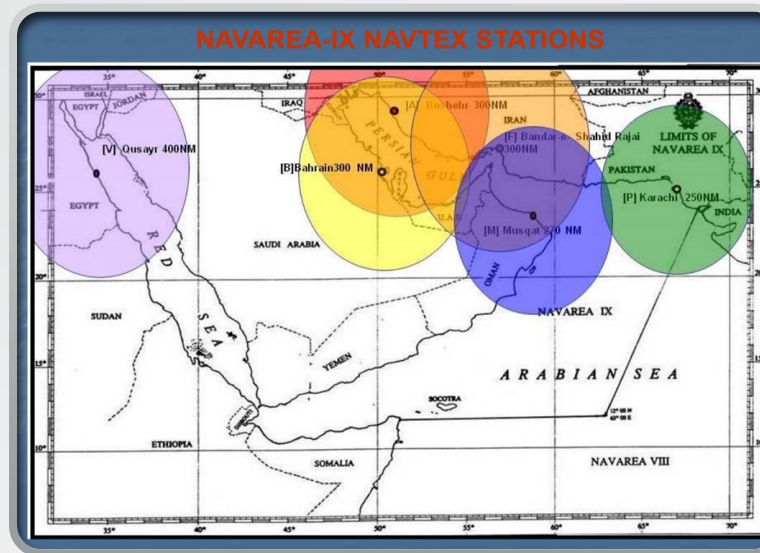
# Long Range DGPS Service



Four overlapping universally free-to-air (DGPS) for ships on 250 Nm range covering the entire Gulf to provide less than 1 meter of accuracy

# MSI Services

*MENAS acting as a sub-coordinator of NAVAREA IX on behalf of Ports & Maritime Authority (PMA) under Ministry of Transportation & Telecommunications in Kingdom.*



IMO transmission table

## BAHRAIN

Hamala [B] 26°09'40N 50°28'61E  
 TELEPHONE: +973 883939 X6  
 +973 883543 300 n miles  
 FAX: +973 242676

## NAVTEX [B]

TIME UT(GMT)	WEATHER BULLETINS	NAVIGATIONAL WARNINGS
0010		•
0410	•	•
0810		•
1210		•
1610	•	•
2010		•



# Daily Weather Bulletin

KINGDOM OF BAHRAIN  
Ministry of Transportation  
and Telecommunications



## MARINE WEATHER BULLETIN FOR THE ARABIAN GULF AND GULF OF OMAN

Issued by Bahrain Marine Advisory at 0630 LT on 07/11/2022  
Valid from 07/0629 LT until 07/1829 LT  
Synopsis for Gulf Region at 0300 LT  
N'y to NE'y airflow covers most of the Arabian Gulf.

### 1. ARABIAN GULF NORTH OF 26.5N

Warning Nil.  
Weather Partly cloudy at times with a chance of scattered rain in places.  
Wind N'y to NE'y 5 to 10kt reaching 10 to 15kt at times.  
Visibility 7 to 12km.  
Sea 1 to 3ft.  
Outlook Till 08/0600 LT  
Nil sig, but mainly NE'y light to moderate winds.

### 2. ARABIAN GULF SOUTH OF 26.5N INCLUDING STRAITS OF HORMUZ

Warning Nil.  
Weather Partly cloudy at times with a chance of scattered rain in places.  
Wind Mainly N'y 5 to 10kt reaching 12 to 17kt, but W'y in strait of Hormuz.  
Visibility 5 to 10km, may reduce to 3km in places.  
Sea 2 to 4ft.  
Outlook Till 08/0600 LT  
Little changes.

### 3. GULF OF OMAN AND APPROACHES

Warning Nil.  
Weather Fine with some clouds.  
Wind Variable 5 to 10kt.  
Visibility 5 to 10km.  
Sea 1 to 2ft.  
Outlook Till 08/0600 LT  
Little changes.

Sr. Meteorologist: MAT

Meteorological Directorate  
Website: [www.bahrainweather.gov.bh](http://www.bahrainweather.gov.bh)  
P.O. Box 586, Kingdom of Bahrain  
E-mail: [metuser@mtt.gov.bh](mailto:metuser@mtt.gov.bh)

Tel.: (+973) 17321175/17321174  
Fax: (+973) 17339110

MET-OF-03-OPS(REV.1-15-05-2022)

# NAVTEX format

## MENAS MARITIME OPERATIONS CENTRE



### MIDDLE EAST NAVIGATION AIDS SERVICE NAVTEX WARNING - MENAS BAHRAIN via BAHRAIN RADIO (A9M)

#### NAVIGATION WARNING TO ALL GULF SHIPPING

NAV NO: 316/2022

DATE: 06<sup>th</sup> November 2022

S. O. P: 168 Hours.

#### TEXT OF WARNING

#### Central Gulf: Offshore Qatar- Rig Move MODU "Sapphire Driller".

BA Chart: 2523, 2883, 2886.

