

# Cyclone Procedure Plan 2016 – 2017

Frances Bay Mooring Basin  
Fisherman's and Raptis Wharves  
Hornibrooks Wharf, Pontoon and  
Careening Poles  
Sadgroves Creek Moorings

14 Nov 2016  
Version 1.1

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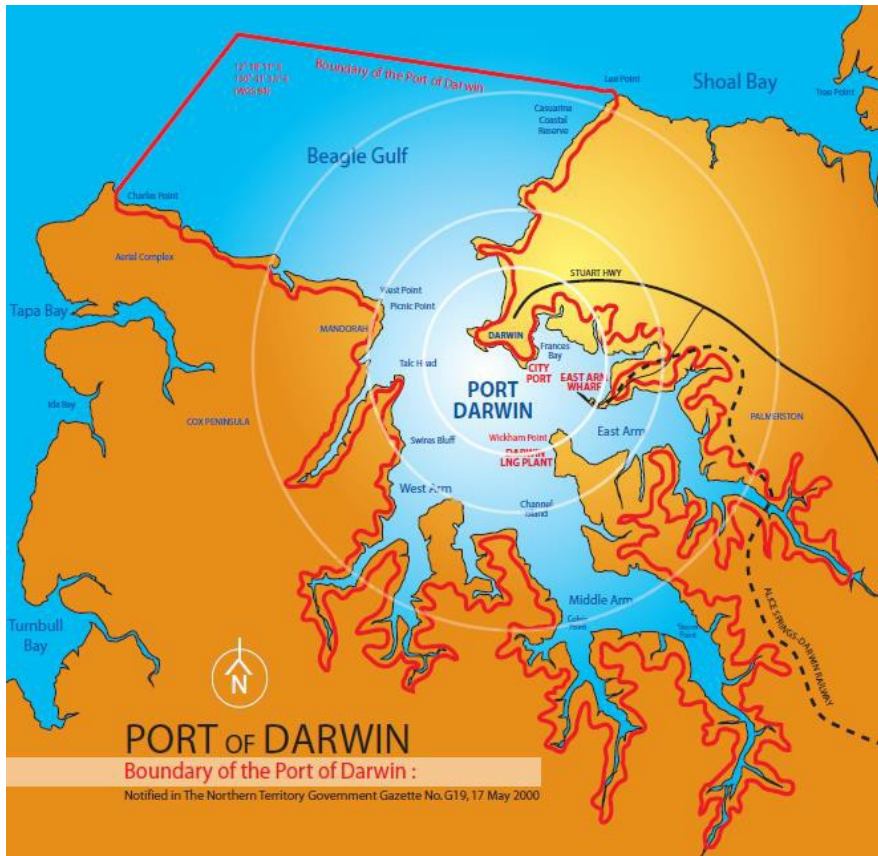
## 1. GLOSSARY

BoM	Bureau of Meteorology
CEO	Chief Executive Officer - DIPL
CMT	Crisis Management Team – Darwin Port
DCM	Department of Chief Minister
DIPL	Department of Infrastructure, Planning and Logistics
DP	Darwin Port
ERP	Emergency Response Plan
FBBM	Frances Bay Business Manager
FBMB	Frances Bay Mooring Basin Includes: Fisherman's & Raptis Whaves Hornibrooks Wharf and Pontoon Careening Poles Sadgroves Creek Moorings
GMCS	General Manager Corporate Services – Darwin Port
GMO	General Manager Operations – Darwin Port
HCC	Harbour Control Centre – Darwin Port
HCM	Harbour Control Manager – Darwin Port
HCO	Harbour Control Officer – Darwin Port
NTPFES	NT Police, Fire and Emergency Services
NTES	NT Emergency Services
PSW	Port Service Workers - DIPL
RHM	Regional Harbour Master
SSS	Small Ships Scheduler - DIPL
TC	Tropical Cyclone
TGL	Transport Group Leader
VGM	Vessel Group Manager – Darwin Port
WS	Wharf Supervisor - DIPL

## 2. INTRODUCTION

### 2.1. AUTHORITY

This Cyclone Procedure Plan acknowledges and gives effect within the Gazetted Port boundaries of Darwin, to the Darwin Port (DP) to be responsible for the management and safety of all port users over which it has jurisdiction during a cyclone event. See **Figure 1**



**Figure 1: Boundary of the Darwin Port**

Directions given to Masters, crew and Port Operators will be under the administration of the GMO and HCO. Decision of the GMO in relation to cyclone response will take precedence over any other cyclone plan.

