SUBMISSION TO THE JOINT SELECT COMMITTEE INQUIRY INTO THE INCIDENT OF 15 DECEMBER 2010

Joint Select Committee on the Christmas Island Tragedy

Territories Division

Department of Regional Australia, Regional Development and Local Government

4/27/2011

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1. The Department's role in the Indian Ocean Territories

1.1 Provision of state type services

The Department is responsible for the provision of all State-type services to the non-self governing Territories of Christmas Island and the Cocos (Keeling) Islands.

Most State-type services are provided through Service Delivery Arrangements (SDAs) between the Commonwealth and Western Australian (WA) Government. The WA Government is well equipped to manage the provision of State-type services such as schools, water, sewerage and courts, with service provision directly by WA State Government Agencies (agencies) resulting in improved, efficient service delivery in the Territories. As of April 2011 there are 41 WA agencies providing services to the Commonwealth for the Territories under SDAs.

The cost of providing these services is completely funded by the Commonwealth and is cost-neutral to WA. The SDAs with the agencies are premised on the communities of Christmas Island (CI) and the Cocos (Keeling) Islands (CKI) receiving services equivalent to those of comparable mainland communities.

In addition to the SDAs, the Department also maintains 28 contracts for the provision of services in the IOT, including for port and airport management. Certain services are delivered by the Department directly, e.g. health and power services by the Indian Ocean Territories Health Service and the Indian Ocean Territories Power Authority respectively – which are business units based on the Islands. These services are managed by the IOT Administration located on Christmas Island.

1.2 Legal Arrangements

Christmas Island and the Cocos (Keeling) Islands are Territories acquired by the Commonwealth under section 122 of the Australian Constitution. The Territories were accepted by the Commonwealth through the *Christmas Island Act 1958* (Cth) (the CI Act) and the *Cocos (Keeling) Islands Act 1955* (Cth) (the CKI Act), respectively.

The current legal framework in the Territories was established by the *Territories Law Reform Act 1992* (Cth) (the Law Reform Act) which amended the definition of "Australia" in the *Acts Interpretation Act 1901* (Cth) to include Christmas Island and the Cocos (Keeling) Islands. This means that any Commonwealth legislation that applies to Australia (in a geographical sense), also applies to the Territories. However, some Commonwealth legislation may expressly and intentionally exclude the Territories.

The Law Reform Act also provided for a body of modern State laws to replace the colonial laws which operated in the Territories. This was achieved by inserting section

8A into the Christmas Island Act and the Cocos (Keeling) Island Act. Section 8A applies the laws in force in WA from time to time to the Territories. Laws applied under section 8A are subordinate Commonwealth laws.

Under the current legislation, the powers and functions contained in the applied laws are vested in the Minister with responsibility for Territories under section 8G of the Christmas Island Act and the Cocos (Keeling) Island Act. With the introduction of the *Territories Law Reform Act 2010* (Cth), section 8G now provides a vesting mechanism for powers and functions under WA laws applied in the Territories. Powers and functions are automatically vested in WA officers and authorities where an agreement with the Australian Government exists for those officers and authorities to act in the Territories under section 8H.

The *Emergency Management Act 2005* (WA) applies to both Christmas Island and the Cocos (Keeling) Islands. This Act accommodates the specific operational and governance requirements of the State of Western Australia, which do not translate well to the requirements of the Indian Ocean Territories. Specifically, the Territories legislative arrangements need to reflect the governance and inter-agency coordination arrangements on Island, with the role of the Administrator, Territory Controller and local government clearly identified. Additionally, the roles of the respective Emergency Management Committees (EMC) with respect to their authority for emergency management in the Territories and in particular the requirement that they develop a comprehensive Emergency Management Plan (EMP) and exercise and review it on an annual basis, should similarly be reflected in the legislative arrangements. The creation of an Emergency Management Ordinance is underway and will address these issues. Refer to sections 3.5 and 3.6 for more detail.

1.3   The Administrator of the Indian Ocean Territories

The position of the Administrator is established by the *Administration Ordinance 1975* (Christmas Island) and the *Administration Ordinance 1968* (Cocos Keeling Island). In recent years, one person has been appointed as Administrator for both Territories. The Administrator is appointed by the Governor-General on the advice of Federal Executive Council, and is the local representative of the Minister responsible for Territories. The primary function of the Administrator is to promote Australian Government policy.

Additional roles and responsibilities of the Administrator include:

- facilitating communication between the Administrator, the Christmas Island and Cocos Keeling Island communities and other stakeholders;

- involvement in a range of coordination and planning roles, including chairing the Health Consultative Groups, the Economic Consultative Groups and the EMC for each Territory;

- exercising powers and functions under Ordinances or delegated to the Minister for Territories under applied WA laws;

- providing hospitality to official guests on Christmas and Cocos Keeling Islands

- engagement in community events; and

- providing regular reports to the Minister responsible for Territories.

The Honourable Brian Lacy was appointed as Administrator of Christmas and Cocos Keeling Islands in October 2009 for a period of two years. As chair of the Christmas Island Emergency Management Committee (CIEMC), the Administrator provided a draft report to the Minister on 11 January 2011 concerning the local response to the SIEV 221 incident on 15 December 2010. The draft report was ratified by the EMC at its meeting on 14 January 2011. The Administrator provided the final report to the Minister on 24 January 2011. The report concluded that the response of the agencies on the islands was excellent and that the Christmas Island Emergency Management Plan was effective in operation. Further details of this report are discussed in detail under 'CI EMC Report' at section 5.3.