MODU "Sapphire Driller" rig will be moved on 07 NOV 22 by vessels "Halul 70", "Bourbon Liberty 304" & "Bourbon Liberty 306". The towage will commence from position 26-43.54N, 051-55.02E to 26-26.86N, 051-58.29E.

Mariners are requested to navigate with caution, give wide berth while passing in the vicinity and keep monitoring VHF channels 16/69.

**Issuer: MENAS Maritime Operations Centre, Bahrain  
Megulite**

#### END OF TEXT WARNING

Col: 316/2022, 06, 2022, 168, 2523, 2883, 2886, 07, 22, 70, 304, 306, 26, 43.54, 051, 55.02, 26, 26.86, 051, 58.29, 16/69.

#### MENAS is an ISO 9001:2015 Certified Service

All MENAS service users are requested to pass on valid navigational hazard information to the MENAS MARITIME OPERATIONS CENTRE in Bahrain using communications methods:  
Tel: +973 17828541 Fax: +973 17727765 Email [info@menas.com.bh](mailto:info@menas.com.bh)

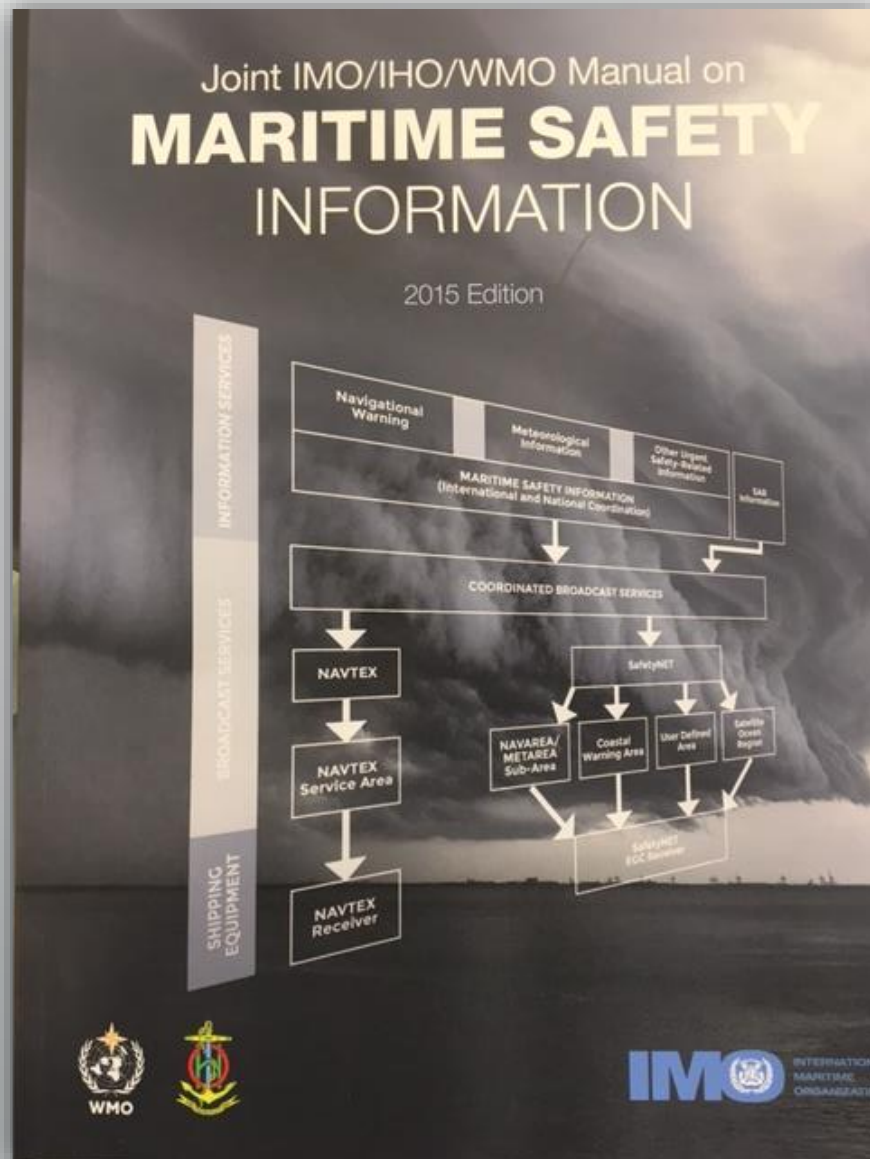
MENAS is committed to maritime safety in the region and MENAS support the standards of marine operations recommended by IMCA, the International Marine Contractors Association.  
As part of our process of continual improvement of services to the maritime community, we are continually amending / updating our mailing lists. Please reply to this mail address should you require any additional email addresses added to the direct NAVTEX and/or Gulf Notices to Mariners circulation lists.  
Please also find latest navigational situation information at [menas.org](http://menas.org) Users are requested to provide suggestions for Service enhancements, navigational hazard feedback and complaints through [menas.org](http://menas.org)

[www.menas.org](http://www.menas.org)





## MSI Guidelines



## NAVTEX Bulletin

### MENAS MARITIME OPERATIONS CENTRE



MIDDLE EAST NAVIGATION AIDS SERVICE  
NAVTEX WARNING - MENAS BAHRAIN via BAHRAIN RADIO (A9M)

#### NAVIGATION WARNING TO ALL GULF SHIPPING

NAV NO: 312/2022

DATE: 3<sup>rd</sup> November 2022.

