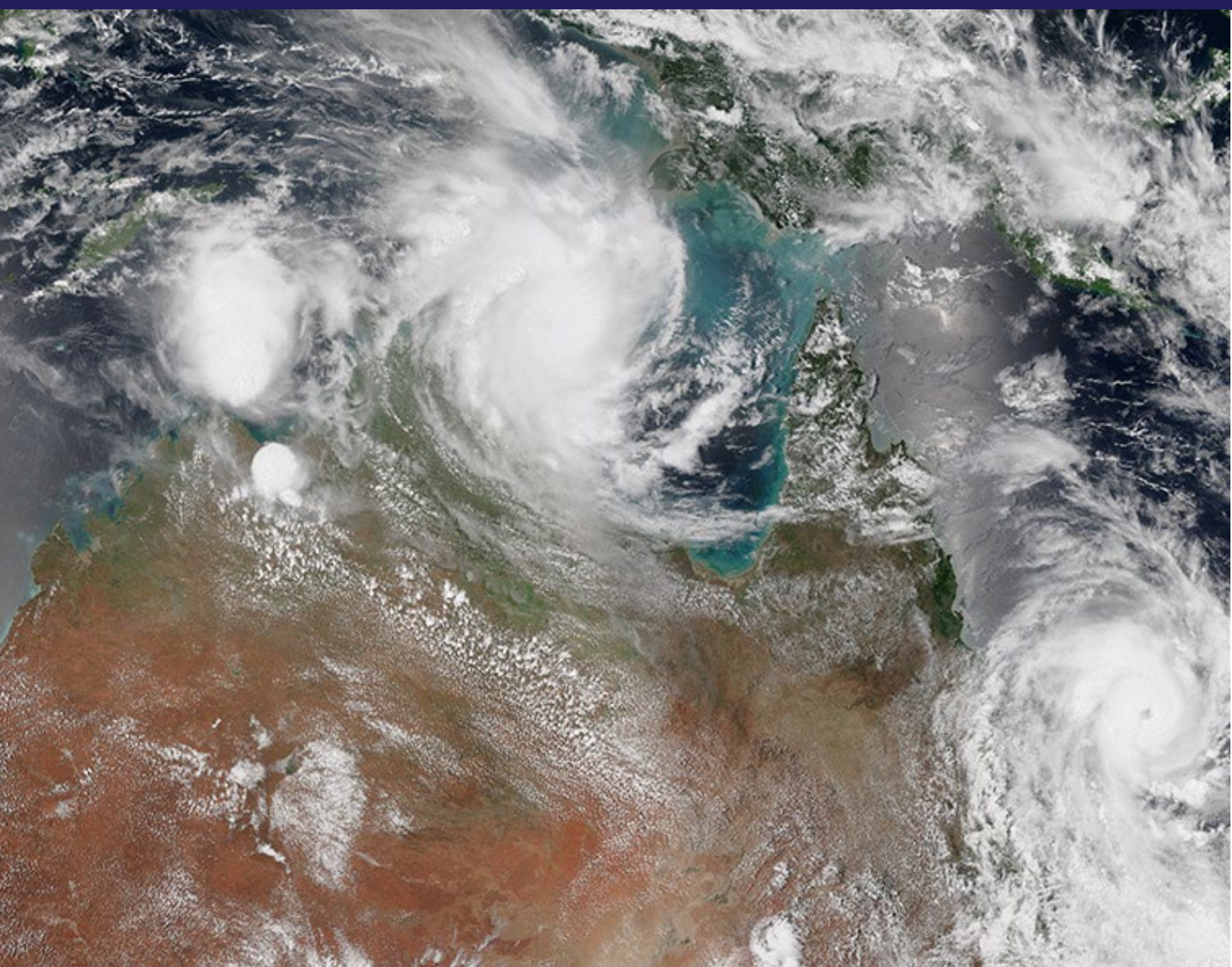


CYCLONE PLAN

2023-2024

OPS-LEG-10
General Manager, Operations



DARWIN PORT – CYCLONE PLAN 2023-2024 SUMMARY




STAGE	DESCRIPTION	DP ACTIONS	PORT STATUS
Pre-season	Preparation for forthcoming Cyclone Season	Cyclone Plan and Standard Operating Procedures reviewed and updated. Port Users informed of cyclone precautions. Revised Cyclone Plan distributed to staff and stakeholders.	Open
Stage 1 	Advice	Actions as per Stage One requirements in Cyclone Plan. Work Instructions completed by designated staff members. Ships placed on four hours' notice of readiness.	Open Initial planning for escalation to Stage 2
Stage 2 	Watch and Act	Actions as per Stage Two requirements in Cyclone Plan. Key staff report to designated work areas. Work Instructions completed by designated staff members. Ships placed on one hours' notice of readiness. Vessels may leave of their own accord.	Open but under review GMO may action procedure to close the Port of Darwin
Stage 3 	Emergency Warning	Actions as per Stage Three requirements in Cyclone Plan. Work Instructions completed by designated staff members. All equipment secured. Essential service vessels taken to designated cyclone refuges. Vessels to leave port or proceed to designated cyclone moorings or refuges. All staff leave worksite and take shelter if directed by the CEO. Harbour Control services suspended if the Port of Darwin is closed.	GMO will action procedure to close the Port of Darwin if the risk to people, property and the environment justifies closure. Key factors are severity and area of impact.
	Cyclone past Darwin	Key personnel report to allocated work areas. Preparation for declaration of all clear. Plan for opening of Port agreed and communicated to stakeholders.	Port open or closed status under review
Post Cyclone	Initial assessment	All staff report to work once it is safe to do so. Damage and Port of Darwin assessment commenced.	Open with caution
	Post Cyclone Recovery	Staff availability confirmed. Communication systems re-established. Equipment damage reports completed and damage mitigation actioned.	Open with caution
	Stand Down	Cyclone damage mitigation completed. Debrief of cyclone response. Cyclone Plan updated where necessary.	Open

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INTRODUCTION

The Darwin Port Cyclone Plan 2023-2024 (Cyclone Plan) sets out Darwin Port Operations Pty Ltd (DP) authorities and responsibilities for the management of the harbour infrastructure, vessels in the harbour, its tenants, and staff during a cyclone event.

The Cyclone Plan sets out DP's authorities and responsibilities for the management of the harbour infrastructure, vessels in the harbour, its tenants, and staff during a cyclone event.

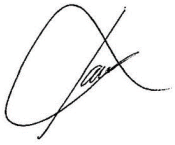
The objectives of the Cyclone Plan are to:

- Minimise risk to life and property
- Minimise the risk of damage to the Port of Darwin infrastructure
- Optimise the use of Darwin Harbour cyclone refuge areas
- Contribute effectively to the Northern Territory response to a cyclone event

This Cyclone Plan has been developed in consideration of the [Territory Emergency Plan](#).

ENDORSEMENT AND APPROVAL

The Darwin Port Cyclone Plan 2023-2024 is endorsed by:

A handwritten signature in black ink, appearing to be 'IAN NIBLOCK'.

General Manager Operations
IAN NIBLOCK

Date: 30 October 2023

The Darwin Port Cyclone Plan 2023-2024 is approved by:

A handwritten signature in black ink, appearing to be 'PETER DUMMETT'.

Chief Executive Officer
PETER DUMMETT

Date: 30 October 2023

DOCUMENT CONTROL

The Cyclone Plan is a controlled document.

Should the reader become aware of any inaccuracies, corrections or changes that are required, they should photocopy this page and the relevant page(s) from the Plan that require changes, note the changes and e-mail to:

General Manager Operations, Darwin Port

Email: ian.niblock@darwinport.com.au

Name:

Position:

Organisation:

Document No:

Phone:

Email:

VERSION CONTROL

DISTRIBUTION

An electronic link will be sent to all stakeholders identified in this document before the start of the cyclone season.