1.4   Indian Ocean Territories Administration

The Indian Ocean Territories Administration (IOTA) is the on-Island section of the Territories Division of Regional Australia. The IOTA is responsible for the direct delivery of some on-Island services on CI and CKI, including health and power. The IOTA employs, on behalf of the Minister for Territories, a staff of around 120 people under the *Administration Ordinance 1968* (CI) and the *Administration Ordinance 1975* (CKI), including medical and ancillary staff at the Indian Ocean Territories Health Service (IOTHS), tradespeople at the Indian Ocean Territories Power Authority and staff delivering a range of community services.

Two Departmental Australian Public Service officers are also based on Christmas Island – the Director, Indian Ocean Territories Administration (who manages the IOTA and serves as the Minister's employment delegate) and the human resources and employee relations manager.

1.5   Infrastructure projects

Infrastructure for Christmas Island was developed to support an Island population of some 1500 residents. The establishment of the Immigration Detention Centre (IDC) and subsequent increases in both IDC clients and support staff (totalling up to 3000 and 500 respectively at the peak) has strained infrastructure. The Department has spent increased amounts of resources, time and energy on improving infrastructure and services on Christmas Island. Since December 2009, the Commonwealth Government has funded $97.3 million worth of additional infrastructure and services to support the IDC, including upgrading water and waste water, power, waste management, housing, community policing, education, health and air services.

2. The Immigration Detention Centre - Inter agency relationships

2.1 Setting up of the Immigration Detention Centre

Construction of the Christmas Island Immigration Detention Centre (CI IDC) at North West Point began in February 2005 and was completed in late 2007. Following the completion of 'fit-for-purpose' works, the CI IDC was handed over from the Department of Finance to the Department of Immigration and Citizenship (DIAC) on 7 April 2008.

On 19 December 2008, the Minister for Immigration and Citizenship approved the opening of the CI IDC to accommodate single adult male clients. This freed up capacity at the Construction Camp facility, and allowed it to be used to accommodate children, women, family groups and vulnerable clients. The Phosphate Hill site has also remained available, with Bravo compound providing accommodation for single adult males, and Alpha and Charlie compounds providing accommodation for women and families.

Overall operational capacity for all facilities on Christmas Island is 744 beds, with a contingency accommodation capacity of 1744 beds. Over time the number of clients on Christmas Island has fluctuated. The highest number of clients recorded across all facilities was 3052 clients on 2 December 2010.

Since September 2009 DIAC has transferred irregular maritime arrival clients to suitable accommodation on the mainland to ease congestion on Christmas Island. Vulnerable clients, such as unaccompanied minors and families with children, have also been transferred to the mainland because of the circumstances of their case, and to access medical and other specialised services not as readily available on Christmas Island.

2.2 General liaison processes

The Territories Division within the Department consists of three separate offices, located in Canberra, Perth and Christmas Island. These sections operate on different time zones and within different operating environments. To ensure consistency of business across the Division, regular meetings occur at section head level on a weekly basis, along with branch level meetings on a monthly basis and divisional meetings on a fortnightly basis. There is also daily informal communication. This ensures consistency of information and output across the sections.

The working relationships among Commonwealth agency staff based on Christmas Island are strong and demonstrably effective. Since early 2010 the Administrator has convened local agency heads weekly as the Christmas Island Inter-Agency Coordinating Committee (CI-ICC) to deal with a standing agenda directed to sharing information and coordinating effort around emerging issues.

The role of the CI-ICC is to enhance interagency coordination arrangements, to consider resource requirements for joint operations and to prepare for major incidents. The CI-ICC contributes to and informs the CI Emergency Management Committee and the CI Emergency Management Executive Committee.

Other mechanisms used for communication with Christmas Island and Cocos Keeling Island communities include the local newsletters - the Islander (on Christmas Island) and the Atoll (on Cocos (Keeling) Islands) - as well as Community Bulletins and newsletters issued by the Administrator or the Department from time to time, as issues requiring community attention emerge.

2.3   The process of offloading asylum seekers

The offloading of asylum seekers from Navy and Customs vessels is a matter for Customs and Border Protection (Customs) and the Royal Australian Navy in consultation with DIAC and the Harbourmaster. The Port is under the control of the Harbourmaster. The Port is managed by Patrick Ports Pty Ltd under contract to the Department. The Harbourmaster is employed by the contractor. Movements of all vessels at the port at Flying Fish Cove are under the Harbourmaster's control and he is able to close the port or reduce access, generally because of bad weather.

Customs and Navy vessels moor off Flying Fish Cove. The Department's barges transport 15 people per trip between the vessel and the wharf located in Flying Fish Cove. The barge is raised and lowered to the wharf using a crane. Once on the wharf, Customs passes the asylum seekers into DIAC custody.

2.4   Indian Ocean Territories Health Service (IOTHS)

The Department provides health services directly to IOT communities through its IOTHS which operates a 24 hour 8 bed hospital on Christmas Island and clinics on Home and West Islands in Cocos (Keeling) Islands. The IOTHS is funded by the Department, with DIAC reimbursing costs of services for its clients.