S. O. P: 168 Hours.

TEXT OF WARNING

#### GULF AREA: WARNINGS IN FORCE AT 031000 UTC NOV 22.

2021 Series: 018, 067, 083, 224, 305.

2022 Series: 013, 019, 061, 062, 084, 101, 103, 131, 136, 143, 153, 185, 209, 231, 232, 234, 239, 243, 247, 262, 263, 271, 278, 279, 283, 286, 287, 295, 300, 303, 304, 307, 310, 311.

NOTES:

A. This IN-FORCE BULLETIN issued each Thursday at 10:00 GMT & promulgated daily via Bahrain Radio (A9M) at 12:10 GMT.

B. The warnings less than 42 days old (271/22 onward) are promulgated via Bahrain Radio (A9M).

C. All In-Force warnings are available on Bahrain-PMA Website at <http://www.mtt.gov.bh/directorates/ports-and-maritime> and/or MENAS Website at: <https://www.menas.org/notices>.

D. Cancel Navtex 227/2022, 272/2022, 305/2022.

**Issuer: MENAS Maritime Operations Centre, Bahrain**

**Megulite**

END OF TEXT WARNING

Col: 312/2022, 3, 2022, 168, 031000, 22, 2021, 018, 067, 083, 224, 305, 2022, 013, 019, 061, 062, 084, 101, 103, 131, 136, 143, 153, 185, 209, 231, 232, 234, 239, 243, 247, 262, 263, 271, 278, 279, 283, 286, 287, 295, 300, 303, 304, 307, 310, 311, 10:00, 9, 12:10, 42, 271/22, 9, 227/2022, 272/2022, 305/2022.

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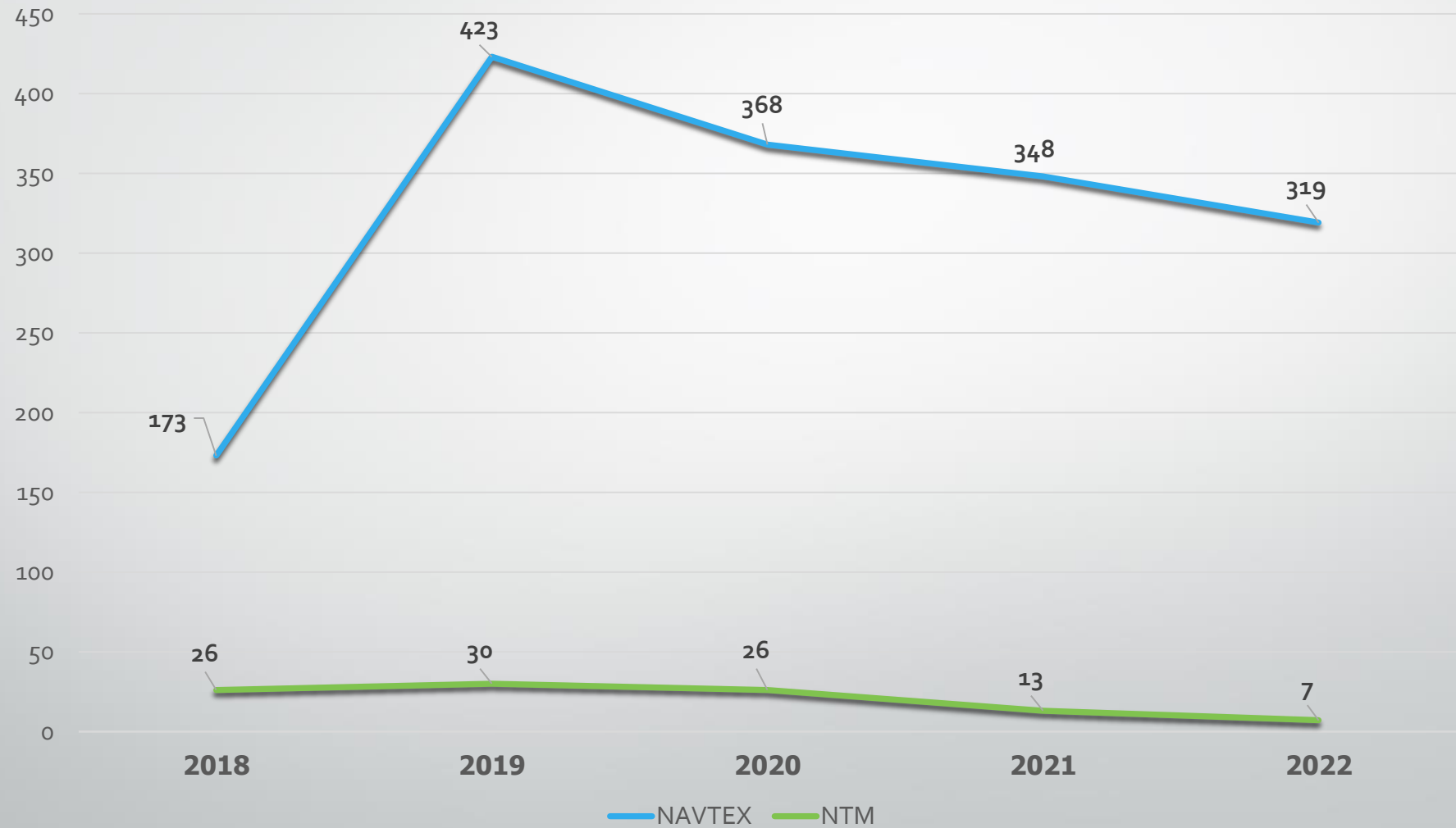
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[www.menas.org](http://www.menas.org)