The Cyclone Plan is available to download from the Darwin Port website:

<https://http://www.darwinport.com.au//facilities-services/emergency-cyclone-plans>

GLOSSARY

BOM	Bureau of Meteorology
CDC	Counter Disaster Council
CEO	Chief Executive Officer
CEO EA	Executive Assistant to the Chief Executive Officer
CMT	Crisis Management Team
CWBMS	Cyclone Worksite Managers
DAFF	Department of Agriculture Fisheries and Forestry
DCM	Department of the Chief Minister
DIPL	Department of Infrastructure, Planning and Logistics
DLNG	Darwin LNG
DP	Darwin Port
EAMO	East Arm Main Office
EAW	East Arm Wharf
EAWG	East Arm Wharf Gatehouse
EAWW	East Arm Wharf Workshop
ECMP	Emergency Crisis Management Plan
EM	Environmental Manager
FHW	Fort Hill Wharf
GMS&G	General Manager Strategy & Growth
GML&G	General Manager Legal & Governance
GMO	General Manager Operations
HCC	Harbour Control Centre
HCO	Harbour Control Officer
HTECH	Head of Technology & Systems
IC	Incident Controller
ICT	Information & Communications Technology
ILNG	INPEX LNG and INPEX LPG and Condensate
IMT IC	Incident Management Team - Incident Controller
LNGC	Liquified Natural Gas Carrier
MM	Manager Maintenance
MMP	Manager Marine Pilots
MWS	Manager Wharf Services
NTES	NT Emergency Services
NTG	Northern Territory Government
NTPFES	NT Police, Fire and Emergency Services
OOW	Officer of the Watch (Ships Officer)
PB	Pilot Boats
PBM	Pilot Boat Master
PE	Port Engineer
PLO	Port Landside Officer
PMO	Port Management Officer
RHM	Regional Harbourmaster
SBA	Small Boat Anchorage
SHW	Stokes Hill Wharf
SLO	Superintendent Landside Operations
SMLO&S	Senior Manager Landside Operations & Safety
SMM&E&E	Senior Manager Maintenance & Engineering
SMT&P	Senior Manager Trade and Property
SPVM	Senior Pilot Vessel Master
TRS	Tropical Revolving Storm
WBMS	Wharf and Bulk Materials Superintendent
WS	Wharf Services
WH SPL	Work Health Safety & Partnership Lead

TROPICAL CYCLONE SEASON

The official tropical cyclone season for Darwin and the Northern Territory commences on 1 November and concludes on 30 April annually. However, cyclones have been known to occur outside of the official season.

Before a tropical cyclone forms it is difficult to predict its potential strength and path, including whether it will make landfall. Along the north coast of Australia more than half of the cyclones impact the coast.

SEVERE TROPICAL THUNDERSTORMS

The tropical cyclone season in Northern Australia is also known as the wet season, which has its own distinctive tropical climate, quite different from what is to be experienced further south. Similarly, the types of violent thunderstorms that occur during the wet season can have different characteristics to those typical of southern and central Australia.

The main severe weather types associated with thunderstorms in the tropics are damaging wind and heavy rainfall. The wind gusts are "straight line gusts", that is, not associated with the rotating winds within a low-pressure system, but due to the outflow from the downdraught of a thunderstorm as the air hits the ground and spreads out. The name given to an intense thunderstorm downdraught concentrated on a small area is a microburst.

Microbursts can occur at any time during the wet season and often with little or no warning. Typical weather associated with microbursts include:

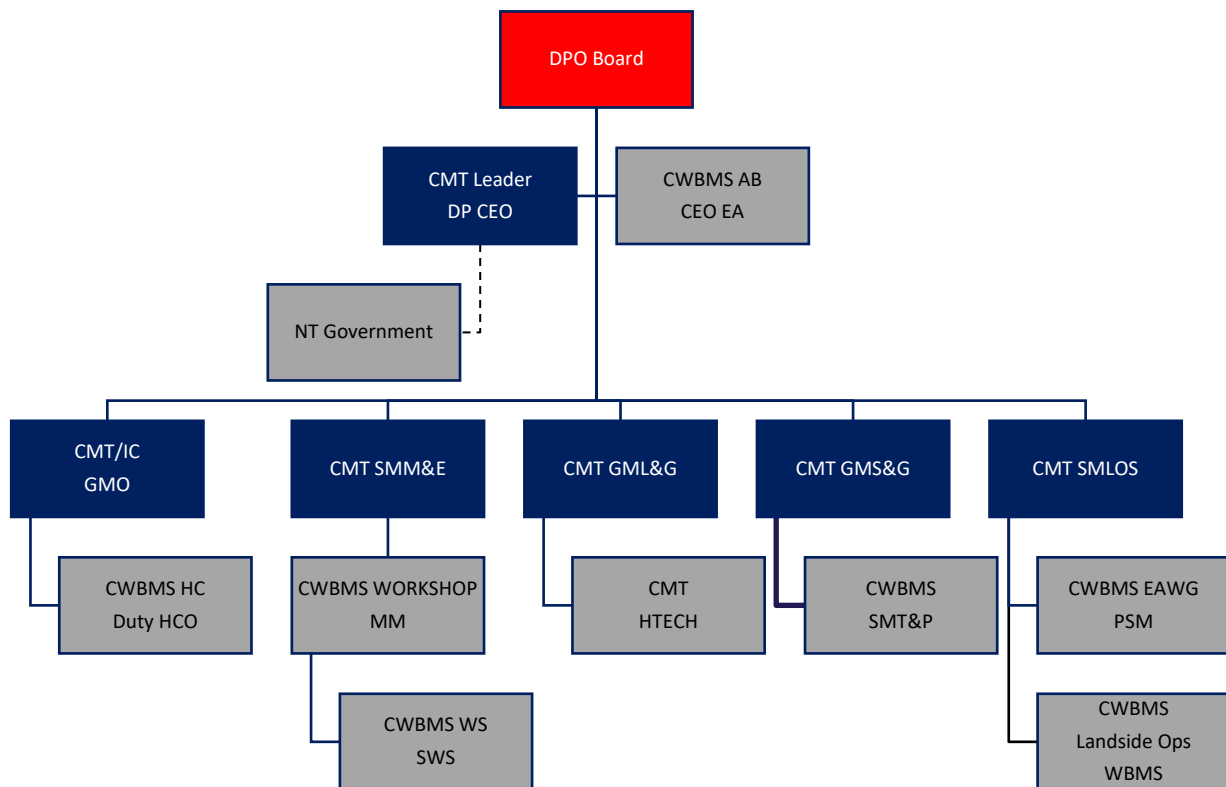
- **Damaging wind** – 90km/h or greater
- **Tornadoes**
- **Heavy rainfall** conducive to flash flooding

DARWIN PORT CYCLONE MANAGEMENT STRUCTURE

Overall response coordination for a cyclone event in Darwin rests with the Northern Territory Emergency Services.

Cyclone events will be managed using a methodology consistent with the *ECMP*. However, given that cyclone events are usually predicted many hours before their consequences are felt, management tends to be more measured and aimed at preparing to minimise the impact.

Recovery from the impact will be managed in accordance with the *ECMP*.



The *GMO* is the *CMT IC*. The *GMO* has statutory powers as Port Management Officer under the *Ports Management Act 2015* that can be used during the management of a cyclone event. The *GMO* is responsible for the management of operations on the harbour during a cyclone response.

Cyclone Worksite Managers (*CWBMSs*) are appointed to manage a range of cyclone procedures prior to, during and after a cyclone event. Their areas of responsibility are as follows:

- *CEO EA* – Executive Assistant to the Chief Executive Officer – DP Administration Building
- *SMM&E* – Senior Manager Maintenance & Engineering – Vehicles
- *HTECH* – Head of Technology and Systems
- *SLO* – Superintendent Landside Operations – East Arm Wharf Gatehouse
- *MMP* – Manager Marine Pilots – Marine Pilots
- *WBMS* – Wharf and Bulk Materials Superintendent – East Arm Wharf Landside Office
- *MM* – Manager Maintenance – East Arm Wharf Workshop
- *SPVM* – Senior Pilot Vessel Master – Pilot Boats and Crew
- *SWS* – Supervisor Wharf Services – Fort Hill Wharf, Pontoon & Fenders

NOTIFICATION OF CLOSURE OF SCHOOLS

On receipt of advice from the *CDC* that schools have been closed, and subject to approval from their respective general managers, primary care givers may be released from duty to collect their children from school.

If a childcare centre closes due to the “Notification of Closure of Schools”, primary care givers may be released from duty to collect their children.

Employees with other carer responsibilities, e.g., elder care or who collect children from a childcare centre which is closed prior to the “Notification of Closure of Schools”, may be released from duty to attend to their carer responsibilities.

The Port of Darwin will not close at this time and all other employees are to remain at work.

NOTIFICATION OF CLOSURE OF DARWIN PORT OFFICES

The *CEO* will release non-essential staff to seek shelter where possible.

Employees with cyclone management responsibilities (including rostered *HCO's* and *PLO's*) are required to remain at work, if it is safe to do so, until they have completed their responsibilities under this plan or until the *CEO* releases them from duty.

All DP employees should ensure that adequate individual cyclone preparation measures have been implemented to ensure the safety of their families, homes and property before a cyclone is directly affecting the Greater Darwin region. Additional cyclone preparedness information is available from the Northern Territory Emergency Services website at:

<http://www.pfes.nt.gov.au/emergency-service/public-safety-advice/natural-disaster-advice/cyclones>

KEY STAKEHOLDERS

The following entities have been identified as key stakeholders and should be familiar with the Cyclone Plan:

- Department of the Chief Minister (Emergency Response Group)
- Department of Infrastructure, Planning and Logistics
- Northern Territory Police, Fire and Emergency Services
- All Darwin Port Tenants
- All Port Users

The Cyclone Plan is available to download from the DP website:

<https://http://www.darwinport.com.au/facilities-services/emergency-cyclone-plans>

Stakeholder and contact details for response agencies are contained in **Appendix 1 - Contact Details**.