This procedure plan is a source of information to be used by all users of Frances Bay Mooring Basin, Fisherman's Wharf and Raptis Wharf, Hornibrooks Wharf (including Pontoon and Careening Poles) and Sadgroves Creek Moorings in preparing for a cyclonic weather event.

### 1.2. OBJECTIVE

The objective of the Cyclone Procedure Plan is to:

- Minimise the risk to life and property
- Minimise the risk and damages to the infrastructure of Frances Bay Mooring Basin, Fisherman's Wharf and Raptis Wharf, Hornibrooks Wharf (including Pontoon and Careening Poles) and Sadgroves Creek Moorings and ensuring the facilities are as safe as possible
- Contribute effectively to the Northern Territory Government (NTG) and Emergency response to a cyclone event.

### 3. RESPONSIBILITIES

#### VESSEL OWNERS AND MASTERS

Owners and Masters of vessels working in Darwin Port from 1<sup>st</sup> November to the 30<sup>th</sup> April (cyclone season) are responsible for:

- The safety of their vessels and crew
- Ensuring that they have a cyclone contingency plan in place and all crew members are familiar with the plan
- Ensuring the vessels' engines and other essential machinery is fully operational
- Following all directions issued to them by the GMO
- Awareness of the advice in the Mariners Handbook NP100 regarding navigable and dangerous semicircles of Tropical Revolving Storms
- Bearing the cost of any damages caused by their vessel to the facilities or other vessels.

Vessel owners should nominate a contact person to liaise with the HCO during the event of a cyclone. The contact person details need to be provided to the Small Ships Scheduler and included in the Cyclone Procedure Plan.

At all times, the vessel is not to be left unattended and the Master has to ensure that there is adequate crew on board to enable the vessel to safely depart the facilities if required, at short notice. Any vessel found to be inadequately attended may be ordered off the berth by the GMO or the HCO.

Vessel owners should include in their cyclone contingency plan, a copy of the map outlining cyclone mooring locations in and around Darwin Harbour as shown in **Appendix 1 Darwin Harbour Cyclone Refuges** or up to date editions of nautical charts AUS24, 26 and 28.

### 4. COMMUNICATIONS

Various means of communications will be used during the response to a tropical cyclone event as follows:

**Mobile Phones** will be a medium for all communications. Important messages and changes in the tropical cyclone pattern and the port status will be communicated to all port users via mobile phones.

**Marine VHF Radio** will be used to broadcast information of interest to port users and stakeholders. HCC will be the radio communications hub and will be responsible for broadcasting updates regarding the Tropical Cyclone status, the current level of watch/warning and information regarding vessel movements and the current status of the port.

Various VHF channels are allocated for port and harbour operations as detailed in **Appendix 2 – VHF Channels**. The main Port working channel for coordination and response is VHF Channel 10

## 5. TROPICAL CYCLONE SEASON

The cyclone season of the Northern Territory commences on 1 November and concludes on 30 April.

### 5.1. CYCLONE SEVERITY CATEGORIES

The severity of a tropical cyclone is described in terms of categories ranging from 1 to 5 related to the zone of maximum winds. An estimate of cyclone severity is included in all tropical cyclone advices.

The BOM Warning Service is not designed to give an exact statement of conditions at individual locations but will give a general idea of the expected worst conditions. Using this severity scale, communities will be able to assess the degree of cyclone threat and take appropriate action.

CATEGORY	STRONGEST GUSTS (km/h)	INDICATIVE TYPICAL EFFECTS
1-Tropical Cyclone	Less than 125 Gales	Minimal house damage. Damage to some crops, tree and caravans. Boats may drag moorings
2-Tropical Cyclone	125-164 Destructive winds	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small boats may break moorings.
3-Severe Tropical Cyclone	165 -224 Very destructive winds	Some roof and structural damage. Some caravans destroyed. Power failure likely. Boats will break moorings
4-Severe Tropical Cyclone	225-279 Very destructive winds	Significant roofing and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures.
5-Severe Tropical Cyclone	More than 280 Extremely destructive winds	Extremely dangerous with widespread destruction

BOM also provides the following cyclone information services throughout the cyclone season:

Tropical Cyclone Seasonal Outlook	This is issued at the beginning of the season to provide an estimate of the level of tropical cyclone activity in the coming season.
Tropical Cyclone Outlook	These are issued daily throughout the tropical cyclone season. They provide a forecast up to three days in advance of the probability of cyclone development in the seas around Australia.
Tropical Cyclone Information Bulletin	These are issued when a cyclone is active in the Australian region, but is not expected to impact land-based communities within 48 hours
Tropical Cyclone Watch	A watch is issued if a cyclone is expected to affect coastal communities within 48 hours, but not expected within 24 hours.
Tropical Cyclone Warning	A warning is issued if a cyclone is affecting or is expected to

	affect coastal communities within 24 hours.
Marine Warnings	<p>Marine Warnings are issued for high seas and coastal waters threatened by cyclones. Additional information can be obtained from the BOM website:  <a href="http://www.bom.gov.au/cyclone/about/warnings/">http://www.bom.gov.au/cyclone/about/warnings/</a></p> <p>A DP cyclone response is triggered by the declaration of a cyclone watch or warning but response actions may be initiated prior to either a watch or warning being declared if the CMT considers early action warranted.</p>

Additional information can be obtained from the BOM website:  
<http://www.bom.gov.au/cyclone/about/warnings/>

## 6. CYCLONE WARNING STAGES

DIPL will be operating under the umbrella of the Darwin Port Cyclone Management Stages for the facilities of FBMB. DP uses a six stage plan, which is aligned to the Northern Territory Government (NTG) Emergency Response Group for counter disaster region 1, to manage its response to a cyclone as outlined below:

RESPONSE STAGES	DESCRIPTION
<b>Pre Season Readiness</b>	Cyclone response plans reviewed and updated.
<b>Stage 1 - Cyclone Watch (48hrs)</b>	<b>Stage 1</b> – Declared when a tropical low or tropical cyclone exists and gale force winds are likely to affect Greater Darwin within the next 48 hours but not before 24 hours.
<b>Stage 2- Cyclone Watch (24hrs)</b>	<b>Stage 2</b> - Declared when a tropical low or tropical cyclone is expected to cause gale force winds in Greater Darwin within 24 hours.
<b>Stage 3- Cyclone Warning (12hrs)</b>	<b>Stage 3</b> - Declared when available information suggests that destructive winds are likely affect Greater Darwin within the next 6 – 12 hours.
<b>Stage 4- Safety Management and Lockdown</b>	<b>Stage 4</b> – At this time an official announcement is made by Northern Territory Emergency Services advising all persons in Greater Darwin to TAKE SHELTER.
<b>Stage 5- Destructive winds reach Greater Darwin</b>	<b>Stage 5</b> - Declared when destructive winds have reached the boundary of Greater Darwin.
<b>All Clear Pending</b>	Declared when winds no longer pose a threat to communities within Greater Darwin. Note that the all clear is not declared at this time and a Stage 5 may be re-declared if necessary.
<b>Stage 6 – All Clear</b>	<b>Stage 6</b> - Declared when it is considered safe for the public to leave shelter.



*Post Cyclone Recovery	<b>RECOVERY</b> – The recovery phase is managed by the Chief Minister’s office and is aimed at returning Greater Darwin back to normal.
*Stand Down	<b>STAND DOWN</b> - Declared when the Greater Darwin Controller considers that no further counter disaster measures are necessary.

\*Note: These stages are not official stages for external stakeholders, however in place for operational effectiveness

HCC will coordinate the tracking of all vessels affected by the Cyclone Response.

## 7. ACTION STAGES OF THE CYCLONE PROCEDURE PLAN

The Cyclone Procedure Plan is activated once a cyclone watch or warning has been declared for Darwin Port but response actions may be initiated prior to either a watch or a warning being declared if the GMO considers early action is warranted.

PRE CYCLONE SEASON – AS OF 1 NOVEMBER 2016	
TASKS	RESPONSIBILITY
Check that all equipment (generators, batteries, radios, torches) at FBMB are in good working order	WS and PSW
Check that all NTG FBMB vehicles and work boat have a spare key secured in a known location	WS and PSW
Ensure occupiers of FBMB have been advised of vessel securing requirements	WS and PSW
Check the generator is working and serviced if required	WS and PSW
Check that first aid supplies and torches are in order and restock as required	WS
Provide notice to Masters, owners and agents of all vessels in the Port, and those entering Port, as to their responsibilities for operations during the Wet Season	GMO
Ensure that your individual work unit area is free of potential missile hazards	All Staff