The range and quality of IOTHS services compares very favourably to those available in similarly sized communities, as a means to address remoteness. IOTHS provides general practitioner, trauma, in-patient, dental, pathology, X-ray, and community nursing services. Visiting specialists provide specialist services. The IOTHS organises medical evacuations to Perth if required. St John's Ambulance runs the ambulance service.

IOTHS provides some specific health services for asylum seekers in immigration detention on Christmas Island, including an initial health screening on arrival with X-rays, all in-patient care including trauma management and specialist torture and trauma counselling when needed. Immigration activity on CI has had a significant impact on IOT health services provision and IOTHS has assisted DIAC's health services provider, the International Health and Medical Service (IHMS), to meet the demand. Existing services, particularly pathology, X-rays and in-patient care have increased and new services such as torture and trauma counselling have been introduced as part of the range of available health services.

IOTHS also provides any outpatient care, including for asylum seekers that may be required, whilst IHMS looks after patients within DIAC operated facilities. The IOTHS External Medical Emergency Response plan is activated when a serious incident resulting in casualties has occurred. IOTHS resources are deployed to provide triage and

appropriate care to the injured in those situations. The CI EMP is activated at this time which allows for inter-agency support from Police, State Emergency Services and the Shire Council.

2.5 Airport and flight arrangements

The Department engaged Virgin Blue in April 2010 to provide airline services to the IOT from Perth for a period of three years with options to extend. The Commonwealth underwrites the provision of air services to the Territories based on the number of passenger seats booked. The services currently consist of three flights a week from Perth to both Christmas Island and Cocos (Keeling) Islands. A separate return Perth to Christmas Island service operates on Thursdays. The Friday service has freight prioritised on the Perth to Cocos (Keeling) Island sector with the aim of fulfilling the freight requirements for Cocos (Keeling) Islands. The Virgin Blue service has been running very successfully since it commenced in April 2010.

A dedicated fortnightly Air Freight service using a Boeing 737 between Perth and Christmas Island is being trialled until June 2011. The service is operated by Toll Air Express.

A Malaysian Airlines charter service operates a weekly flight to Christmas Island from Kuala Lumpur carrying passengers and freight.

2.6 Housing

In May 2010 the Government announced funding over three years, commencing in 2010-11, to construct approximately 40 new dwellings to alleviate the current housing shortage on Christmas Island. The project will primarily house government staff, thus relieving pressure on the private rental market and tourism accommodation. This will be undertaken in three stages, with the first stage comprising approximately 15 dwellings having received formal approval from the Public Works Committee to proceed as medium work. The second and third stages of the project are expected to go before the Public Works Committee in the second half of the next financial year. The last ten dwellings (stage three) are intended as public housing. The Public Works Committee intends to visit the IOT in June this year to view all current infrastructure projects.

DIAC is responsible for housing its own staff. The Department of Regional Australia has facilitated DIAC's access to Poon Saan Units and the Christmas Island Resort.

3. Emergency Management

3.1 Emergency Management responsibilities

The AFP is responsible for emergency response, including search and rescue on Island. The AFP carries out this role as part of their community policing responsibilities which they deliver under contract to the Department. Emergency response is coordinated by

the Territory Controller, who is the senior AFP Officer in Charge on-Island. Response capabilities include:

- The Department funds six AFP officer positions on Christmas Island as part of the Community Policing Team. The Department funds an additional four locally engaged special constables. The AFP also undertakes national policing functions regarding immigration and people smuggling. These components are not managed or funded by the Department.

- Volunteer Fire and Emergency Services units exist in both Territories. Both units are well trained and equipped and perform a similar role to volunteer fire and SES units on the mainland. The WA Fire and Emergency Services Authority (FESA), under an SDA, provides training and when requested, operational support.

- The IOTHS provides emergency medical treatment. Refer to section 2.4 for more information.

- St John's Ambulance supports the operation of an ambulance service on Christmas Island, which is funded through the IOTHS. The service is operated by volunteers and is equipped with a modern, intensive-care ambulance and an all terrain drive ambulance.

- The AFP operates the MV *Colin Winchester*, a Leisure Cat. This vessel is of the same vessel class as the rest of the national AFP fleet. The Colin Winchester was purchased by the Department of Regional Australia in December 2007, and remains in our ownership. It is managed and operated by the AFP as part of its community policing agreement with the Department of Regional Australia.

- A Volunteer Marine Rescue (VMR) unit operates on Christmas Island. The unit has access to a rescue boat, the *Sea Eye*, purchased by the Department and provides training (through WA FESA support) and radio monitoring for local recreational boaters. VMR volunteers can also use their own vessels for rescue, under indemnities and on a cost recovery basis. VMR receives funding support from the Department.

- Vessels belonging to the Department, the port and Parks Australia can also be used for rescues at sea, subject to the vessel being operationally suitable.

- The local Shire Council maintains heavy equipment and manpower that is available in the event of an emergency. The Shire also has a role in promoting community involvement in emergency management and ensuring local properties are prepared for events such as cyclones.

- Australian Government support for emergencies is coordinated by Emergency Management Australia (EMA). If needed, a request for assistance would be made by the Administrator, in consultation with the Territory Controller. This assistance is provided under the auspices of the national COMDISPLAN.