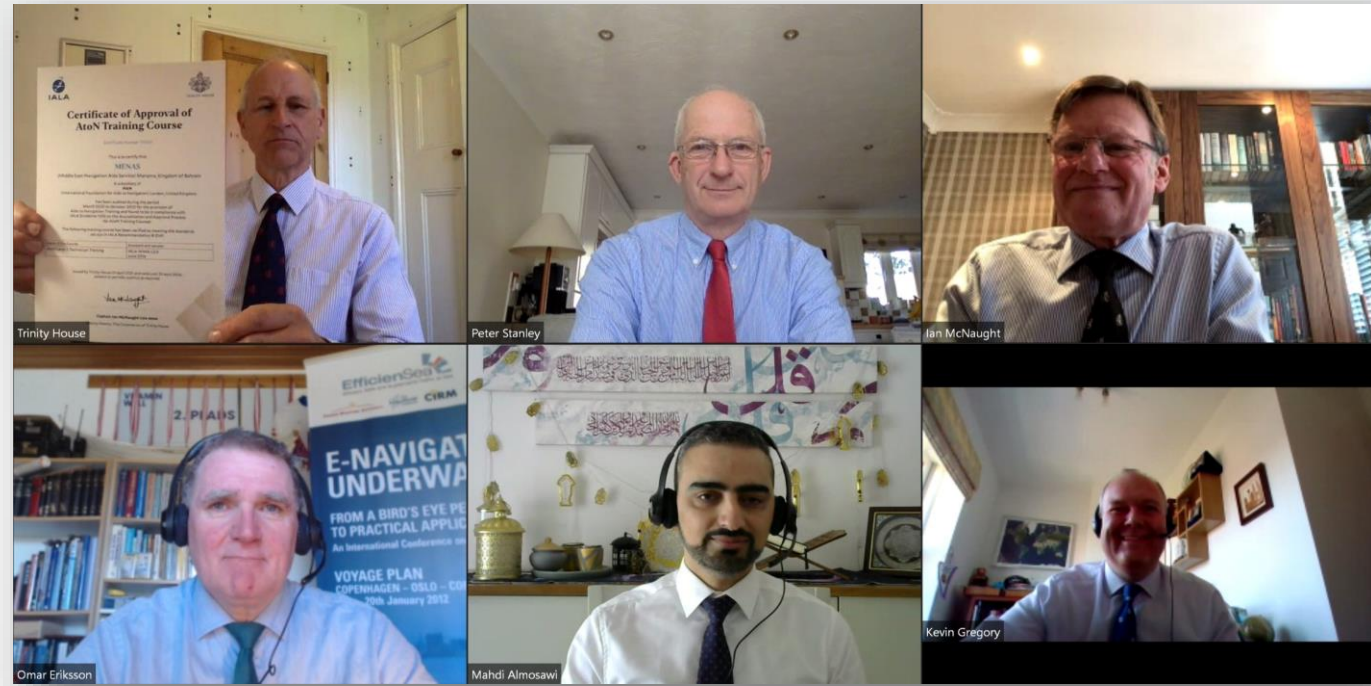


**NAVTEX & NTM Log (2018 – 2022)**



# Training Courses

- MENAS is accredited by IALA & Trinity House as a training organisation.
- **Planning to start delivering IALA “Level 2” probably by end of 2022.**
- Managers “Level 1”, Foundation “Level 3” training planned in due course
- Future Plans to deliver Risk Assessment & VTS courses