STAGE 1 – CYCLONE WATCH (48hr)	
TASK	RESPONSIBILITY
Provide a list of vessel owners/Masters contact details to HCO	SSS
Instruct all vessels in the harbour that a cyclone watch has been declared and that all vessels are required to declare themselves on four hours readiness	GMO/HCOs
Warning notice for small boat owners activated	GMO/GMCS
Direct all vessel owners at anchor or moorings to take immediate precautions to safeguard their vessel	GMO/HCOs

Commence preparations to secure FBMB Demountable office	WS and PSW
Any loose item at the FBMB storage areas that could become airborne during the cyclone needs to either be cleared from the area or secured at the area.	WS and PSW
Notify FBMB users that all equipment must be secured	WS and PSW
Ensure FBMB Lock Gates emergency power supply is tested and operational	WS and PSW
Provide situation report update to TGL and FBBM	WS and SSS
Ensure all work vehicles, generators, workboat, and forklift are fuelled and mobile phones, radios, torches have charged batteries	WS and PSW
Check that all equipment (generators, batteries, radios, torches) at FBMB are in good working order	WS and PSW

STAGE 2 – CYCLONE WARNING (24hrs)	
TASK	RESPONSIBILITY
Advise NTG workers that a Cyclone Warning has been declared	CEO
Ensure vessels in the Mooring Basin are secured in accordance with approved mooring plan as shown in <b>Appendix 3</b>	WS and PSW
Instruct all vessels owners/Masters and agents in the harbour that a cyclone warning has been declared and that all vessels are required to declare themselves on one hour's readiness. At this stage vessel Master should action their cyclone contingency plan	GMO/HCO
Instruct all vessels scheduled to enter the Port of Darwin within the next 24 hours that they will have to make alternative arrangements until the cyclone threat has eased	GMO/HCO
All cargo work on FBMB service dock will cease	WS and PSW
Ensure that external work areas have been cleaned up and areas are free of potential missiles	WS and PSW
Check the FBMB areas for potential hazards and take appropriate preventative measures to secure all loose items that may become airborne during the cyclone	WS and PSW
Establish if there are any dangerous goods in containers on the FBMB facilities and if any containers contain potential pollutants	WS and PSW
Re-check that all loose material has been secured or removed from FBMB facilities	WS and PSW
Lash and secure all equipment remaining on FBMB facilities	WS and PSW
RE-check FBMB Lock Gates emergency power supply is tested and operational	WS and PSW

RE-check that all equipment (generators, batteries, radios, torches) at FBMB are in good working order	WS and PSW
Provide situation report update to TGL and FBBM	WS and PSW

**STAGE 3 – CYCLONE WARNING (12hrs)**

<b>TASK</b>	<b>RESPONSIBILITY</b>
Once Stage 3 has been declared the GMO will consider closing the Port. No vessels will be allowed to remain or berth at Fisherman’s Wharf, Raptis Wharf, Hornibrooks Wharf, Pontoon and Careening Poles.	GMO WS, PSW and SSS
Instruct all vessels except those in the Mooring Basin, or those necessary for duty, to clear to sea or seek refuge in the designated cyclone refuge areas.	GMO/HCO
Contact Bailey’s Fuel to ensure that the fuel supply to Fisherman’s Wharf is cut off	WS
Check no vessel is left on the pontoon and no vehicle is parked at the Hornibrooks Wharf facility. Lock the gates	PSW
Secure the lock and drop the water level in the Mooring Basin to 4.5m once the last vessel has berthed and the Mooring Basin berths are full	WS and PSW
Secure pilot vessels in the mooring basin	VGM
Isolate/turn off power at all FBMB locations	WS and PSW
Provide situation report update to TGL and FBBM	WS and PSW
Non-essential staff to leave the work site when work is completed	NTG Managers
Await instructions from the CEO or delegate	All Staff

**STAGE 4 – SAFETY MANAGEMENT & LOCKDOWN**  
**STAGE 5 – DESTRUCTIVE WINDS REACH GREATER DARWIN**

<b>TASK</b>	<b>RESPONSIBILITY</b>
An official announcement will be made by the Northern Territory Emergency Services advising the public to seek shelter.	All Staff
At this stage the CEO will instruct all personnel to leave the workplace. Please Note: All staff must check in with their Manager before leaving.	All Staff
All NTG staff will leave the worksite and immediately seek shelter as directed by the CEO or Managers	All Staff
Stage 5 - All NTG staff will remain in a place of safety	All Staff

If it is evident that Darwin has suffered considerable damage because of the cyclone, only Key Government Employees will be recalled as necessary.