- Christmas Island airport complies with the relevant statutory requirements for emergency plans and is audited by the Civil Aviation Safety Authority. The airport does not have, nor is it required to have, an airport fire

and rescue service. The emergency plan relies on activating existing community fire and emergency services. The plan is tested regularly. The threshold for requiring an airport fire and rescue service is 350,000 passenger movements per year. The actual number of passenger movements is approximately 10,000. The responsibility for providing an airport fire and rescue service, if required, rests with Air Services Australia.

3.2 Service Delivery Arrangement with the Western Australian Fire and Emergency Services Authority (WA FESA)

The Department funds WA FESA through a Service Delivery Arrangement to provide a number of services on CI including:

Community Safety/Emergency Prevention

- Conducting community awareness programs about the hazards of natural disasters;

- Assisting with prevention and preparedness programs and measures to mitigate risks from these hazards, including support for school safety education programs;

- Vetting of building plans, inspection of buildings and advice on fire safety in commercial and industrial structures and private dwellings.

Emergency Preparedness

- Competency based training provided for volunteers to ensure their ability to respond to emergency incidents and natural disasters and airport emergencies within available resources and equipment provided by the Commonwealth for airport emergency response procedures;

- Leadership training to volunteer leaders;

- Skills maintenance training and provision of resources and equipment to respond to or assist with listed hazards and risks: fires, hazardous materials incidents, cyclones, storms, land and air searches, road accident and other emergency rescues, marine searches and rescues, vertical/cliff rescue, rock fall, earthquakes and tsunamis.

- Providing resources, equipment, personal protective equipment, to combat the listed hazards and risks, preparation, conduct or assessment of exercises.

Community Preparedness

- Assisting and advice in relation to multiagency emergency plans, including evacuation plans for schools, hospitals etc and protocols for airport emergency response;

- Training of airport personnel relating to airport emergency response;

- Integration of the VMR into emergency service delivery.

Emergency Response

- Volunteers provide emergency response services or assist with emergency responses in relation to the listed hazards;

- FESA provides:

1. emergency communications and mobilisation of volunteers;

2. support to volunteers;

3. support to Emergency Management Australia (EMA) if requested, within FESA capabilities.

Recovery from Emergencies (if requested by Commonwealth)

- Providing advice and assistance in development of recovery plans;

- Assisting with post incident analysis;

- Fire cause investigation services;

- Peer support and other welfare services for emergency services volunteers.

The FESA training has been provided on a regular basis to FESA members and VMR members, with three lots of training for FESA members and two lots of training for VMR members occurring over the last year. While provided under the SDA, this training is arranged directly between FESA and those agencies involved on the Island. When training occurs, this is then reported to the EMC on Island.

3.3 Christmas Island Emergency Management Committee

Emergency management planning is the responsibility of the Committee which is chaired by the Administrator. The Committee's membership includes the AFP, the Shire Council, representatives of volunteer organisations and infrastructure managers. Also on the Committee are personnel from private industry who have equipment that can assist in emergency situations. The Committee maintains emergency management plans and conducts exercises to test readiness.

A smaller Christmas Island Emergency Management Executive Committee can convene in the event of the Emergency Management Plan being activated. This Committee is also chaired by the Administrator.

When Mr Lacy took up the position of Administrator, the EMC was already in place. Mr Lacy initiated monthly meetings.

3.4 Emergency Management Plans

The Emergency Management Plan (EMP) is managed by the EMC. As Chairman of the EMC, it is part of the Administrator's role to ensure that the EMP is kept up to date. As documented in the EMP itself, it is reviewed every two years to make sure it is kept current with procedures and any changes to emergency response methods.

Territories Division commissioned Parsons Brinckerhoff in 2009 to review the CI EMP as part of Parsons Brinckerhoff's overall review of the emergency management arrangements in the Territories. Their report was presented to Territories Division towards the end of 2009 (see section 3.5 for more detail). In May 2010, Territories Division requested Emergency Management Australia (EMA) to provide advice on the implementation of the Parsons Brinckerhoff report recommendations. The EMA report was provided to Territories Division in June 2010 (see section 3.6 for more detail).

In January 2010, the CI EMC commenced the process of reviewing and updating the EMP. Narrak Emergency Management Solutions (Narrak) was engaged by IOTA on behalf of the Committee in June 2010 to assist in the review process. An all hazards risks analysis was undertaken and each agency of the EMC was asked to establish their own risk register to form the basis of the EMP and Emergency Recovery Plan. A final draft of the Emergency Management Plan was adopted by the EMC in November 2010.

In March 2011 Narrak EM Solutions was engaged to undertake further work, including ascertaining and identifying sub-plans for development (from 2010 Risk Register), reviewing and developing current sub-plans (cyclone, evacuation, rock fall) and developing, facilitating, debriefing and reporting with recommendations on further discussion exercises and on field exercises in each Territory. A successful agency desk top exercise occurred in May 2010 and another two successful exercises, one at North West Point Detention Centre and another at the airport, earlier this year. A field exercise is planned for later this year.

