

MARITIME SERVICES DIVISION  
AIDS TO NAVIGATION OPERATIONAL PLAN  
FOR ALL AREAS



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## **INTRODUCTION**

The Maritime Services Division is Competent Authority for Aid to Navigation in Trinidad and Tobago. It was established to administer the provisions of the Shipping Act and other maritime national legislation and to implement the regulatory functions embodied in the legislation. The more vital functions of the Division are those intended to ensure the Safety and Security of Life at Sea, the Safety of Navigation and the Protection of the Marine Environment from ship generated pollution.

The Division also plays a pivotal role in the development of the National Maritime Sector and represents the State's interest in shipping safety and security, general maritime and port development matters at International Maritime Organisation (IMO) conferences/meetings and acts as the implementation, monitoring and compliance authority for most of the State's obligations with respect to international maritime instruments (conventions, codes, protocol and guidelines) to which Trinidad and Tobago is Party

## **LEGAL BASIS FOR ATONS**

Shipping Act of Trinidad and Tobago chapter 50:10 section 220 establishes the responsibility of the division. It states:

“The Director shall exercise general supervision over all navigational aids and in particular shall—

- (a) be responsible for the establishment and maintenance of all navigational aids established by the Maritime Services Division and such other government owned navigational aids as may be under the control of that Division;
- (b) ensure that all other navigational aids are established in compliance with the stipulated conditions and specifications and are maintained in proper working order; and
- (c) bring to the attention of the public information on changes to or deficiencies in any navigational aid.”

Further in section 219 it states that

“ (1) No navigational aid shall be established—

- (a) without the prior written consent of the Minister, or any other person authorised by him for the purpose; and
- (b) unless it conforms to such specifications as may be stipulated.

- (2) No navigational aid shall be discontinued or have its lighting characteristics or any other distinguishing feature altered, without the prior written consent of the Minister or any other person authorised by him for the purpose.”

## ATON ZONES

Trinidad and Tobago is divided into six Zones as defined in the table below

Zone	Title	Limits	Risk analysis priority	Remarks
1	Gulf of Paria	BA 483	6	Excluding Zones 1A – 1C
1A	Port of Spain and Approaches	BA 474	2	
1B	Port Lisas to Pointe-à-Pierre	BA475A	1	
1C	Brighton to Point Fortin	BA 475B	5	
2	Tobago and Approaches	BA 477	4	Excluding Zone 2A
2A	Approaches to Scarborough	BA 477D	3	
3	NE Approaches to Trinidad	BA 500	7	Excluding Zone 2
4	SE Approaches to Trinidad	BA 501	8	South of 10° 30'N
5	Serpents Mouth	BA 481	9	
6	Outer Approaches to Trinidad and Tobago	EEZ	10	Excluding Zones 1 - 5

The Division was audited by IALA in February 2017. One of the recommendations from this Audit was for the Division to produce Operational Plans for all Aids to Navigation in Trinidad and Tobago.

# **ZONE 1A**

## **PORT OF SPAIN AND APPROACHES CHART BA 474**

### **General Description**

This Zone is located at the north coast of the Gulf of Paria from Port of Spain to Chaguaramas. The area is well surveyed and sheltered having two ports: the Port of Port of Spain and the National Petroleum Port (NP), there are two smaller ports Chaguaramas Terminal and the Bauxite Terminal. There is also the Five Islands located west of the Port of Spain Harbour limits.

### **AtoNs Type**

Visual Aids consist of buoys, beacons, channel markers and leading lights, there is no VTS or AIS available.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————▶	99.8%
Category 2	—————▶	99.0%
Category 3	—————▶	97.0%

Based on a 1000 days or 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.

## **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

## **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

## **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

## **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

## **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 1A**

### **PORT OF SPAIN AND APPROACHES BA 474**

#### **Geographic and Climate Conditions**

This zone is located on the Northern coast of the Gulf of Paria from Port of Spain to Chaguaramas. The area is well surveyed and sheltered, tidal range is up to 1.3m and wind speed is approximately 1.5m/s from and easterly direction.