# IALA Level 2 AtoN Technician Training course



Light setup & calibration



Buoy handling



AIS unit setup, testing & assembly



Afloat buoy maintenance



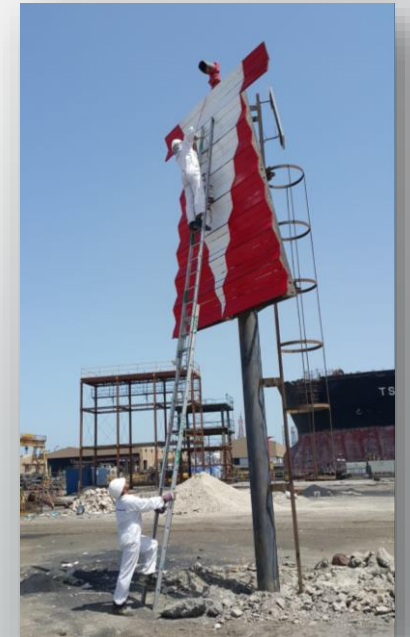
Moorings assembly & inspection



Testing AtoN equipment



Buoy inspection



Fixed AtoN maintenance

# IALA Level 2 AtoN Technician Training course

## Week 1

- **Practical & Theory (MENAS base)** IALA standards NAVGUIDE/Maritime Buoyage System MBS, introduction buoys/lights sources, moorings, buoy positioning & shore marks). **(Test & week 1 certification)**

## Week 2

- **Theory only (online)** DC power system, battery maintenance, buoy cleaning, maintenance of steel/plastic buoys.

## Week 3

- **Theory Only (online)** Buoy handing/deployment, paint coating & specification, Surface preparation & introduction to service craft. **(Test)**

## Week 4

- **Practical & Theory (MENAS base)** Revision of Week 2/3, buoy handing/deployment, paint coating & specification, Surface preparation & introduction to service craft. **(Final test & certificate presentation)**

# Certificates



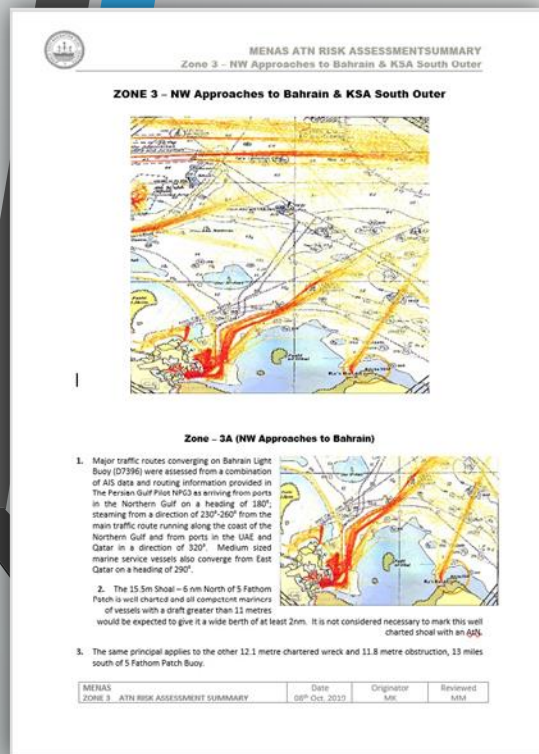
The candidates will cover all Level 2 AtoN course elements and will receive two certificates similar to the attached for Week 1 & Final by the end of the course.