RESPONSIBILITY OF VESSEL'S MASTERS AND OWNERS

Masters, owners and operators of vessels are responsible for the following:

- Ensuring that no vessels are left unattended whilst at anchor in the designated Small Boat Anchorage (SBA).
- Ensuring that they have their own current cyclone contingency plan and providing a copy (in electronic form) to the GMO if requested.
- Ensuring a responsible OOW is contactable 24 hours to receive notification of potential severe weather events.
- Awareness of the advice contained in the Mariners' Handbook NP100 regarding navigable and dangerous semicircles of Tropical Revolving Storms.
- Ensuring the safety of their vessels and crew.
- Ensuring their vessels are secured.
- Ensuring main engines are not immobilized within the port limits without prior approval of the GMO.
- Following explicitly, all directions issued to them by the GMO or acting GMO.
- Following explicitly, all instructions issued to them by the General Managers and staff of DP.
- Bearing the cost of any damage caused by their vessels to DP infrastructure and/or other vessels.

Masters of all vessels working in the Port of Darwin between 1 November and the 30 April will be advised to familiarise themselves with the current Cyclone Plan and obtain a copy of the map outlining cyclone refuge locations in and around Darwin Harbour Shown in **Appendix 2 - Cyclone Refuges**.

DARWIN PORT MARINE PILOTS

DP Marine Pilots are responsible to:

- Ensure that vessel masters are aware of this cyclone plan and their obligations.
- Facilitate effective communication and execution of these procedures with all relevant parties.
- Obtain 24-hour contact details with the responsible OOW, for potential severe weather event communications.
- Disseminate established contact details for communication of potential severe weather events.

VESSEL TRACKING

Darwin Harbour on-duty *HCO* will coordinate the tracking of all vessels affected by the cyclone response.

COMMUNICATION

GMO / Regional Harbour Master (RHM) Relationship

The *GMO* is an appointed Port Management Officer (*PMO*) under the *Ports Management Act 2015*, having statutory authority to issue directives and ultimately, if the situation requires, to close the Port of Darwin.

The *GMO* shall meet regularly with the *RHM*. It is essential that a strong working relationship exists between the *GMO* and the *RHM*, and that the *GMO* keeps the *RHM* fully informed regarding cyclone preparedness, the possibility of a cyclone, and in the case of a cyclone, the *GMO* shall keep the *RHM* informed of any cyclone response action taken by DP. Contact may be by phone call, by email or in person.

The *RHM* is a regulatory officer and in accordance with the *Ports Management Act 2015*, has step in rights and authority to direct a *PMO* to act in accordance with his or her directions should he or she feel the situation so demands.

Stakeholders for Early Engagement

There are many stakeholders under the Cyclone Plan. The Cyclone Plan and associated work instructions identify the engagement of certain stakeholders during a cyclone event.

Because they manage assets that are effectively outside the control of DP, certain critical stakeholders require early engagement. A close working relationship needs to be in place with these stakeholders well prior to, and during, the cyclone season. The relationship should include meeting and exchanging copies of respective cyclone plans prior to the official cyclone season to discuss any cyclone plan changes, and to clarify the roles and responsibilities of the various parties in a cyclone event. Key stakeholders are encouraged to ensure that they are suitably identified within the Cyclone Plan through engagement at the Port User Group forums which are hosted regularly during the year by DP.

In the case of a developing tropical low with no cyclone Advice yet being declared, these critical stakeholders must be engaged so that preparedness for DP is optimised.

Refer to **Appendix 1 - Contact Details**.

Communications during cyclone response

Communication with Port of Darwin stakeholders will be by the SMT&P using the Contact List at Appendix 1.

Communication with *EAW* tenants and operators of berth and marine facilities will be by the *GMO* to those stakeholders highlighted in the stakeholder contact list.

Exercise Procedure

Prior to 1 November 2023, DP will conduct a stakeholder desktop cyclone exercise. The purpose of the exercise is to ensure that all parties can apply the cyclone plan, identify and eliminate any inadequacies and address any areas of confusion regarding roles or responsibilities. A similar exercise is to be conducted with all DP personnel who have a role in this Cyclone Plan.

COMMUNICATION METHODS

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

Face to Face meetings may be held by the *CMT*, usually in Meeting Room 2 at the DP office on EAW. Alternative venues may be selected during the incident to minimise travel or in the event of damage to the office building.

Microsoft Teams will be used to facilitate safe communications with stakeholders. The *GMO* will call Microsoft Teams meetings where stakeholders can join as a video or audio call to discuss response actions taken so far and to obtain a common picture of response activities moving forward. **Microsoft Teams** will also be used by the *CMT* to minimise travel and to assist facilitate employees working from home if there is not a need to attend the office.

Mobile Phones will be used for all communications to staff on the status of cyclone plan and requirements to attend the workplace. Important messages and changes in the tropical cyclone and the port status will also be communicated using mobile phones.

Marine VHF Radio will be used to broadcast information to port users and stakeholders. Darwin Harbour Control will be the radio communications hub and will be responsible for broadcasting updates regarding the cyclone status, the current level of 'Advice,' 'Watch and Act' or 'Emergency Warning' and information regarding vessel movements and the status of the port. A list of Darwin Port personnel utilising VHF radios is in **Appendix 3 – Darwin Port Radio Call Signs**. Various VHF channels are allocated for port and harbour operations as detailed in **Appendix 4 – VHF Channels**.

The communication means listed above are preferred due to the 'closed loop' nature of the communication.

Email will be used to distribute information, including status information for the tropical cyclone and the Port of Darwin.

Social Media – DP has an established Facebook account under Darwin Port Operations. DP will use this social media platform to communicate the status of the port and associated operations.

WebEOC is a computer-based Emergency Operations Centre capability which has been adopted for use in the Northern Territory by *NTES*. WebEOC provides NT Incident Command with information regarding response activities. Information is provided via the *RHM*.

Darwin Port website will be used to provide information on the status of the Port and the DP tropical cyclone response.

Darwin Port intranet will be used to provide DP personnel with updates regarding the current port status and its tropical cyclone response, until such time DP offices are closed.

Text Messages - Individual managers will utilise text messages as a means of communicating information to personnel in their teams. Additionally, DP will communicate with stakeholders and Port users if emergency communication is required.

MEDIA MANAGEMENT

Engagement and interactions with media are coordinated by the CEO and all media enquiries should be directed to the CEO on mobile 0401 117 056.

DP takes direction from NTG, who will issue coordinated public cyclone announcements. The Chief Minister and the Police Commissioner are the only persons authorised to make public announcements on behalf of NTG.

DP is responsible for providing public statements on the status of the Port of Darwin during a cyclone; that is, whether it is open or closed and safety messaging provided to commercial vessels within the Port of Darwin.

WEATHER FORECAST MONITORING

DP monitors numerous weather forecasting sites during the cyclone season to maintain a well-developed and early understanding of potential weather impact.

TROPICAL CYCLONE SEVERITY CATEGORIES

The severity of a tropical cyclone is described in terms of categories in the range 1 to 5 related to the severity of the cyclone.

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	Maximum Mean Wind (km/h)	Typical Strongest Gust (km/h)	Typical Effects
1	63 - 88	<125	Damaging winds. Negligible house damage. Damage to some crops, trees and caravans. Craft may drag moorings.
2	89 - 117	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	118 - 159	165 - 224	Very destructive winds. Some roof and structural damage. Some caravans destroyed. Power failure likely.
4	160 - 199	225 – 279	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failure.
5	>200	> 279	Extremely dangerous with widespread destruction.

Additional information can be found on the *BOM* website by following the link:

<http://www.bom.gov.au/cyclone/about/>

TROPICAL CYCLONE SERVICES

BOM 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 seven days in advance of the probability of cyclone development in the seas around Australia.

BOM will issue Tropical Cyclone Advice when a tropical cyclone is likely to cause winds at 63 km/h or greater (gale force) over Territory communities within the next 48 hours. This lets people know when and how they may be affected.

For each coastal community in the forecast path, Tropical Cyclone Advice includes:

- a Tropical Cyclone Watch, updated every 6 hours when gales are expected to start within 24–48 hours
- a Tropical Cyclone Warning every 3 hours when gales are expected within 24 hours or already happening.

Technical Bulletin

The Tropical Cyclone Technical Bulletin provides technical details about the cyclone.