#### **Traffic Mix and Density**

Zone 1 is a very active area having two ports, National Petroleum (NP) and the Port of Port of Spain. Most traffic enter from the Grand Boca.

The mix of vessels is cargo, passenger, cruise liners, pleasure craft, fishing boats and work vessels.

There is also a presence of national security vessels in this area.

***NB: The Tembladora Bauxite Terminal is not active***

#### **Technical Factor**

Pilotage service is available in this zone. (There are two pilot stations A and B)

#### **Future development in the Area**

There is no immediate development plan for the area.





# **ZONE 1B**

## **POINT LISAS TO POINTE-A-PIERRE CHART BA 475**

### **General Description**

This Zone is located at the central part of the Gulf of Paria consisting of four ports:

The Point Lisas Industrial Port  
The Port of Point Lisas  
The Claxton Bay Marine Terminal; and  
The Pointe-a-Pierre Marine Terminal

All of the above mentioned ports are operating privately. The area is known for commercial activities with a small level of fishing.

### **AtoNs Types**

This zone consists of Visual Aids such as buoys, beacons, channel markers and leading lights. There are neither VTS nor AIS available.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————>	99.8%
Category 2	—————>	99.0%
Category 3	—————>	97.0%

Based on a 1000 days or a 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines.

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.

### **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

### **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

### **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

### **Planned Aton Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

### **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 1B**

### **POINT LISAS TO POINTE-A-PIERRE CHART BA 475**

#### **Geographic and Climate Conditions**

This zone is an industrialized area with mostly commercial activities. The area is sheltered with calm seas with waves up to 1.5m.

Wind speed – 2.04m/s from easterly direction.

#### **Traffic Mix and Density**

Cargo vessels, tankers, passenger vessels and fishing vessels.

*NB: There is a ISPS Transshipment port located approximately 6NM west from the Point Lisas Port.*

#### **Technical Factor**

Two (2) pilot stations are available.

#### **Future development in the Area**

There is no immediate development plan for the area.



# **ZONE 1C**

## **BRIGHTON TO POINT FORTIN CHART BA 475**

### **General Description**

This Zone is located at the southern part of the Gulf of Paria between La Brea and Point Fortin. It is an industrial area which consists of wells, drilling activities, transshipment and LNG shipment. There are three major ports in this zone: LABIDCO, PETROTRIN and ATLANTIC LNG.

### **AtoNs Type**

Visual Aids consist of buoys, beacons, channel markers and leading lights; there is neither VTS nor AIS available.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————▶	99.8%
Category 2	—————▶	99.0%
Category 3	—————▶	97.0%

Based on a 1000 days or a 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as to minimise impact on the environment using IALA guidelines.

### **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

### **Quality Management System**

Quality Management systems in accordance with IALA (1052) will be provided for Aton service delivery.

### **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will be used in this Zone.

### **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

### **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **Zone 1C**

### **Brighton to Point Fortin BA 475**

#### **Geographic and Climate Conditions**

This zone is located on the Southern part of the Gulf of Paria from Brighton to Point Fortin. The area is well surveyed and sheltered, tidal range is up to 1.5 to 2.0m and wind speed is approximately 1.00 to 1.56m/s from and easterly direction.

#### **Traffic Mix and Density**

Zone 1C is an active area having three ports. Vessels arrive from the north via the deep water channel and from the southern approach through the Dragons Mouth.

Type of vessels which traverse the area are oil tankers, work boats and fishing vessels.

#### **Technical Factor**

Pilotage service is available.

#### **Future development in the Area**

There is no immediate development plan for the area.





# **ZONE 2 AND 2A**

## **TOBAGO APPROACHES AND APPROACHES TO SCARBOROUGH CHART BA 477**

### **General Description**

This zone has two ports Scarborough Port and Man-of-War Bay, Charlotteville. Another place of interest is the Buccoo Reef Water Park together with three small islands – St. Giles, The Sisters and Little Tobago (Bird-of-Paradise).