# "RAS" – Risk Assessment Service

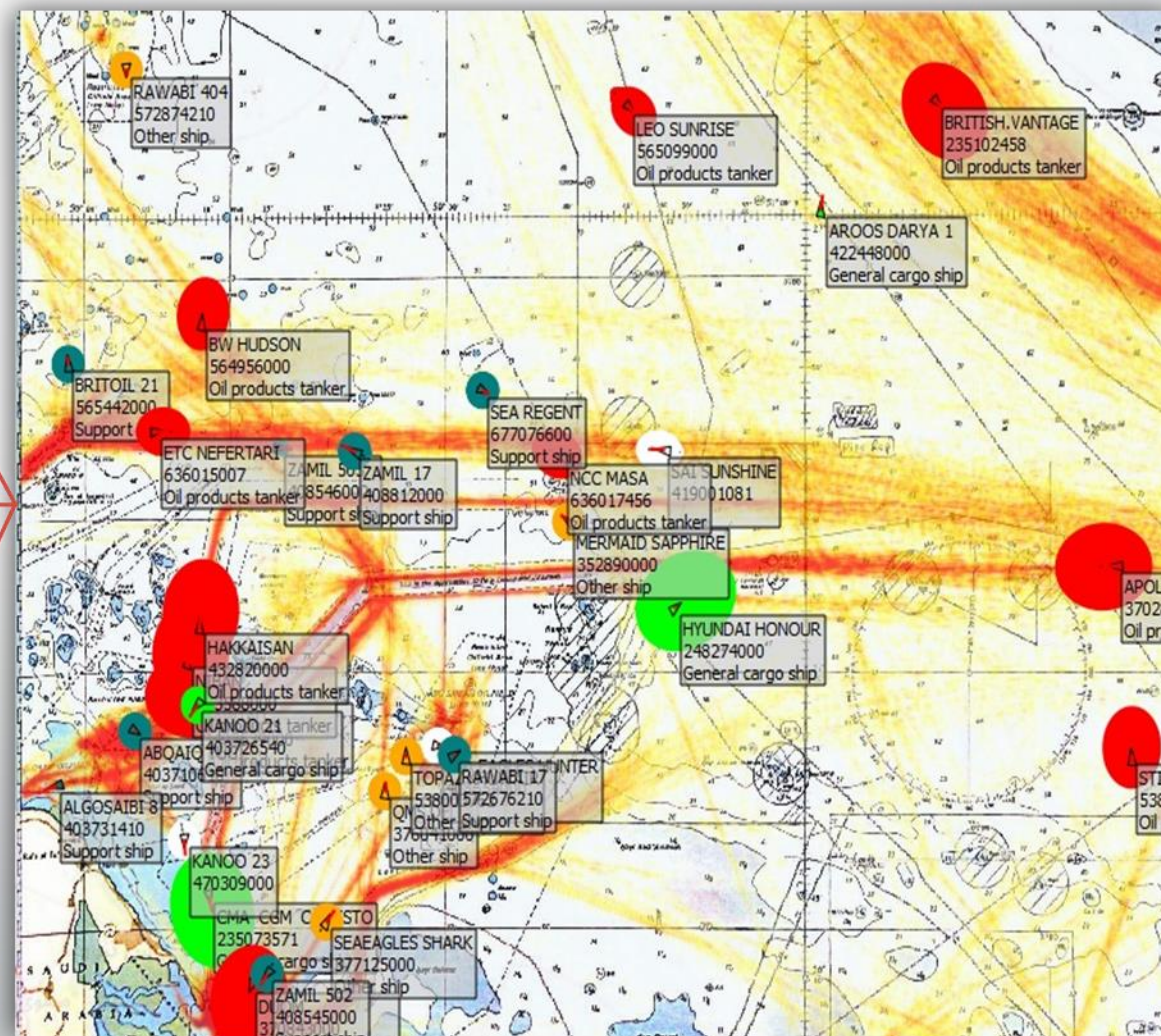
IWRAP MK II							
Total Collisions per year for all the Legs							
Ship - Ship	General cargo ship	Passenger ship	Fast ferry	Support ship	Pleasure boat	Other ship	Sum
General cargo ship	1.71E-08	5.75E-08	7.34E-08	8.03E-08		3.35E-07	5.63E-07
Passenger ship	2.08E-08	3.94E-10	3.25E-09	3.59E-08		9.93E-09	7.03E-08
Fast ferry	2.39E-08	1.99E-09	1.24E-09	4.31E-08		1.39E-08	8.41E-08
Support ship	2.76E-07	1.44E-07	2.06E-07	3.55E-07		8.38E-07	1.82E-06
Pleasure boat	2.79E-09	2.65E-09	3.80E-09	6.28E-09		1.17E-08	2.72E-08
Other ship	2.38E-07	6.09E-08	1.26E-07	3.73E-07	6.08E-10	2.07E-07	1.01E-06
Sum	5.79E-07	2.67E-07	4.14E-07	8.93E-07	6.08E-10	1.42E-06	3.57E-06

The probability of incidents between the above ships are very low.  
The highest probability of collision will be between:  
Support & Other Ship which is 0.000000818157 incidents per year.



Vessel Categories present in zone at any one time	No.	Remarks
Commercial Vessels	50	IWRAP MK II / AS live
Oil Products Tanker	166	IWRAP MK II / AS live
General Cargo Ship	8	IWRAP MK II / AS live
Energy Carriers	0	IWRAP MK II / AS live
VLCCs/ULCCs	14	IWRAP MK II / AS live
LNG vessels	0	IWRAP MK II / AS live
Vessel Categories present in zone at any one time	No.	Remarks
Passenger Ships	4	IWRAP MK II / AS live
Regional Ferries	0	
Fast Ferries	0	
Cruise Liners	0	
Warships	0	
Warships displacing > 5,000t	0	
Warships displacing < 5,000t > 300t	0	
Fishing Vessels	242	
Fishing vessels > 100GT	0	IWRAP MK II / AS live
Fishing vessels < 100GT and skiffs	9	
Service craft	16	IWRAP MK II / AS live
Survey vessels	30	IWRAP MK II / AS live
Support vessels	16	IWRAP MK II / AS live
Pilot boats	19	IWRAP MK II / AS live
Tugs	0	
Patrol vessels	0	
Private Craft	0	
Superyachts > 100GT	6	IWRAP MK II / AS live
Motor yachts < 100GT	0	
Small recreational craft	0	
recreational sailing vessels	0	
Other Ships	8	IWRAP MK II / AS live
Maximum No. of Small Vessels	108	