All other staff are expected to listen to radio or other media broadcasts and to contact their Managers to determine what action is required.

**ALL CLEAR PENDING**

The following Key Government Staff are to report for work at the earliest practicable time, irrespective of whether the day falls on a weekend or public holiday. Personnel should only report to work if it is safe to do so.

<b>TASK</b>	<b>RESPONSIBILITY</b>
Contact all Masters/owners to ensure all personnel are safe and accounted for. Record any injuries or damages to vessels or navigation aid	HCO
Inspect the FBMB facilities for damages. Identify what requires high priority attention (record and photograph any damages)	WS and PSW
Once assessed safe, reconnect electricity at FBMB	WS and PSW
Get an update from Bailey's Fuel as to the status of the fuel bowsers. If no damage is reported, confirm when the fuel bowsers will be operating	WS and FBBM
Provide situation report update to TGL and FBBM	WS and SSS

**STAGE 6 - ALL CLEAR**

The reopening of Darwin Port will only occur once damages to the infrastructure and facilities has been assessed and the GMO approves that it is safe to re-open. Depending on the assessment, the reopening could be conducted in phases.

Vessel owners/Masters, Port Operators and Port users will be advised by appropriate communication methods as to when Darwin Port will re-open.

Any damages to vessel, navigation aids or injuries have to be reported to the HCM.

## 8. CONTACT DETAILS

### DIPL

Name	Position	Dept	Phone	Mobile	Email
Greg Hocking	Wharf Supervisor	DIPL		0428 207 612 (B/H)	<a href="mailto:gregory.hocking@nt.gov.au">gregory.hocking@nt.gov.au</a>
FBMB After Hours On Call		DIPL		0427 910 220	
	Small Ships Scheduler	DIPL	8922 0617	N/A	<a href="mailto:SmallShips.Scheduler@nt.gov.au">SmallShips.Scheduler@nt.gov.au</a>
Peter Shuttleworth	Frances Bay Business Manager	DIPL	8924 7509	0438 924 274	<a href="mailto:peter.shuttleworth@nt.gov.au">peter.shuttleworth@nt.gov.au</a>
Alex Rae	Transport Group Leader	DIPL	8924 7110	0401 110 031	<a href="mailto:alex.rae@nt.gov.au">alex.rae@nt.gov.au</a>
Tony O'Malley	Regional Harbour Master	DIPL	8999 3867	0428 181 480	<a href="mailto:Tony.omalley@nt.gov.au">Tony.omalley@nt.gov.au</a>