### **AtoNs Type**

This zone comprises of a mixture of visual aids, a lighthouse, leading lights, buoys and a sector light. There is no VTS or AIS provided.

In relation to the Scarborough Port there are two (2) other floating aids of importance – Bulldog Shoal and Minster Rock.

The Buccoo Reef Marine Park is a tourist attraction which is marked off with five (5) special marked buoys, aided with two (2) cardinal buoys – Buccoo Reef North and West.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————>	99.8%
Category 2	—————>	99.0%
Category 3	—————>	97.0%

Based on a 1000 days or 3 year period.

### **Level of Service quality**

Maritime Services Division provide a stable, efficient and effective Aids to Navigation service for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of AtoNs will be conducted so as to minimise impact on the environment using IALA guidelines.

### **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

### **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

### **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

### **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

### **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 2 AND 2A**

### **TOBAGO APPROACHES AND APPROACHES TO SCARBOROUGH CHART BA 477**

#### **Geographic and Climate Conditions**

This zone is situated approximately 19.5NM north east of Trinidad, the waters on the eastern side of the island is generally rough during the months of January to April.

Sea conditions – wave height is between 1.2 – 3.0m.

Wind speed – 3 – 5km/h

#### **Traffic Mix and Density**

There are cruise ships, passenger vessels, pleasure crafts and fishing vessels.

#### **Technical Factor**

There is one (1) pilot station at the Scarborough Port.

#### **Future development in the Area**

There are plans to construct another port.



# **ZONE 3**

## **NORTH EAST APPROACHES TO TRINIDAD CHART BA 500**

### **General description**

This Zone which is North East of Trinidad consists mainly of oil and gas activities. There are no ports in this area. Areas of interest the Manzanilla Bank, Darien Rock, Emerald Shoals and Delaware Bank. This zone also leads to the Galleons Passage all of which is charted on the British Admiralty Chart BA 500.

### **AtoNs Type**

This zone consist of two (2) lighthouses one buoy and three major beacons. There are no VTS nor AIS Systems.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————▶	99.8%
Category 2	—————▶	99.0%
Category 3	—————▶	97.0%

Based on a 1000 days or 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.

## **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

## **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

## **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

## **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

## **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 3**

### **NORTH EAST APPROACHES TO TRINIDAD CHART BA 500**

#### **Geographic and Climate Conditions**

This zone is where the Atlantic meets the Caribbean Sea. There are large swells in excess of 4m, having a wind speed of 5.61m/s

#### **Traffic Mix and Density**

This zone has a mixture of vessels such as drill rigs, oil tankers, cargo vessels, support vessels, fishing vessels and work vessels which conduct scientific testing.

#### **Technical Factor**

There is no Pilotage service available.

#### **Future development in the Area**

There is no immediate development plan for the area.





# **ZONE 4**

## **SOUTH EAST APPROACHES TO TRINIDAD CHART BA 501**

### **General Description**

This Zone which is located South East of Trinidad consists of mainly oil and gas activities with a large number of rigs. There is one (1) Port in this area which is the Galeota Port located at Guayaguayare also there are some measure of fishing.

### **AtoNs Type**

This zone consists of all the necessary lights for the National Energy Corporation (NEC) Channel and the Galeota Beacon (landfall) light.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————▶	99.8%
Category 2	—————▶	99.0%
Category 3	—————▶	97.0%

Based on a 1000 days or 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.

## **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

## **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

## **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

## **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

## **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 4**

### **SOUTH EAST APPROACHES TO TRINIDAD CHART BA 501**

#### **Geographic and Climate Conditions**

This zone is another industrialized area where the Atlantic meets the Caribbean Sea. Tidal range is up to 4m and wind speed is 5.61m/s

#### **Traffic Mix and Density**

This zone has a mixture of vessels such as drill rigs, oil tankers, cargo vessels, support vessels, fishing vessels and work vessels which conduct scientific testing.

#### **Technical Factor**

Pilotage service is available.

#### **Future development in the Area**

There is no immediate development plan for the area.