IWRAP MK II		
Types of Incidents		
Incidents	Zone D	Unit
Powered Grounding	---	Incidents/Year
Drifting Grounding	---	Incidents/Year
Total Groundings	---	Incidents/Year
Powered Allision	---	Incidents/Year
Drifting Allision	---	Incidents/Year
Total Allisions	---	Incidents/Year
Overtaking	2.07E-06	Incidents/Year
HeadOn	6.86E-07	Incidents/Year
Crossing	---	Incidents/Year
Merging	---	Incidents/Year
Bend	8.11E-07	Incidents/Year
Area	---	Incidents/Year
Total Collisions	3.57E-06	Incidents/Year





# MENAS RISK ASSESSMENT SERVICE

Nautical Charts



Category	Count	Remarks
Warships	0	
Merchant ships	0	
Support vessels	0	
Patrol vessels	0	
Fishing vessels	0	
Small recreational craft	0	
International sailing vessels	0	

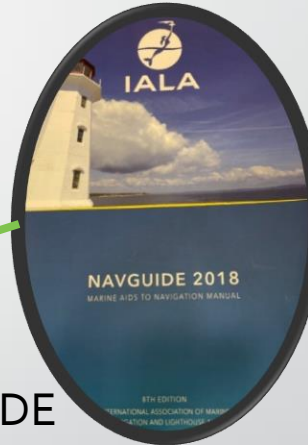
SIRA & IWRAP

Category	Count	Remarks
Warships	0	
Merchant ships	0	
Support vessels	0	
Patrol vessels	0	
Fishing vessels	0	
Small recreational craft	0	
International sailing vessels	0	