3.5   Parsons Brinckerhoff Review

Territories Division commissioned a review of the emergency management legislation in April 2009 as part of a review of the emergency management arrangements on Christmas Island and Cocos (Keeling) Islands. The review (at **Attachment C**) was undertaken by Parsons Brinckerhoff in October 2009 and submitted to Territories Division in late January 2010. A total of 32 recommendations are made in the review. A summary of the recommendations and actions to date is at **Attachment D**.

The Department supports 31 of the 32 recommendations. Recommendation 18 is to establish a Community Emergency Management Officer position in the IOT to coordinate and drive emergency management throughout the community. The Department does not support this recommendation. The funding required to establish and maintain a Community Emergency Management Officer is significant and would be better spent in other areas, such as training and equipment for emergency responders.

The Department is exploring options for this function to be provided through existing structures, such as the WA FESA and AFP, at a lower cost. Possible options include WA FESA taking a more community oriented approach using 'fly-in fly-out' officers on a part time basis.

3.6   Emergency Management Australia (EMA) Review of Parsons Report

Officers from EMA visited the IOT in May 2010 to review Commonwealth support for emergency arrangements, identify areas for improvement and develop options to

address these issues. EMA produced a report in June 2010 (refer **Attachment E**) which agreed with the initial Parsons Brinckerhoff report and supported the Department of Regional Australia's actions to implement the recommendations from the Parsons Brinckerhoff report. The EMA Report also contained a number of key recommendations, including:

- The development of an emergency management ordinance;

- Increased support to key positions as well as local emergency services by way of training, advice, exercises and equipment;

- Enhancement of a comprehensive emergency management planning process;

- Increased stakeholder and community engagement; and

- Clarification of service delivery agreements and other support arrangements.

Territories Division has implemented steps to address the recommendations contained in the EMA report. An Emergency Management Ordinance paper was created and sent out for comment amongst stakeholders towards the end of last year. The paper is informing the Ordinance which is currently being drafted. The finalised Ordinance will provide a legislative basis for emergency management activities and additional powers for local authorities.

Territories Division, in conjunction with EMA, is continuing to work with the EMC for each Territory to improve planning, training levels and equipment. Each EMC is provided with assistance across the four aspects of emergency management: preparation, planning, response and recovery. The Department of Regional Australia's access to a service delivery arrangement with WA FESA assists in providing training, operational advice and equipment to local authorities.

Ongoing work between Australian Government agencies involved in immigration on Christmas Island is continuing to ensure coordination and information sharing. The EMA Report identified improved communication between DIAC and the key stakeholders on CI. The provision of support to volunteer services by WA FESA is also being considered in the context of increased demand due to immigration activities.

4. Incident of 15 December 2010

4.1 Role of the Department of Regional Australia on the day

At approximately 0940hrs (AEDT) on Wednesday, 15 December 2010, a Suspected Irregular Entry Vessel (SIEV 221) was sighted. The SIEV was washed against the shoreline at Rocky Point and broke up, resulting in the occupants being thrown into the water.

Christmas Island residents responded immediately to the incident, throwing life jackets and assisting one person who made it up the cliff. Further assistance was provided

when rescued people were off-loaded at Ethel Beach by the local emergency services, health services and volunteers.

The heroism, bravery and resilience of Commonwealth personnel at sea and Commonwealth staff and the Christmas Island community on land led to 42 lives being saved during atrocious weather.

As noted within the Emergency Management Committee's Report, the EMP for Christmas Island was activated by the Territory Controller in consultation with the Administrator at approximately 6:20 a.m. on 15 December 2010. A staff member of the IOTA notified the Director of the incident by a phone call that morning. Perth office and Canberra office were then in turn notified also. Activation of the EMP brought various procedures on line which worked smoothly and effectively.

The weather conditions in Flying Fish Cove became unworkable on the 12 December 2010 and deteriorated over the ensuing days. On the 15 December 2010 the conditions were so severe that no-one would have been able to launch a vessel. The Harbourmaster did not authorise any vessels to be launched due to the dangerous conditions and the likelihood of placing people in grave and imminent danger. This meant that none of the Island's locally based vessels could be launched and likely prevented the loss of further life. (Refer to **Attachment F** for a map detailing the boundaries of the security regulated port.) Consequently, the only immediate support that emergency management services could provide was land based.

IOTHS resources were activated under the EMP for the provision of emergency medical services. The IOTHS External Medical Emergency Response plan was activated and IOTHS personnel mobilised to provide triage and emergency medical care at Ethel Beach as survivors and fatalities were offloaded from the boat ramp. Survivors needing medical attention were transported to the IOTHS facility by ambulance (staffed by St John's Ambulance volunteers) where they were treated and/or medically evacuated to Perth as necessary. IOTHS identified a need for supplies of O positive blood and this request was relayed to the Territories Office Perth for action.

The IOTHS facilities on Christmas Island include morgue facilities which allow for up to six deceased at any one time. Very early in the rescue effort on 15 December 2010 it became apparent to those at the scene that the number of fatalities would exceed this capacity. IOTA sourced and arranged for a chiller container to be placed at the IOTHS facility to function as a temporary morgue.

There is no undertaker on Christmas Island. The IOTHS holds small contingency stocks of body bags and unlined coffins (unsuitable for transporting remains to the mainland) but these were insufficient for the anticipated number of fatalities. Additional body bags were sourced under WA service delivery arrangements with the WA Department of Health.