### DP

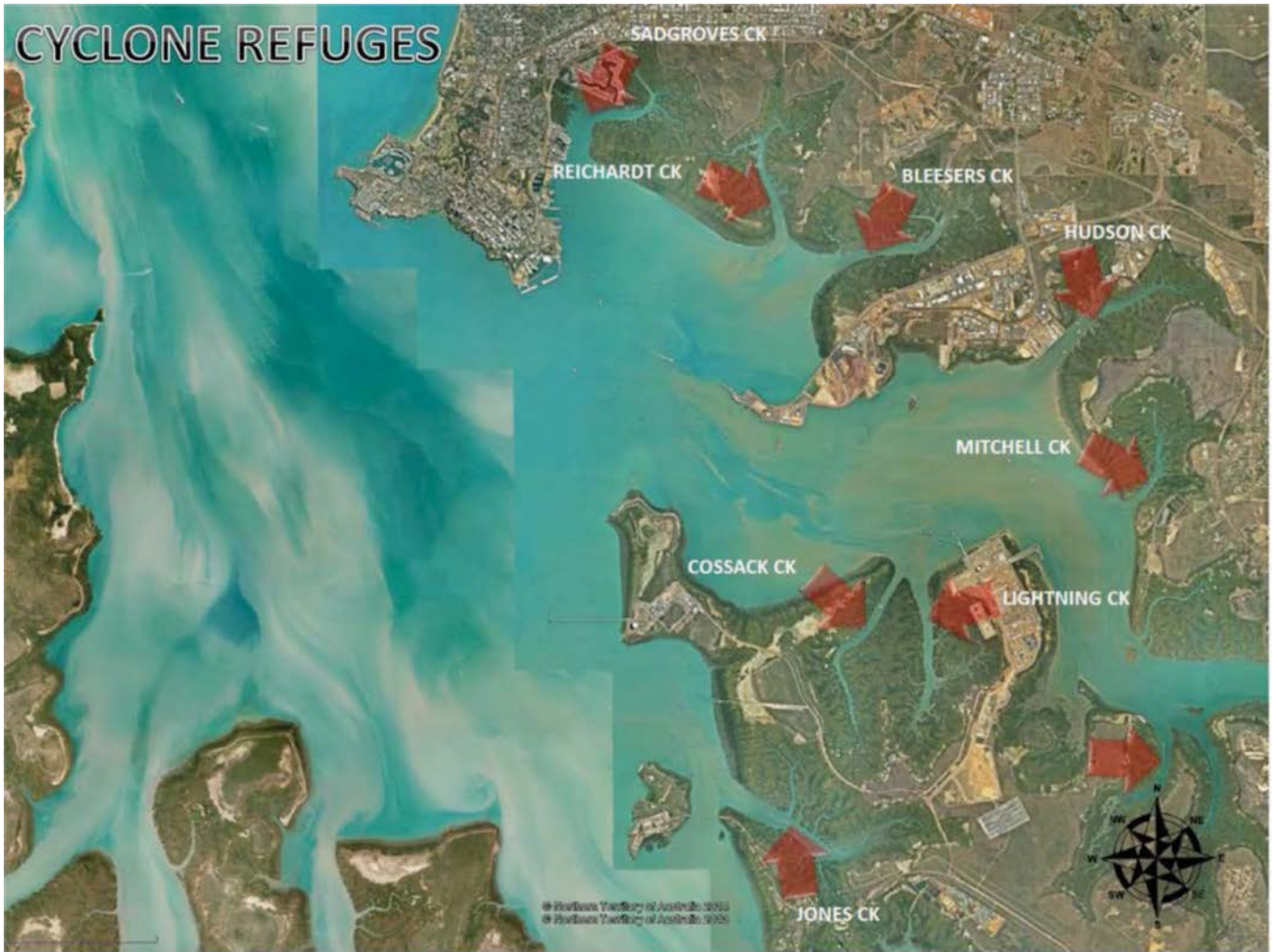
Ian Niblock	General Manager Operations	DP	8919 0850	0419 840 041	<a href="mailto:ian.niblock@darwinport.com.au">ian.niblock@darwinport.com.au</a>
Daniel Christophersen	Harbour Control Manager	DP	8919 0820	0447 200 838	<a href="mailto:daniel.christophersen@darwinport.com.au">daniel.christophersen@darwinport.com.au</a>
Robert Smith	Vessel Group Manager	DP	8919 0855	0401 117 061	<a href="mailto:robert.smith@darwinport.com.au">robert.smith@darwinport.com.au</a>
Harbour Control Centre		DP	8919 0821 8919 0822		<a href="mailto:harbourcontrol@darwinport.com.au">harbourcontrol@darwinport.com.au</a>

### Emergency Services

Company	Phone	Mobile	Email
NT Emergency Services	8922 3630 (b/h) – not to be used for emergencies	132500 - for emergencies – call goes to communications desk and will be transferred as appropriate	N/A
NT Police Water Police Officer	8922 3344 8947 0391	After hours calls go to Police Communication Centre – 131 444	N/A

Police / Fire / Ambulance	000	N/A	N/A
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# APPENDIX 1: DARWIN HARBOUR CYCLONE REFUGES



## APPENDIX 2: VHF CHANNELS

The following table shows the VHF radio channels used in the Port of Darwin

CHANNEL	USED BY	TYPE OF USE
06	Frances Bay Mooring Basin Lockmaster	Communications with vessels entering or leaving Frances Bay Mooring Basin
08	Tipperary Waters Lockmaster	Communications with vessels entering or leaving Tipperary Waters marina
09	Darwin LNG	Wickham Point operations
10	All vessels	Darwin Harbour Control working channel and primary port operations
11	Cullen Bay Lockmaster	Communication with vessels entering and leaving Cullen Bay marina
12 and 13	Tugs	Ship manoeuvring with the assistance of tugs
14 and 69	Naval vessels	Navy port working frequency
16	All vessels	[International] distress, safety and calling
17	Hudson Creek	Ship-to-shore channel for vessels working in Hudson Creek
19	INPEX LNG	Bladin Point operations
67	All vessels	Darwin Harbour Control weather and notices to mariners information channel (0703 & 1903)
68	Bayview Marina Lockmaster	Communications with vessels entering or leaving Bayview marina
72	All vessels	Ship to Ship, Customs and Quarantine
73	Yachts	Yacht racing and Regattas
74	Darwin Marine Supply Base	Darwin Marine Supply Base operations