Tropical Cyclone Forecast Track Map

These are issued with tropical cyclone advice to give a graphical representation of the cyclone's past track forecast movement and its threat area.

Marine Warnings

Marine warnings are issued for high seas and coastal waters threatened by cyclones or other weather events such as monsoon bursts.

Additional information can be obtained from the BOM website:

<http://www.bom.gov.au/cyclone/about/warnings/>

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 a warning being declared if the CMT considers early action is warranted.

It must be noted that not all cyclones develop in a position to enable a staged information and warning process from 48 hours before the event. A good example is Cyclone Carlos which formed very close to Darwin on the morning of 15 February 2011. A cyclone watch was declared at 11:00, a warning at 17:00 and the strongest winds were experienced the same night.

Additionally, DP subscribes to the Early Warning Network weather alerts for specified staff. The list of recipients for these alerts is to be reviewed and updated annually prior to the commencement of the cyclone season.

STORM SURGE

Both *EAW* and *FHW* are within the Darwin storm surge zone. There is a risk of inundation at both wharves should a storm surge coincide with a high tide. The extent of the inundation would be influenced by the height of the storm surge and the tide height. *EAW* and *FHW* decks are 1.5 metres above the Darwin Highest Astronomical Tide (HAT) height of 8.0 metres.

Potential storm surge inundation depths are available from a 2010 Department of Land Resource Management study available from the website:

<https://denr.nt.gov.au/land-resource-management/water/water-resources/flooding-reports-maps/storm-surge-inundation-maps>

Maps showing storm surge zones are in **Appendix 5 – Storm Surge Inundation 2014**

Port users need to be aware of the risk of storm surge at both *FHW* and *EAW*. Inundation is likely to affect any cargo stored at *EAW* and could affect the continuous provision of electrical power at the wharf.

DARWIN PORT CYCLONE MANAGEMENT CONSIDERATIONS

The Port of Darwin is the only port between Townsville and Fremantle with full access to multi-modal transport services and is Australia's nearest port to Asia for Australasian trade. DP provides pilotage and harbour control systems and a supply chain capable of handling containers and general cargo, bulk liquids, bulk materials, live exports and heavy lift oversized cargoes. DP also services cruise ships and naval vessels at Fort Hill Wharf and cruise ship terminal. It is also a key support hub for the offshore oil and gas fields in the Arafura Sea, Timor Sea and waters off the coast of Western Australia.

This multi-modal nature of operations introduces many considerations when prioritising shipping during preparations for an approaching tropical low or cyclone and the potential closure of the port. These considerations include crew and passenger welfare, livestock welfare, the number, and types of ships in the port, the status of cargo operations and ship seaworthiness, tidal windows and potential draft restrictions, the lead time necessary to safely evacuate ships from the port, tug availability, pilot availability and potential impacts on the two gas terminals.

The Port of Darwin also contains the Santos LNG jetty and the INPEX LNG, LPG and condensate jetties. Both LNG terminals occasionally receive LNGC's with membrane type tanks. Most membrane constructed LNGC's introduce a specific consideration due to "sloshing". Within a range of tank filling levels, the natural pitching and rolling of the ship at sea, and the liquid free-surface effect, can cause the liquid to move within the tank. It is possible for considerable movement to take place, creating high impact and pressure on the tank surface. This is called "sloshing" and can cause structural damage.

In collaboration with INPEX and Santos a Membrane tanker loading management process has been developed to identify Upper and Lower sloshing limits. This process assists in vessel movement planning during the approach of a cyclone. The loading of Membrane LNGC's during the cyclone season is monitored, recorded and updates distributed to applicable stakeholders. The management of Membrane tankers could see their visit to the respective LNG terminal brought forward to allow the cargo to be loaded and the ship to depart safely ahead of the cyclone impact. Alternatively, the Membrane tanker arrival may be delayed until after the cyclone has passed through the Greater Darwin region.




DARWIN PORT CYCLONE MOORING MANAGEMENT

- DP has sole responsibility for the care, use and maintenance of all DP owned moorings and components and associated costs of replacement.
- DP arranges for all inspections required by the applicable mooring license terms and conditions.
- DP currently undertakes annual inspections of its owned moorings. The annual mooring inspections are carried out immediately prior to the commencement of the cyclone season.

DARWIN PORT CYCLONE MANAGEMENT STAGES

DP monitors tropical lows and cyclones to make an early assessment of likely path, development and potential impact on the port's infrastructure and operations. Any actions, if deemed necessary will be taken on the basis that a tropical low may develop to cyclone intensity at close range to the port, and category one cyclones have the potential to intensify immediately prior to crossing the coast. In assessing such potential, advice and information will be obtained from the *BOM* and other appropriate, reliable sources.

DP manages multiple worksites and a variety of infrastructure. DP uses a three-stage plan, to manage its response to a cyclone, followed by a recovery phase as outlined below:

DP REPONSE STAGES	
Pre-Season Readiness	Cyclone procedure and Work Instructions reviewed and updated. Port users informed of cyclone precautions. Revised Cyclone Procedure distributed to staff and stakeholders. Cyclone exercises carried out.
Stage 1 - Advice 	Actions as per Stage One requirements in Cyclone Plan. Work instructions completed by designated staff members. Ships placed on four hours' notice of readiness.
Stage 2 – Watch and Act 	Actions as per Stage Two requirements in Cyclone Plan. Key staff report to designated work areas. Work instructions completed by designated staff members. Ships placed on one hour's notice of readiness. Vessels may leave the Port of Darwin of their own accord.
Stage 3 – Emergency Warning 	Actions as per Stage Three requirements in Cyclone Plan. Work instructions completed by designated staff members. All equipment secured. Essential service vessels taken to designated cyclone refuges. Vessels to leave port or proceed to designated cyclone moorings or refuges. All staff leave worksite and take shelter if directed by the CEO. Harbour Control services suspended if the Port of Darwin is closed.
Cyclone past Darwin	Key personnel report to allocated work areas. Preparation for declaration of all clear. Plan for opening of Port agreed and communicated to stakeholders.
Post Cyclone Initial Assessment	All staff report to work once it is safe to do so. Damage and Port of Darwin assessment commenced. Harbour safety assessed.
Post Cyclone Recovery	Staff availability confirmed. Communication systems re-established. Equipment damage reports completed and damage mitigation actioned.
Stand Down	Cyclone damage mitigation completed. Debrief of cyclone response. Cyclone Plan updated where necessary.

PRE-SEASON READINESS

TASK (to be completed prior to 1 November)	Responsible Office	Applicable SOP
Conduct a cyclone awareness meeting for your location: <ul style="list-style-type: none"> • update listing of CWBMSs • explain the Cyclone Management Structure and roles of individual officers • ensure all staff are aware of the location of emergency equipment and • remind staff to review the cyclone procedures on DP Intranet 	IMT IC	
Check that all equipment (generators, batteries, radios) is in good working order	CWBMS	
Check that all DP vehicles have a spare key secured in a known location for each worksite	Team Administrators	
Check that spare keys for all worksites have been secured in a known location	SLO	
Check that first aid supplies and torches are in order and restock as required	WH SPL	
Check cyclone status notification EAW message sign on archway	SLO	
Provide notice to masters, operators, owners and agents of all vessels in the Port, and those entering Port, as to their responsibilities for operations during the wet season	GMO	CYC-WI-38
Test lifting apparatus for pilot boat pontoon gangway	SMM&E	
Ensure port stakeholder list is updated and current	GMTP	
Advise East Arm, and Fort Hill Wharf tenants that they are required to secure all loose materials in readiness for the cyclone season	GMO	CYC-WI-22
Ensure Qube and LINX cyclone plans for harbour cranes are appropriate	GMO	
Advise stevedoring companies re procedures for securing of EAW ship loader during the wet season	WBMS	
Ensure that your individual work unit area is free of potential missile hazards	GMs and Managers	
Ensure this whole plan has been read so you know what to expect and how to access the information should a cyclone eventuate	All Staff	
Ensure you are aware of who your CWBMS is for your location and make sure you have your CWBMS and General Manager's contact details	All Staff	
Ensure personal contact details are correct in Chris21 or ADP as appropriate	All Staff	
Update early warning subscription register	CEO EA	

STAGE ONE – ADVICE

In line with standard practice for emergency management, DP undertake activities for the prevention of, preparation for, response to, and recovery from the specific risks associated with a near or direct impact from a cyclone. To mitigate the risk of injury to people, damage to the port infrastructure and operations and/or financial loss, the following checklists are used as an aide-memoire for the preparation, response, and recovery stages.

Certain tasks are deemed to be mandatory (M) and must be completed as applicable to each stage of a cyclone event.

Other tasks are deemed to be non-mandatory (*), taking into consideration the assessment of a cyclones likely path, development and potential impact on the port's infrastructure and operations, the *GMO*, or designated *PMO*, in consultation with the DP Crisis Management Team may determine and approve that non-mandatory tasks may be delayed or not undertaken.