# **ZONE 5**

## **THE SERPENT'S MOUTH CHART BA 481**

### **General description**

This Zone is located at the south coast of Trinidad and consists of mainly fishing activities with the movement of frequently large vessels. There are no major Ports except for very small fishing areas consisting of fishing boats. Middle Channel is marked by two (2) buoys between Three Fathom Bank and the south east ledge and rocks.

### **AtoNs Type**

This zone consists of five (5) AtoNs, one (1) major beacon, two (2) floating short range aids, one (1) pile at Wolf Rock and Soldado Rock Beacon.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————▶	99.8%
Category 2	—————▶	99.0%
Category 3	—————▶	97.0%

Based on a 1000 days or 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.

## **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

## **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

## **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

## **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

## **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 5**

### **THE SERPENT'S MOUTH CHART BA 481**

#### **Geographic and Climate Conditions**

This zone is south west of the island. The area was surveyed. Tidal range is 2.1m and wind speed is approximately 1.53m/s from an easterly direction.

The Guiana current flows into the gulf at approximately 2 – 3 knots

#### **Traffic Mix and Density**

This zone has a mixture of oil tankers, cargo vessels, offshore supply vessels, fishing vessels and work vessels which conduct scientific testing.

#### **Technical Factor**

There is no Pilotage service available.

#### **Future development in the Area**

There is no immediate development plan.

# **ZONE 6**

## **OUTER APPROACHES OF TRINIDAD AND TOBAGO (EXCLUDING ZONE 1 -5)**

### **General description**

This Zone is the exclusive Economic Zone of 200NM from the base line which extend from Icacos South Trinidad to Charlotteville North of Tobago. Most of which is situated at the North and East Coast of this twin island state.

### **AtoNs Type**

There are no visual AtoN in this Zone except for two(2) RACONS at Hibiscus and Poinsettia Platform at the northern area.

### **Level of Service**

Visual Aids would be provided for the approaches and marked dangers to the ports. The operational availability will be in accordance with IALA Guidelines and Category System

Category 1	—————>	99.8%
Category 2	—————>	99.0%
Category 3	—————>	97.0%
RACON	-----	99.6%

Based on a 1000 days or 3 year period.

### **Level of Service Statements for Quality**

MSD intend to provide a stable, efficient and effective Aids to Navigation service, for general navigation that meets international standard, recommendations and guidelines

Only IALA Industrial members equipment should be procured for use in this zone.

Monitoring is important in meeting the level of service as such direct monitoring will continue and aided by regular consultancy with stakeholders through joint user groups, individual and local user groups.

Operations and maintenance of ATONS will be conducted so as minimise impact on the environment using IALA guidelines.



## **User Consultancy Procedures**

The Division will consult regularly with users through joint User Consultative Groups, Individual committees and local user groups to understand their needs, inform them about developments and consider their views to improve the service we provide for all classes of mariners.

## **Quality Management System**

Quality Management systems in accordance IALA (1052) will be provided for Aton service delivery.

## **Maintenance Policies**

IALA guides for the maintenance of AtoN and related systems will used in this Zone.

## **Planned AtoN Projects**

The Division has approval to replace/repair government beacons within zone one in fiscal 2018.

## **Conclusion**

This plan describes how we will adapt in the face of a rapidly changing environment, thereby optimising our service provision in terms of cost, risk and level of service.

## **ZONE 6**

### **OUTER APPROACHES OF TRINIDAD AND TOBAGO (EXCLUDING ZONES 1 - 5)**

#### **Geographic and Climate Conditions**

This zone is the outer approach of Trinidad and Tobago excluding Zones 1 – 5 which represents the Exclusive Economic Zone.

Tidal Range – is approximately 2 – 2.5m

Wind Speed – 4.59m/s from an easterly direction.

#### **Traffic Mix and Density**

This zone has a mixture of oil tankers, cargo vessels, offshore supply vessels, cruise ships and work vessels which conduct scientific testing.

#### **Technical Factor**

There is no Pilotage service available.

#### **Future development in the Area**

There is no immediate development plan.