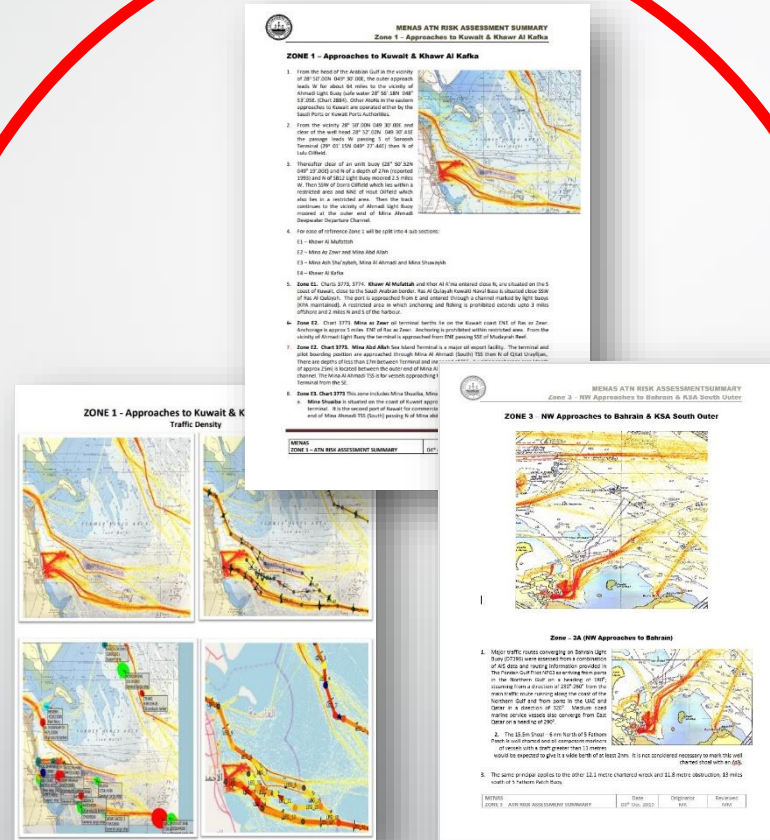
Sailing Directions



NAVGUIDE

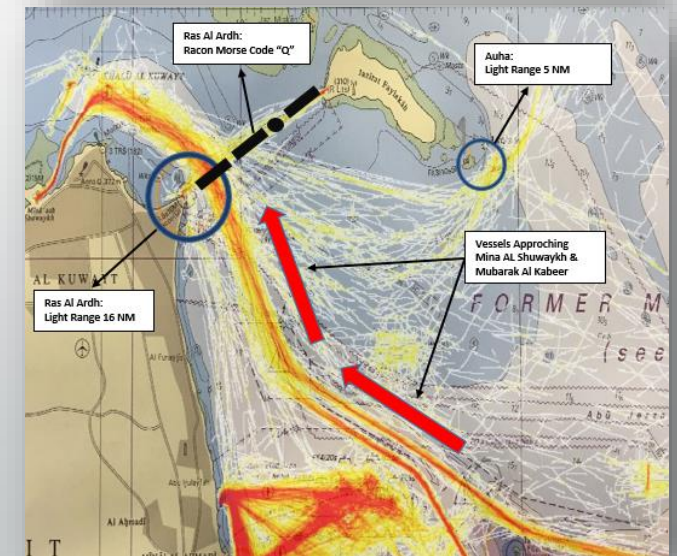
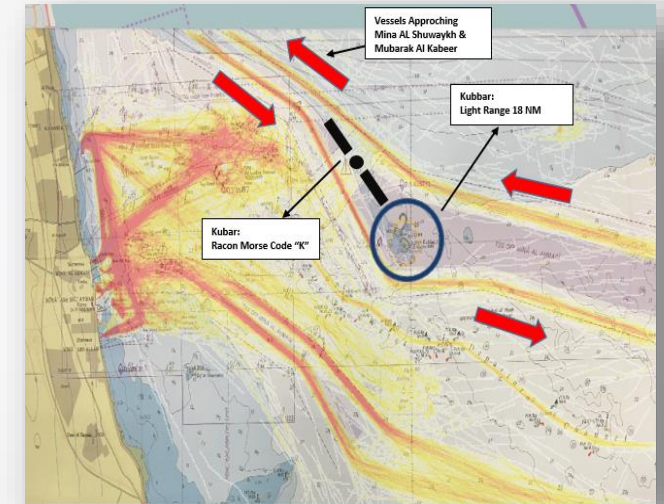
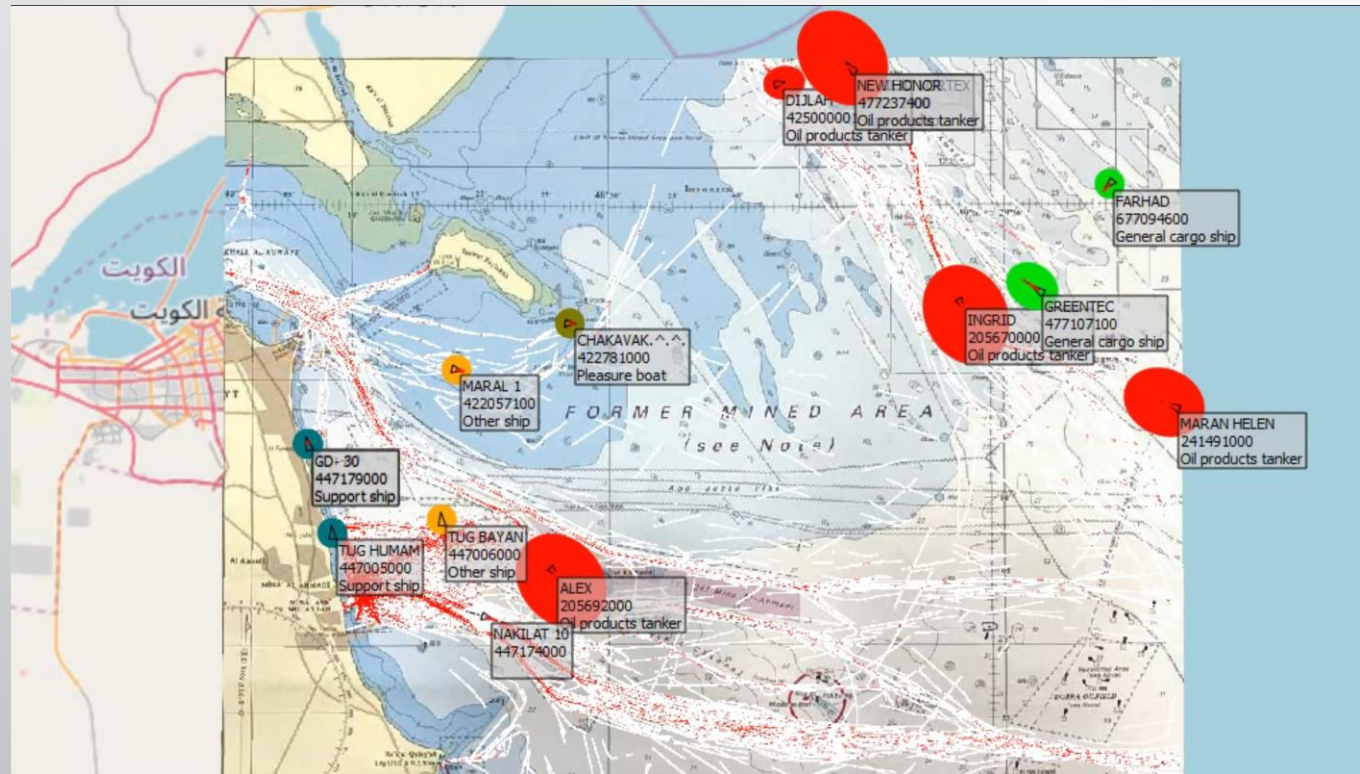


IALA MBS





# Risk Assessment – Waterway designing





# Incidents Investigation

- Provides accurate historical data on time, speed and rates of turn comparing with less information provided by radar.
- Used for incidents investigations to issue the necessary claims.
- shown video is one of the investigation for one floating buoy was collided by a vessel.



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**Thank You ...!**