TASK		RESPONSIBLE OFFICER	APPLICABLE SOP
M	Re-confirm the following to General Managers: <ul style="list-style-type: none"> Spare keys secured in a central location for vehicles and worksite access doors Equipment (radios, torches, generators) is in order Office equipment can be stowed safely and that loose items are capable of being secured	CWBMS	
M	Ensure staff complete preliminary preparations to store non-essential office equipment and secure loose items	CWBMS	
M	Ensure you have contact details for your supervisor	All Staff	
M	Provide an up-to-date list of employees' names, addresses and phone numbers to your CWBMS	HR Specialist	
M	Instruct all vessels in the harbour that a cyclone watch has been declared and that all vessels are required to declare themselves on four hour's readiness	GMO/HCOs	CYC-WI-34
M	Warning notice for small boat owners in SBA activated	GMO	CYC-WI-35
M	Activate the cyclone watch notification message on the EAW archway on direction by the CEO or GMO	SLO	CYC-WI-19
M	Maintain normal gatehouse operations	SLO	
M	Commence preparations to secure gatehouses at EAW & FHW	SLO	
*	Notify contractor of need to remove the awnings from the passenger transfer area at FHW and EAW Ops building 1	SMM&E	CYC-WI-30
M	Check the security of cargo shed doors and windows	WBMS	
M	Notify shipping agents and stevedoring companies that all non-essential equipment must be secured	WBMS	CYC-WI-23
M	Request DAFF to expedite inspection of any DG's containers under Biosecurity control. If unable to clear, remove DG's containers to haul road at stockpile. This will need to be cleared by ABF due to the goods being moved outside the S15 Customs controlled area.	WBMS	
M	Meet with stakeholders to discuss anticipated severity of cyclone and to determine actions in respect of stacked containers, refrigerated containers, DG's, Mobile Harbour Cranes, tugs and pilot boats and any other relevant factors	GMO	

M	Engage with DLNG and ILNG to discuss the anticipated cyclone severity and what actions to take for ships alongside, ships due to arrive and the risk of tank-top events. In particular any Membrane LNGC's in port or arriving.	GMO	
M	Ensure pilot boats are fuelled and ready for securing at short notice	PBM's	
*	Prepare to secure FHW Pilot boat pontoon. Only lift gangway if necessary	PB Master WS	PIL-SWI-61
M	Check security of the ship loader belting	MM	
*	Ensure that all fleet vehicles have been fuelled	MM	
M	Ensure bulk diesel tanks are full	MM	
M	Ensure oil, water and tyres are checked on all plant	MM	
M	Ensure all generators at all sites are fuelled and operational. Confirm that all duplicate keys are held in a central and secure location for worksite access doors, DP vehicles and security cabinets.	MM CWBMS	
M	Initiate ICT preparations	MTS	CYC-WI-39
*	Remove Yokohama fenders from water and secure appropriately	SMM&E	CYC-WI-28
M	Brief RHM on DP cyclone response status	GMO	
M	Carry out inspection of the SBA, advise owner/operator to remove any unattended vessel to a safe refuge.	GMO/PBM's	

STAGE TWO – WATCH AND ACT

	TASK	RESPONSIBLE OFFICER	APPLICABLE SOP
M	Advise General Managers that a cyclone Watch and Act has been declared	CEO	
M	Advise all staff and visitors that a cyclone Watch and Act has been issued	CEO	
M	Activate the cyclone warning notification message on the EAW archway on direction by the CEO or GMO	SLO	CYC-WI-20
M	Instruct agents of all vessels in the harbour that a cyclone warning has been declared and that all vessels are required to declare themselves on one hour's readiness	GMO/HCO	CYC-WI-37
M	GMO will consider closing the Port having risk assessed the situation in consultation with CMT and stakeholders. No vessels will be allowed to remain at DP anchorages or berths if the port is closed	GMO	
*	Instruct all vessels SCHEDULED to enter the harbour within the next 24 hours that they will have to make alternative arrangements until the cyclone threat has eased.	GMO/HCO	CYC-WI-36
*	Remove the awnings from the passenger transfer area at FHW and EAW Ops building 1 if this has not been done earlier	SMM&E	
M	Secure EAW and FHW plant and equipment	SMM&E	CYC-WI-32
M	Secure ship loader and belting at EAW	WBMS/PLO	CYC-WI-18
*	Secure environmental monitoring equipment	EM	CYC-WI-27
*	Secure workspaces	All staff	
*	Undertake ICT shutdown procedures	All staff	CYC-WI-39
*	Ensure that external work areas have been cleaned up and areas are free of potential missiles	CWBMS	
M	Assist General Managers to ensure that vehicles are fully fuelled, and spare keys secured	Team Administrators	
*	Secure the cattle races	WBMS/PLO	
M	Re-check that all loose material has been secured or removed from EAW	WBMS/PLO	
*	Lash and secure all cargo and equipment remaining on the wharves	WBMS/PLO	
M	Instruct stevedores to reduce windage impact on container stacks	WBMS	
M	Cease access to EAW by road trains and other vehicles bringing cargo on site. The vehicles need to be staged in an area outside the EAW entry	WBMS	
M	Re-check all generators are fuelled and operational	MM	
M	Re-check all emergency communication equipment is operational and back up batteries are fully charged	MM	
M	Ensure the pilot boats are fully fuelled and ready for immediate use. One pilot boat should be relocated into Frances Bay Marina to reduce the risk on the Harbour.	PB Master	
M	Check that all communications equipment is operational	Line Managers	
*	Supervise clean-up of work areas including store areas	Line Managers	

M	Prepare to secure FHW pilot boat pontoon & lift gangway if necessary.	Pilot boat masters and WS	PIL-SWI-61
*	Remove Yokohama fenders from water and secure appropriately if not done earlier	SMM&E	CYC-WI-28
M	Brief RHM on DP cyclone response status	GMO	

STAGE THREE – EMERGENCY WARNING

TASK		RESPONSIBLE OFFICER	APPLICABLE SOP
*	GMO will reconsider closing the Port having risk assessed the situation in consultation with stakeholders. No vessels will be allowed to remain at DP anchorages or berths if the port is closed	GMO	CYC-WI-24
*	If the port is closed, instruct all vessels except those in the mooring basin, or those necessary for duty, to clear for sea or seek refuge in the designated cyclone refuge areas	GMO/HCO	
M	Notify all visiting contractors and vendors	CEO	
M	CEO may issue notice to non-essential staff to leave the work site	CEO	
M	Activate the cyclone warning (12 hr) notification message on the EAW archway on direction by the CEO or GMO OR, if the port is closed Activate the Port Closed notification message on the EAW archway on direction by the CEO or GMO	SLO	CYC-WI-21
M	Secure cruise ship terminal and FHW	SLO	CYC-WI-29
M	Secure all gatehouses at EAW and FHW	SLO	CYC-WI-25
M	Secure pilot vessels in the mooring basin – 3m tide dependent	PB Master	
M	Isolate the chlorinator and inform EAW tenants and DP employees accordingly	SMM&E	
M	Close all water valves on FHW and EAW	SMM&E	
M	Isolate backup power generator as required	SMM&E	CYC-WI-26
M	Close main water valves adjacent to wharf abutments at EAW	WBMS	
M	Ensure you have your CWBMS and General Manager's contact details	All staff	
M	Secure all sheds and offices on EAW	WBMS/PLO	
M	Isolate power to ship loader	WBMS	
M	Await instructions from the CEO or delegate	All staff	
M	Brief RHM on DP cyclone response status	GMO	
M	An official announcement will be made by the Northern Territory Emergency Services advising the public to seek shelter.	All Staff	
*	If the port is closed and it is assessed that personnel should leave the workplace, the CEO will instruct all personnel to leave the workplace. Please Note: All staff must check in with their General Manager before leaving.	All Staff	
M	All staff will leave the worksite if and immediately seek shelter when directed by the CEO or IMT IC.	All Staff	

CYCLONE PAST DARWIN

Teams meeting/phone hook up with GMO and Leadership team to determine initial site inspection team.

When All Clear Pending is announced by the CEO or GMO, the following DP personnel 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.

The following key personnel will report to their allocated work area as set out below:	
CMT	All members of the CMT are to report to the DP Administration Building
CWBMSs	Report to their areas, ascertain status of facilities under their control and report to the CMT
SLO	Normal place of work
PLO	Rostered Port Landside Officers to report to their allocated workplace
HCO	Duty HCOs to report to Harbour Control Centre
WBMS	Normal place of work
MM	Normal place of work
Marine Pilots	Pilots rostered on should report to the DP Administration Building
Pilot Boat Crew	Rostered pilot boat master and deckhand should report to FHW. Off duty pilot boat masters and deckhands should make themselves available to operate other floating plant
SMLO&S	Normal place of work
EM	Normal place of work
HSE	Normal place of work

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

Employees who are unable to return to work due to their personal circumstances (e.g. school remains closed, local flooding prevents travel, severe damage to an employee's residence requiring immediate attention), may, with GM approval, take appropriate leave.