## APPENDIX 3: CYCLONE MANAGEMENT STANDARD OPERATING PROCEDURE

### FRANCES BAY MOORING BASIN BERTHING PROCEDURE: Stage 2 – Cyclone Warning (24hr)

#### SECURE VESSELS IN THE MOORING BASIN

#### MOORING PROCEDURES

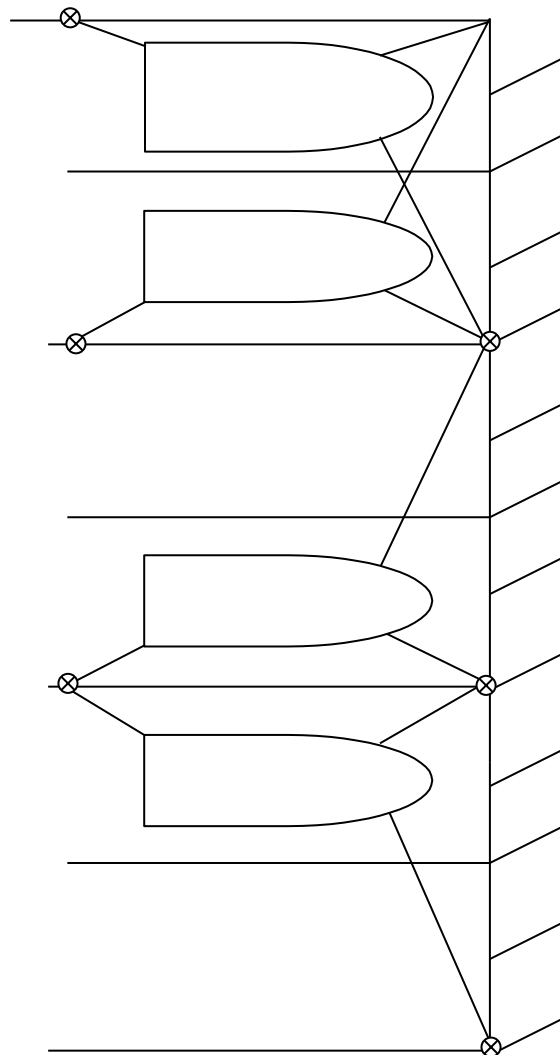
During a cyclone warning (24hrs) the Wharf Supervisor will inspect each vessel's moorings.

Masters must remain aboard their vessels until the moorings have been inspected and the Wharf Supervisor or his representative is satisfied the vessels can be left unmanned.

#### MOORING PATTERNS

##### Normal Condition

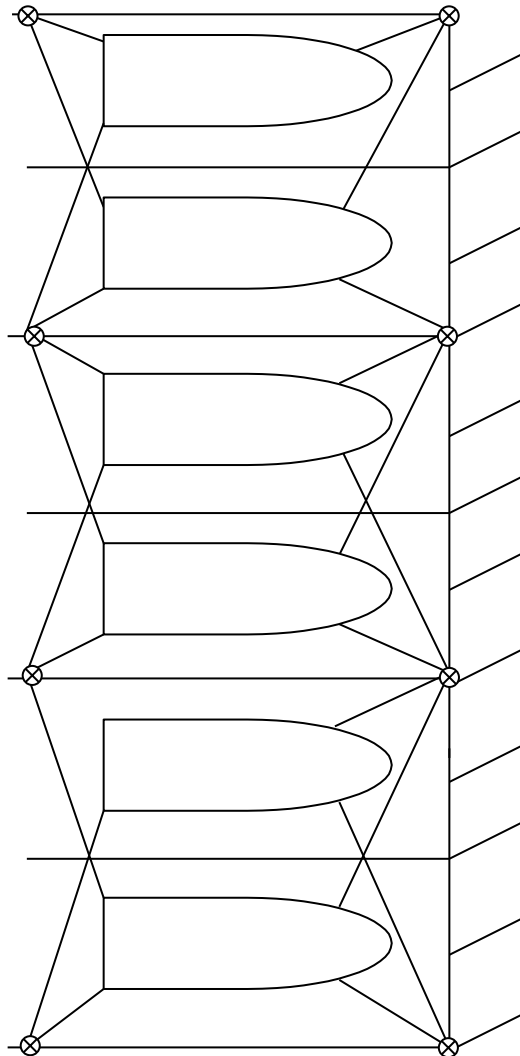
A maximum wind speed of 36m/sec or 70 knots has been assumed for a Normal Condition. For this wind condition a three line mooring pattern as shown below may be adopted.