Members of the EMC including staff from the IOTA were involved from the early stages of the rescue effort. The first meeting of the EMC took place at 9am on the day of the

incident and arrangements were made for meetings to occur every three hours. From 17 December 2010, meetings continued on a less frequent basis.

Arrangements were made by the Department to source a number of items with WA agencies. These requests were undertaken in short time frames and demonstrated the strength of the service delivery arrangements. Services that were provided on the day included:

WA Police

- On-Island: two marine search specialists, three police divers, three coronial investigators, four major crime squad detectives, three forensic specialists, Disaster Victim Identification (DVI) specialists in rotation, two Detective Superintendents and four Detective investigators to conduct interviews and take statements.

- Mainland: temporary mortuary facilities in Perth, two counter terrorism officers, one media liaison officer, general support operations, three forensic DVI specialists and an ongoing coronial investigation team.

WA Fire and Emergency Services Authority

- On-ground operational services via Emergency Management WA.

- Debriefing of personnel involved.

Department of Child Protection

- Deployed a psychologist to Christmas Island.

- Established "Disaster Response Hotline" for people to call.

Department of Premier and Cabinet

- Coordination and governmental liaison and the facilitation of the State Emergency Coordination Group.

Department of Health

- Establishment of a temporary mortuary, including the provision of 100 body bags.

- Coordination of health services and blood transfusions.

- Treatment of two patients at Royal Perth Hospital transferred by the Royal Flying Doctor Service.

- Two forensic pathologists, one forensic anthropologist, one forensic odontologist, two forensic biologists, laboratory staff as required for DNA testing.

State Coroner's Office

- Ongoing provision of services from the State Coroner, Deputy State Coroner, Coronial Liaison Officer, Registry Officer, Senior Coronial Counsellor and an administrator to coordinator Coroners.

Liaison between the Department and other agencies including Customs, DIAC and the AFP was co-operative and extensive, ensuring no significant on-Island issues with the

response to the incident. In Canberra, high level meetings took place throughout the day with attendance at an emergency meeting of the Border Protection Taskforce (BPT) by senior officers.

4.2   After incident response

IOTHS response

In subsequent days to the incident, IOTA sourced and placed an additional chiller container at the IOTHS facility. A tent to provide privacy for the temporary morgue was sourced and modified by the AFP.

The additional body bags that were sourced from the AFP and WA Department of Health arrived on the Island on 17 December 2010.

Ongoing patient care for the injured was provided as required.

Ongoing Counselling Services

The Department normally employs one psychologist and one social worker on the Island. With the assistance of the Western Australian Government, an additional psychologist was deployed to the Island from 23 December 2010 to 19 January 2011 and from 25 January 2011 to the 8 February 2011. A replacement school counsellor was deployed from 8 February 2011 to assist those returning to school to deal with their experiences.

Commonwealth agencies directly involved in responding to the incident and volunteers with, for example, the Volunteer Marine Rescue service, were able to access counselling support through their agencies. Those who assisted directly in a personal capacity or who had been impacted indirectly by the events were directed to a number of counselling services available, including the local social worker, the local school psychologist and counsellors engaged with the Torture and Trauma Unit of the IOTHS. IOTA distributed information to all PO boxes (*Helping yourself after a traumatic event*) on the signs of trauma and how people could help themselves. On 16 December 2011 the EMC judged counselling resources to be insufficient and IOTA requested deployment of additional counsellors on the Committee's behalf. This was actioned by the Department through the Territories Office Perth in consultation with the Western Australian Department of Child Protection.

Rescue Boats

To provide sufficient search and rescue capability, the Department organised for a WA FESA search and rescue vessel, *Tom Reed*, to be loaned to Christmas Island VMR for six months. This vessel arrived on Island on 9 February 2011. In addition, the AFP deployed a Rigid Hull Inflatable Boat (RHIB), to Christmas Island. This vessel arrived on

29 March 2011. The vessel will remain on Island for as long as necessary. The Department met the transport costs.

Border Protection Taskforce

The Border Protection Taskforce (BPT) was set up following the announcement by the Government in May 2009 of the establishment of the Border Protection Committee of Cabinet (BPC). The purpose of the BPT was to support the BPC. While the BPC was discontinued in July 2010, the BPT has continued.

BPT is responsible for providing policy advice, monitoring progress against outcomes, coordinating agencies' activities and aligning the whole-of-government policy and operational response to people smuggling and irregular maritime arrivals.

The National Security Adviser in the Department of Prime Minister and Cabinet (PMC) chairs the BPT, with the Chief Executive Officer of the Australian Customs and Border Protection Service as deputy chair. The BPT consists of Deputy Secretary (or equivalent) level officers from a range of Commonwealth agencies including Prime Minister & Cabinet, Customs and Border Protection, Attorney General's Department, the Department of Foreign Affairs and Trade, the Department of Defence, Department of Immigration and Citizenship (DIAC), AFP, the Department of Finance and Deregulation, the Department of the Treasury, AusAID and Australian intelligence community agencies. Other agencies are invited if the topics discussed cover their responsibilities. The Department of regional Australia has attended some meetings since 15 December 2010 when invited.

BPT is responsible for providing policy advice and coordination, aligning at the highest level the whole-of-government policy on people smuggling and irregular maritime arrivals.