Reporting for work should be as soon as possible after arrangements have been made for the accommodation of dependants and the safeguarding of property.

Other staff will be advised to report for work at the earliest practicable time.

The *GMO* will liaise with Emergency Services and *NTG* Disaster Committees as required.

General Managers and Senior Managers are to contact staff and report to the *CMT* on the availability of personnel and expectation of level of service available in the short term.

A central debrief is to be conducted by the *CMT* as soon as practical to develop a recovery plan (refer Post Event Recovery).

The *IMT IC* is to advise the *CEO* of the current operational situation and provide formal report as soon as possible.

POST EVENT RECOVERY

After due consideration and consultation, the *CEO* may issue an 'all clear' and *CMT* members to liaise with staff to return to work. As soon as possible after arrangements have been made for the accommodation of dependants and the safeguarding of property, all staff are required to report back at work during normal business hours.

DP has significant responsibilities to its stakeholders, and it is important that normal business operations be restored as quickly as possible.

Staff members who have not been contacted by their *GM* or *CWBMS* after the Cyclone All Clear has been declared are to contact their *GM* or *CWBMS* as soon as possible.

If it is evident that Darwin has suffered considerable damage because of the cyclone, only key DP employees will be recalled as necessary. If in doubt, contact your *GM* or *CWBMS*.

IMT IC (under CEO direction)

1. Maintain liaison with *RHM* to coordinate any specific requirements for Darwin Port. *GMO* to brief *RHM* on port status.

General Managers

1. Check status of staff, report staffing position to *IMT IC* and advise details of key personnel present.
2. Check your unit's operational capability and level of damage, including condition of equipment and report to the *IMT IC*.
3. Identify what manual processes need to be implemented and ensure staff have effective procedures for recording and processing all work.
4. Ensure all vehicles/equipment available for use have required priority and ensure that all vehicle/equipment allocations are recorded.
5. Keep the *IMT IC* informed on the operational capacity of your section and additional resources/private sector contractors etc. required to effect repairs.

Cyclone Worksite Managers

1. Convene meeting with available General Managers, assess damage, devise recovery strategy, and re-establish priorities.
2. Prepare status reports for all buildings and operational areas including details of staffing and report to General Manager.
3. Continue to liaise with business units and facilitate recovery arrangements.

Port Infrastructure

The priority is to assess the status of all Darwin Port infrastructure. The severity of the cyclone and its consequences will influence the decision to reopen the port will include an assessment of:

- The integrity of the shipping channels including any changes to channel depths;

- The integrity of navigation aids;
- The loss of any vessels, containers or other large objects that could pose a navigation hazard; and
- Damage to Port infrastructure that affects the ability to moor and service vessels safely.

Depending on the severity of the cyclone event, the assessment may be done using in-house resources or may be tasked to external contractors.

STAND DOWN

The Northern Territory Government will declare stand down once it is considered that no further counter disaster measures are necessary. Declaration of stand down is followed by a series of formal debrief meetings aimed at improving response plans and procedures. The DP debrief will be coordinated by the *IMT IC*.

APPENDIX 1 – Contact Details

CATEGORY	COMPANY	NAME	POSITION	MOBILE	OFFICE	EMAIL
Aviation	Air Services Australia/Canberra				1300 301 120 02 6268 5555	
Aviation	Airborne Solutions			0429 775 555		info@airbornesolutions.com.au
	Amateur Fishermen's Association of the NT (AFANT)	David Ciaravolo	CEO	0415 471 600	08 8945 6455	office@afant.com.au
DMSB	ASCO	Kylie Arnel John Cowan	DMSB Manager DWSB Manager	0418 533 048 0448 148 957	08 8985 9506	Kylie.arnel@ascoworld.com John.cowan@ascoworld.com
ABF	Australian Border Force		Switchboard Marine Logistics	AH -1300 558 099 0419 515 859	02 6264 1111 08 8998 6211	RCU_NC@abf.gov.au marinelogistics@homeaffairs.gov.au
ABF	Australian Border Force Marine Logistics Darwin		Marine Logistics	0419 515 859	08 8998 6211	act.op.command@abf.gov.au marinelogistics@homeaffairs.gov.au
Commonwealth Gov	Australian Maritime Safety Authority (AMSA)	Joint Rescue Coordination Centre	24H Contact	1800 641 792	02 6230 6811	rccaus@amsa.gov.au
APPEA	Australian Petroleum Production & Exploration Association		Director NT		02 6247 0960	appea@appea.com.au
Commonwealth Gov	Australian Transport Safety Bureau (ATSB)		24/7 Aviation, Marine, Rail Accident/Incident Notifications		1800 011 034	atsbinfo@atsb.gov.au
Misc	Baker Hughes	Kevin Smith	Lead Onsite Service Specialist	0419 817 613	08 8943 5603	Kevin.j.smith@bakerhughes.com
Marine Service Provider	Auriga Logistics	Johan Vanloenhout	Vessel Manager	0428 565 376	08 8947 4960	
Marina	Bayview Marina	Ludbrook Services	Marina Manager and Lockmaster	0477 661 130		marinamanager@bayviewmarina.com.au

Marine Service Provider	Bhagwan Marine	Luke Morand	Regional Manager	0407 664 266	08 8982 0600	luke.morand@bhagwanmarine.com
BOM	Bureau of Meteorology (BOM)	Shenagh Gamble	Hazard Preparedness and Response (HPR) Manager, NT	0447 738 138	08 8920 3872	DSS_HPR_NorthWest_NT_Mgr@bom.gov.au
Emergency Svs	Bushfires				08 8922 0844	BushfiresNT.Compliance@nt.gov.au
Fuel Provider	Chevron	Andrew Swart	Darwin Operations Manager	0448 886 939	08 8984 0840	andrew.swart@chevron.com.au
Aviation	Civil Aviation Safety Authority (CASA)		Switchboard		131 757	oar@casa.gov.au
LNG Terminal	Santos	Neel Sud	Marine Superintendent	0409029173		Neel.sud@santos.com
ADF	Coonawarra Port Services (Navy)	Lieutenant Commander Thomas	Port Services Manager – North Navy Harbour Master	0498 501 961		mittchell.thomas@defence.gov.au
Coroner	Office of the Coroner	Alana Carter	Principal Coroner's Clerk	0409 084 204	08 8999 7770	alana.carter@nt.gov.au nt.coroner@nt.gov.au
Marina	Cullen Bay Marina Manager	Mike van der Ley	General Manager Lockmaster (Radio CH - VHF 11)	0499 177 323 0419 421 363	08 8942 0400	manager@cullenbaymarina.com.au estate.manager@cullenbaymarina.com.au admin@cullenbaymarina.com.au
Local Gov	Darwin City Council	James Ryan	Manager, Emergency Planning	0456 841 939	08 8930 0640	Emergency.Management@darwin.nt.gov.au
Commercial Divers	Darwin Dive Co.	Drew Pearce	Manager	0428 438 527		drew@darwindiveco.com
Darwin Port	Darwin Port Board	Terry O'Connor	Board Member	0429 670 385		Terry.oconnor@landbridgegroup.com.au
Darwin Port	Darwin Port Board	Ben Cheng	Board Member	0481 195 986	08 8919 0813	ben.cheng@darwinport.com.au
Darwin Port	Darwin Port Operations	Alastair Black	Engineering Project Manager	0404 110 174	08 8919 0883	alastair.black@darwinport.com.au
Darwin Port	Darwin Port Operations	Carleen Mitchell	Executive/Communications Specialist	0430 548 743	08 8919 0881	carleen.mitchell@darwinport.com.au
Darwin Port	Darwin Port Operations	Kristy Bellas	Head of Technology and Systems	0438 415 189	08 8919 0808	kristy.bellas@darwinport.com.au
Darwin Port	Darwin Port Operations	Peter Dummett	Chief Executive Officer	0401 117 056	08 8919 0880	peter.dummett@darwinport.com.au