**Storm, Cyclonic Condition**

When the wind speed exceeds 36m/sec or 70 knots, the mooring arrangement of the vessels must be changed to not less than a four line mooring system as shown below.

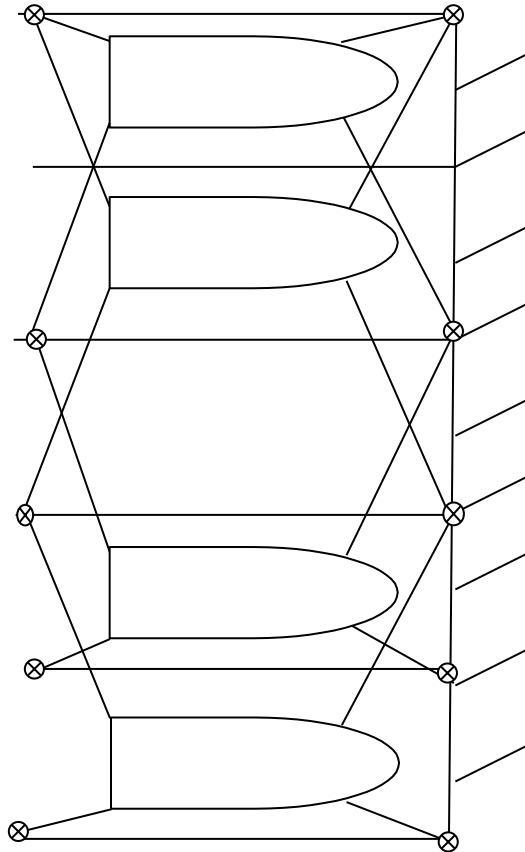
**Full Occupancy - Cyclonic Conditions**



**Storm, Cyclonic Condition**

When the wind speed exceeds 36m/sec or 70 knots, the mooring arrangement of the vessels must be changed to not less than a four line mooring system as shown below.

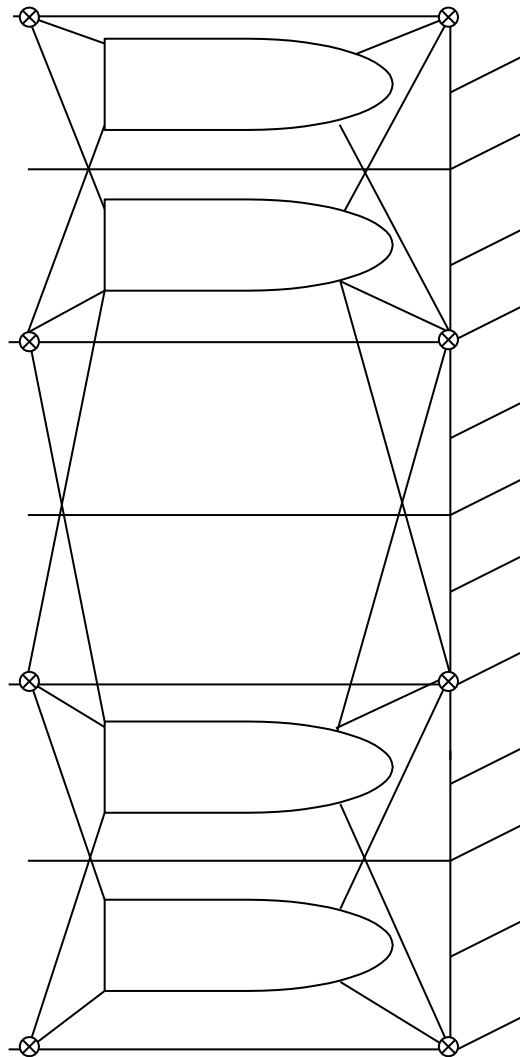
**One Empty Berth - Cyclonic Conditions**



**Storm, Cyclonic Condition**

When the wind speed exceeds 36m/sec or 70 knots, the mooring arrangement of the vessels must be changed to not less than a four line mooring system as shown below.

**Two Empty Berths - Cyclonic Conditions**



**Storm, Cyclonic Condition**

When the wind speed exceeds 36m/sec or 70 knots, the mooring arrangement of the vessels must be changed to not less than a four line mooring system as shown below.

**Three or More Empty Berths - Cyclonic Conditions**