Community Memorial Service

On 5 March 2011 the Shire of Christmas Island, in conjunction with the Administrator of Christmas Island and the Department of regional Australia, held a memorial service for the Christmas Island community. The service was attended by members of the Christmas Island community, The Hon Warren Snowdon MP, Senator Trish Crossin, and officers from the Department of Regional Australia, DIAC and Customs and Border Protection.

The memorial service was important in acknowledging the bravery and resilience of the Christmas Island community on 15 December 2010. Holding the service was an intrinsic part of the healing process for the community.

5. **Implementation of the SIEV 221 Report Recommendations**

5.1   Border Protection Taskforce (BPT) Sub group

A sub group of the BPT was established on 16 February 2011 to monitor and report to the BPT on the implementation of the recommendations from the Customs and Border Protection Internal Review and the recommendations of the CI EMC report. Members include representatives from Prime Minister & Cabinet, Border Protection Command, the Department of Regional Australia, Department of Immigration and Citizenship, Australian Maritime Safety Authority and the AFP. The sub group meets regularly and receives reports on the status of each recommendation in both reports.

5.2   Customs and Border Protection Internal Review

The Australian Customs and Border Protection Service released an internal review into the incident on 24 January 2011. The Government has accepted the eight recommendations of that report.

5.3   Christmas Island Emergency Management Committee (CI EMC) Report

The CI EMC prepared a Report on the incident and the response. A copy of the Report together with the status of the responses to their recommendations is found at **Attachments A & B**. The Report recommended 21 resources and facilities upgrades to manage for similar incidents in the future.

Of the 21 recommendations:

- Three are completed;

- Thirteen are underway;

- One (the surf jet ski – refer to page 3 of **Attachment B**) is under consideration;

- Four are not supported by the Department.

Of the four not supported, three relate to building new facilities at Ethel Beach, including toilets, a secure shelter and emergency lighting (refer to page 3 of **Attachment B**) . Such facilities are premised on using Ethel Beach as an alternative offload facility for asylum seekers if Flying Fish Cove cannot be used due to weather conditions. Neither the EMC nor the Department supports using Ethel Beach routinely as an offload facility as it is a dangerous location to unload passengers.

The recommendation relating to the purchase of a surf Rigid Hull Inflatable Boat (RHIB) (refer to page 4 of **Attachment B**) is assessed as unnecessary. The rescue capacity is being met by the loan of a rescue RHIB from WA FESA for six months and the movement of an AFP RHIB to Christmas Island for as long as required.

6. Lessons learned

Service Delivery Arrangements with Western Australia

SDA with WA Government agencies worked effectively during and after the incident.

On-Island communication during an emergency

As noted in the CI EMC's report, there was close cooperation and generally good communication between the agencies on Island, with the CI EMP effective in operation. There were, however, some issues with communication:

- Availability and use of radios proved difficult at times because of inadequate hand held radios and knowledge of procedures. Operating frequencies need to be defined and operators need training in radio use and procedures. Once the new radios are on Island, training on their use should be provided, likely to be delivered by WA FESA.

- Management of the airport was frustrated by lack of consultation about incoming aircraft. Aircraft movement should have been coordinated through the Territory Controller. Mainland units that become involved in emergency situations on the island need to consult with and take account of the local community and its requirements. The AFP, through the Territory Controller, could address this matter in their local emergency plans.

- Response and recovery was well controlled by the Territory Controller who did an excellent job in managing two sites (site of the incident and the offload site). There was some difficulty experienced in contacting EMC members because of busy phones. The emergency contact list is regularly updated by the EMC at every EMC meeting. The communications capability of the proposed rescue trailer being sourced and funded by the Department of regional Australia will assist.

Whole of Government coordination of Christmas Island issues in Canberra

The Department of Regional Australia is giving consideration to establishing an Inter-Departmental Committee, chaired by the Department, to consider and coordinate whole of government policy issues and investment proposals for Christmas Island. While relevant agencies on Island meet regularly to coordinate issues and share information, there is no such mechanism at a more senior level in Canberra. An IDC would address this gap.

7. List of Attachments

A. Report of the Christmas Island Emergency Management Committee

B. Detailed response to Christmas Island Emergency Management Committee Report Recommendations

C. Parsons Brinckerhoff Emergency Management Review

D. Status Table of responses to recommendations from Parsons Brinckerhoff Emergency Management Review

E. Emergency Management Australia Status Report on emergency management arrangements in the Indian Ocean Territories

F. Map of the Security Regulated Port Boundary for the Port of Christmas Island

OFFICE OF THE ADMINISTRATOR
INDIAN OCEAN TERRITORIES

**Territory of Christmas Island
Territory of Cocos (Keeling) Islands**

ADMINISTRATOR'S REPORT ON SIEV 221 INCIDENT
FOR THE MINISTER FOR REGIONAL AUSTRALIA, REGIONAL
DEVELOPMENT AND LOCAL GOVERNMENT

24 January 2011

Following the incident in which SIEV 221 foundered on the rocks below the Golden Bosun Tavern in Gaze Road on 15 December 2010 a meeting of the Emergency Management Committee (EMC) was convened to consider immediate response and recovery action. Members of the EMC had been involved in the rescue attempts from the shoreline prior to the meeting being convened. Further periodic meetings of the EMC were convened throughout the day and over the course of the next two days.