Darwin Port	Darwin Port Operations	David Cairns	Wharf Manager	0407 319 706	08 8919 0858	david.cairns@darwinport.com.au
Darwin Port	Darwin Port Operations	EAW Gatehouse	Duty Landside Officer	0401 110 320	08 8919 0816	security@darwinport.com.au
Darwin Port	Darwin Port Operations	David Power	Senior Manager Marine Operations	0417 867 972	08 8919 0801	david.power@darwinport.com.au
Darwin Port	Darwin Port Operations	Harbour Control	Duty Control Tower Officer		08 8919 0821	harbourcontrol@darwinport.com.au
Darwin Port	Darwin Port Operations	Ian Niblock	General Manager, Operations	0419 840 041	08 8919 0850	ian.niblock@darwinport.com.au
Darwin Port	Darwin Port Operations	Jack Lawrence	Superintendent, Landside Operations	0401 117 052	08 8919 0819	jack.lawrence@darwinport.com.au
Darwin Port	Darwin Port Operations	Jeremy Wu	IT Systems Manager	0401 117 050	08 8919 0810	jeremy.wu@darwinport.com.au
Darwin Port	Darwin Port Operations	Landside Operations	Duty Landside Officer	0408 465 063	08 89190856	cargo@darwinport.com.au
Darwin Port	Darwin Port Operations	Mauro Cammarano	Manager, Maintenance	0448 694 534	08 8919 0832	mauro.cammarano@darwinport.com.au
Darwin Port	Darwin Port Operations	Vacant	General Manager, Trade & Property	0401 117 056	08 8919 0880	peter.dummett@darwinport.com.au
Darwin Port	Darwin Port Operations	Ryan Akers	Senior Manager, Maintenance	0408 270 919	08 8919 0830	ryan.akers@darwinport.com.au
Darwin Port	Darwin Port Operations	Rhys Jones	General Manager, Engineering	0400 872 554	08 8919 0805	rhys.jones@darwinport.com.au
Darwin Port	Darwin Port Operations	Sarah-Jane Archdale	General Manager, Legal	0436 014 587	08 8919 0823	sarahjane.archdale@darwinport.com.au
Darwin Port	Darwin Port Operations	Mauro Cammarano	Manager, Wharf Services	0448 694 534	08 8919 0832	mauro.cammarano@darwinport.com.au
Darwin Port	Darwin Port Operations	Wayne Bodkin	Senior Manager, Landside Operations & Safety	0448 658 652	08 8919 0886	wayne.bodkin@darwinport.com.au
Medical	Darwin Private Hospital				08 8920 6011	
Recreation Marine	Darwin Sailing Club	Lee Harris	General Manager	0420 636 401	08 8981 1700	gm@dwnsail.com.au

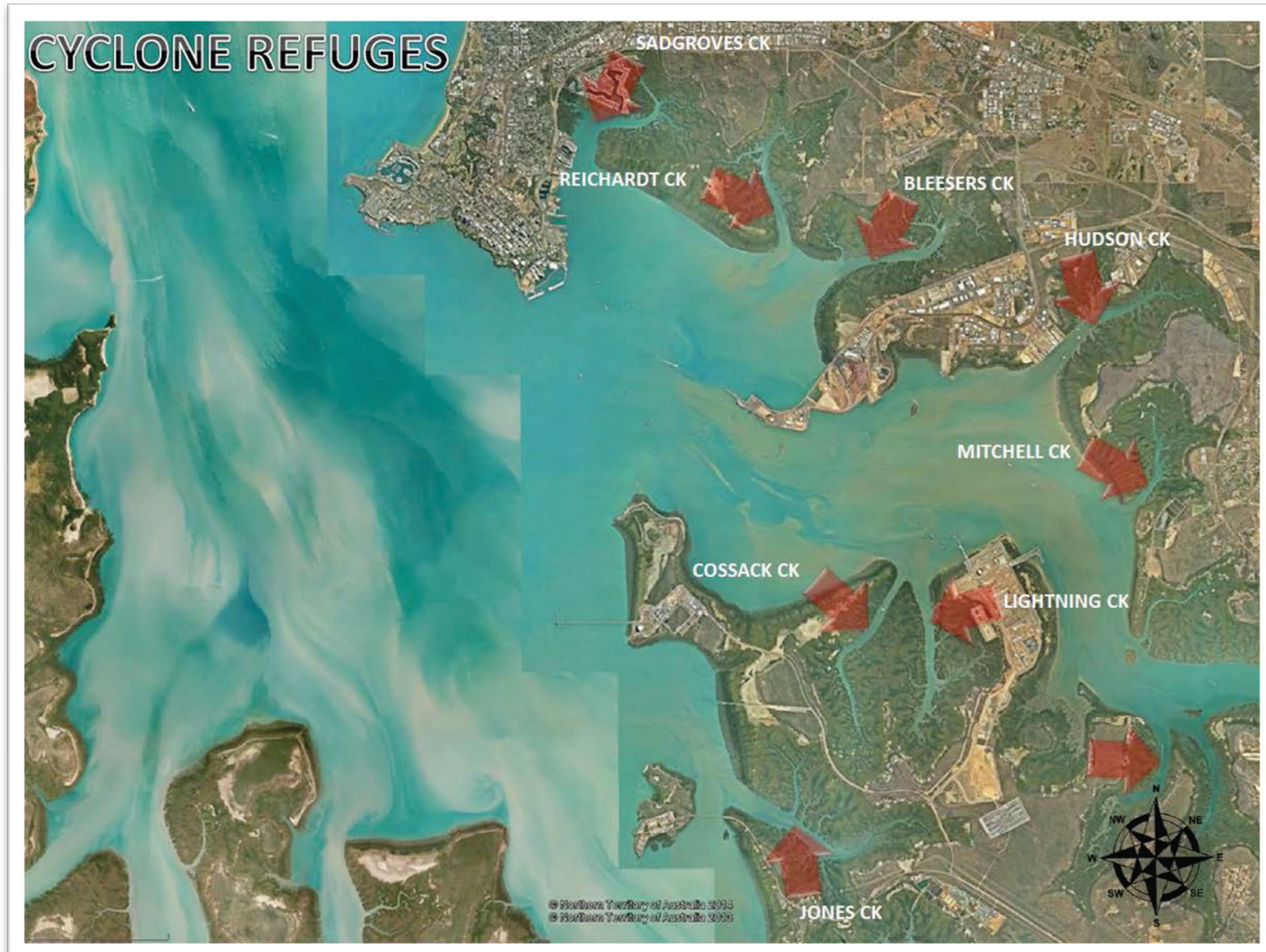
Recreation Marine	Darwin Trailer Boat Club				08 8981 6749	admin@dtbc.com.au
Marine Service Provider	Darwin Tug & Line	Peter West	General Manager	0417 886 048		info@dtls.com.au
NT Government	Darwin Waterfront	Alana Madden Jim Bannister	Business Development Manager- SHW Operations Manager - DWC	0417 169 553 0419 250 593	08 8999 5155	alana.madden@nt.gov.au james.bannister@nt.gov.au
NT Government	Department of Infrastructure, Planning and Logistics	Cindy McDonald Marine Safety	Executive Director, Transport Safety & Services	0488 936 480 0408 813 735	08 8924 7598 08 8924 7100	cindy-lee.mcdonald@nt.gov.au
NT Government	Department of Industry, Tourism & Trade - Mining & Energy	Louis Gomatos	Senior Director Petroleum Operations	0447 046 435	08 8999 6030	louis.gomatos@nt.gov.au
Recreation Marine	Dinah Beach Cruising Yacht Club	Wendy McCallum	General Manager	0499 346 242	08 8981 7816	manager@dbcya.com.au
Marine Service Provider	DOF Subsea	Carole Cartledge	Base Manager DOF Asia Pacific Team Duty Manager	0437 158 614 0419 920 895	08 9278 8779	carole.cartledge@dofsubsea.com
NT Government	Emergency Services (Police/Fire/Amb)		Emergency non-Emergency		000 - 112 from mobile 131 444	
Marina	Frances Bay Marina (Duck Pond) Lock	Angus Armstrong Greg Hocking Ana McKay FBMB After Hours Small Ship Scheduler	Manager Supervisor Business Officer Duty Call Out	0438 924 274 0428 207 612 0427 910 220	08 8924 7509 08 8922 0617 08 8922 0617	angus.armstrong@nt.gov.au gregory.hocking@nt.gov.au FBMB.DIPL@nt.gov.au smallships.scheduler@nt.gov.au
Environmental Svs	Global Environmental Modelling Systems	Dr Graeme D Hubbert	Managing Director	0418 366 336	03 8683 5405	graeme.hubbert@gemms.com.au
Environmental Svs	GSR	Gavin Rahlf	Managing Director	0459 995 013	08 8947 5457	grahlf@ggris.com.au

Marine Service Provider	Hall Contracting	Mark McCurd	General Manager	0417 240 407		markmccurdy@hallcontracting.com.au
NT Government	Harbourmaster	Anil Chadha Jon Abbey	Regional Harbour Master Deputy Regional Harbour Master	0428 181 480 0417 549 023	08 8999 3867 08 8924 7101	Anil.chadha@nt.gov.au jon.abbey@nt.gov.au
LNG Terminal	INPEX	Jamie Collins	Terminal Ops Coordinator LNG1 Panel – LNG Loading (24Hr) LNG2 Panel -LPG Loading (24Hr) Utilities Panel – C. Loading (24Hr)	0421 555 291	8983 8110 8983 8050/8983 8051 8983 8070/8983 8071 8983 8060	jamie.collins@inpex.com.au
Transport & Logistics	Intermodal Specialised	Dave Louden			08 8944 1100	intermodalspecialised.dwnoperations@tollgroup.com
	Intertek	Richard Lewis Darryn Kissick	Branch Manager Ops Supervisor	0409 596 875 0409 898 438	08 7913 7546	richard.lewis@intertek.com darryn.kissick@intertek.com
Transport & Logistics	Linx	John Featherstone Phil Brewster	Darwin Stevedore Manager Shift Manager	0457 505 586 0418 898 164	08 8984 4701	j.featherstone@linxcc.com.au p.brewster@linxcc.com.au
NT Government	Marine Safety			0459 822 648	08 8924 7100	
Shipping Agent	Monson Offshore	Dion Robinson Sarah Quinn	Senior Shipping Operations Shipping Operations	0448 850 006 0408 046 399	08 8947 2570	Darwin@monsonoffshore.com.au
NT Government	NT Emergency Services (NTES)	Mark Cunnington / Keith Hutton	Regional Manager Duty Officer	0427 003 857 0408 896 245	08 8922 3638 08 8922 3630	mark.cunnington@pfes.nt.gov.au keith.hutton@pfes.nt.gov.au territorydutyofficer.ntes@pfes.nt.gov.au
Environmental Svs	NT EPA	On-call environmental officer	On-call environmental officer		8924 4218 1800 064 567 (hotline)	pollution@nt.gov.au
Emergency Svs	NT Fire & Rescue		Watch Commander	0427 363 187	08 8946 4109	firewatchcommanders@pfes.nt.gov.au
Emergency Svs	NT Police				08 8999 0800	
Environmental Svs	NTRS	Caitlyn Deigan	Operations Supervisor	0477 266 020	08 8984 1500	operations@ntrs.com.au
Shipping	OM Manganese Ltd	Craig Wright	Port Supervisor	0418 450 326	08 8962 0201	craig.wright@ommanganese.com.au
NT Government	Parks and Wildlife NT	Kristen Hay	Director Wildlife Operations	0448 482 561	08 8995 5038	kristen.hay@nt.gov.au
Poisons Information	Poisons Information Centre				13 11 26	
NT Government	Pollution Hotline		(24x7)		1800 064 567	pollution@nt.gov.au

Transport & Logistics	Qube	Scott Sims	Operations Manager	0401 542 089	08 8922 2300	scott.sims@qube.com.au
Transport & Logistics	Rentco	Jarrold Dennis	Branch Manager	0427 158 053	08 8947 4187	jarrod.dennis@rentco.com.au
Medical	Royal Darwin Hospital				08 8922 8888	
Marine Service Provider	Sealink NT (Mandorah Ferry)	Henry Masel	Operations Manager	0429 105 301	1300 130 679	henry.masel@sealink.com.au
Marine Service Provider	Seaswift	Keith De Saram	Operations Support	0456 857 157	08 8935 2414	keithd@seaswift.com.au
Marine Service Provider	Serco Defence	Julie Latimore	Operations Manager	0417 073 879	0411 073 880	dmss.coonawarra@serco-ap.com
Marine Service Provider	Shorelands	Meegan Chandler Richard Chandler	Operations Manager Barge Manager	0475 743 471 0477 878 128	08 8932 3344	mchandler@shorelandsgroup.com.au supervisor@shorebarge.com.au
Emergency Svs	St Johns Ambulance		General Enquiries		08 8922 6200	-
Marine Service Provider	Svitzer Tugs	Tom Abraham	Port Manager - Darwin	0447 673 683	1800 451 129	tom.abraham@svitzer.com
Marina	Tipperary Waters Marina	Dani Matthews	Lockmaster	0407 075 077		tipperarywatersmarina@bigpond.com
Transport & Logistics	Toll Remote Logistics	Catherine Byrne	Port Manager On-Call contact	0437 305 889 0429 380 850		Catherine.byrne@tollgroup.com
Environmental Svs	Cleanaway Pty Ltd		Emergency Spills Hotline		08 8935 1111 1800 774 557	-
Environmental Svs	Veolia Environmental	Rick Barton	Operations Manager	0427 927 723	08 8947 8947	nt.service@veolia.com
Misc.	Vopak	Shaun Stewart Scott Kernighan	Operations Manager Darwin Safety Co-Ordinator	0419 180 057 0437 839 789	08 8999 9121 08 8999 9104	shaun.stewart@vopak.com scott.kernahan@vopak.com
Environmental Svs	Cleanaway Waste Solutions				08 8947 3388 131 339	darwin.scheduling@cleanaway.com.au
Emergency Svs	Water Police				08 8922 3344 131 444	
NT Government	WorkSafe	Workplace Health & Safety	For all accident notification, general enquiries & complaints		1800 019 115	ntworksafe@nt.gov.au

Transport & Logistics	Toll Global Express	Dale Harman Travis Humm	Branch Manager PM Operations Manager	0418 307 286 0401 691 462	08 8944 1000	dale.harman@tollgroup.com travis.humm@tollgroup.com
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APPENDIX 2 Cyclone Refuges



APPENDIX 3 Darwin Port Radio Call Signs

DP VHF Marine Radio Call Signs		
CALL SIGN	TITLE / INSTALLATION	DP STAFF MEMBER
Norport 1	General Manager Operations	Capt. Ian Niblock (PMO)
Norport 2	Marine Pilot	Capt. Gulshan Rangi
Norport 3	Senior Manager Marine Operations	David Power
Norport 4	SM Landside Operations and Safety	Wayne Bodkin (PEO)
Norport 5	Shipping Scheduler	Mark Kershaw
Norport 6	Marine Pilot	Capt. Tobias Akesson
Norport 7	Spare	
Norport 8	Sup. Landside Operations	Jack Lawrence
Norport 9	Senior Manager Maintenance	Ryan Akers
Norport 10	Marine Pilot	Capt. Sadiq Haque
Norport 11	Marine Pilot	Capt. Scott Wilson
Norport 12	Marine Pilot	Capt. Ben Tan
Norport 13	Sup. Wharf & Bulk Materials	David Cairns
Norport 14	Marine Pilot	Capt. Andrew Scott
Norport 15	Marine Pilot	Spare
Norport 16	Marine Pilot	Capt. Ian Brokenshire
Norport 17	Marine Pilot	Capt. Chris Cridland
Norport 18	Marine Pilot	Capt. Luca Ferro
Norport 19	Spare	
Norport 20	East Arm Wharf	Duty - Port Landside Officer
Norport 21	Spare	
Darwin Harbour Control	Darwin Harbour Control	Duty - Harbour Control Officer
PV Osprey	Pilot Boat	Duty - Pilot Boat Master
Lamaroo	Pilot Boat	Duty - Pilot Boat Master

*Fort Hill Wharf Gatehouse only staffed on an as required basis.

APPENDIX 4 VHF Channels

The following are VHF radio channels used in the Port of Darwin:

Channel	Used By	Type of Use
06	Frances Bay Mooring Basin Lockmaster	Communication 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	Ship-to shore channel for vessels working on Hudson Creek
87 and 88	INPEX LNG	Bladin Point Operations
67	All Vessels	Coast Radio Darwin – Weather information Channel (0803hrs and 1803hrs)
68	Bayview Marina Lockmaster	Communications with vessels entering or leaving Bayview Marina.
72	All vessels	Ship to Ship, Customs to Quarantine
73	Yachts	Yacht racing and regattas
74	Darwin Marine Supply Base	Darwin Marine Supply Base Operations

NORTHERN TERRITORY STORM SURGE MAPPING
DARWIN AREA STORM SURGE INUNDATION for 2100

Legend:

- Storm Surge Inundation (2100 Year Return Period)
- 1m
- 2m
- 3m or more
- Topography (1:50,000)
- Water (1:50,000)
- Land (1:50,000)
- Infrastructure (1:50,000)
- Administrative Boundaries (1:50,000)
- Other Features (1:50,000)

Scale: 1:50,000

North Arrow:

Index to Darwin Region Storm Surge Maps:

Other Maps:

Notes:

This map shows the estimated extent of storm surge inundation for a 2100 year return period. The inundation is based on a worst-case scenario of a tropical cyclone making landfall at the most vulnerable point of the coastline. The inundation is not a guarantee of the actual extent of inundation, as the actual extent will depend on the specific circumstances of the event. The map is intended for general information only and should not be used for decision-making purposes.