Following the EMC de-brief on 21 December 2010 I prepared a briefing paper of the conclusions reached by the EMC in the de-brief and presented it to the members of the EMC at its meeting on 14 January 2011. The members of the EMC unanimously adopted the briefing paper as its report ("the report"). A copy of the report is attached.

The report identifies a number of process issues that need to be addressed by the EMC. Those matters will be addressed by the EMC at its next meeting. The report also identifies additional resources and facilities needed on Christmas Island to deal more efficiently with similar incidents to that which occurred on 15 December 2010.

The required resources and facilities are listed in priority order. In identifying the facilities required for Ethel Beach the EMC does not mean to endorse the notion of Ethel Beach being used as an alternative offload facility. The EMC in fact considers Ethel Beach dangerous as an alternative facility. If it is to be used however, it is necessary to upgrade the facilities as proposed by the EMC.

BRIAN LACY
ADMINISTRATOR
24 January 2011

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OFFICE OF THE ADMINISTRATOR
INDIAN OCEAN TERRITORIES
Territory of Christmas Island
Territory of Cocos (Keeling) Islands

**Briefing Paper for Christmas Island Emergency Management Committee –
SIEV 221 Incident**

Purpose

The purpose of this paper is to examine the response of the Emergency Management
Committee (EMC) to the situation arising from the sinking of SIEV 221 and identify
any weaknesses and strengths in the response plan and facilities on Christmas Island.

Background

At about 06:20 hours on 15 December 2010 the Territory Controller in consultation
with the Administrator activated the Emergency Management Plan following
telephone reports from a resident of a vessel in distress near Rocky Point Crescent.

About 06:45 hours the distressed vessel foundered on the rocks below the Golden
Bosun Tavern. Several people were thrown into the water while others clung to the
boat wreck. Members of the EMC as well as members of the general public attended
the site to assist with the rescue of the people in the water by throwing life jackets,
ropes and life rings into the water. Meanwhile Navy RHIBS and Customs tenders
were pulling people out of the water and loading them into the RHIBS.

The Administrator and members of the EMC representing the AFP (Peter Swan/Colin
Giumlli), Customs (Myles Pickett), VMR (Greg Riley), Regional Australia (Michael
Cook), IOTHS (Leslie Heath), Parks (Mike Misso), Airport (Colin Fort) and FESA
(Gary Foo) met at 09:00 hours at the Police Station. Peter Swan reported that 34
survivors had been recovered from the sea, two of whom were critically injured.
IOTHS, assisted by IHMS and numerous volunteers was dealing with the offload
situation efficiently at Ethel Beach and at the hospital. The Medical Director needs to
be acknowledged for her management of the sick and injured. The meeting heard that
AMSA was sending a search aircraft and navy vessels were continuing to search in
the water. Arrangements were made for personnel to search for survivors/bodies from
along the cliffs. Brian Lacy reported that the Coroner was being notified and that
arrangements were being made for counselling services for members of the
community. After arranging for meetings about every three hours the meeting
concluded about 09:10 hours.

At 12:00 hours the EMC met and heard reports that 11 bodies had been recovered,
searches were continuing along the cliff top and in the water, an AFP investigation
team was arriving on 16 December 2011, IOTHS in cooperation with IHMS was

operating efficiently in dealing with sick and injured, a refrigerated container had been arranged as a temporary morgue, SERCO employees were supplying food and drink to volunteers, aviation fuel was getting low and may need to be rationed and the Minister for Home Affairs would be visiting the Island during the day and that he would like to meet with the volunteers at the VMR upon his arrival. VMR and Parks personnel assisted by several volunteers were to continue their searches for survivors and bodies from the cliffs.

At 15:00 hours it was reported that all agencies were operating efficiently but with some signs of fatigue. Triton's request to unload its asylum seeker passengers was refused by the Territory Controller because such action was considered too dangerous because of fatigue and the unloading extending into the night. These were asylum seekers who had been ferried from Ashmore Reef.

The EMC meeting scheduled for 17:00 hours was postponed to09:00 hours on 16 December 2010. This was so that the Minister for Home Affairs could meet with the volunteers to give support and to acknowledge their efforts in the search and rescue operations.

Search and rescue operations continued throughout the day on 16 December 2010. At the 16:00 hours meeting the Peter Swan reported that two bodies were found in a cave under the cliff.

At 10:00 hours on 17 December 2010, Peter Swan in consultation with Brian Lacy lifted the state of emergency. Search operations would continue. Public notices were prepared warning members of the public of the quarantine risk associated with debris from the vessel. Discussions centred on counselling services for members of the community.

Situation reports were given at 09:00 hours on 20 December 2010 and a de-brief was arranged for the following day.

Issues

Overwhelmingly it was agreed that the response of the agencies on the islands was excellent and that the CI Emergency Plan was effective in operation.

There was close cooperation and generally good communication between the agencies. There were however some issues with communication:

- Availability and use of radios proved difficult at times because of inadequate hand held radios and knowledge of procedures. Operating frequencies need to be defined and operators need training in radio use and procedures.
- Management of the airport was frustrated by lack of consultation about incoming aircraft. Aircraft movement should have been coordinated through the Territory Controller. Mainland units that become involved in emergency situations on the island need to consult with and take account of the community and its requirements.

The response and recovery was generally well controlled by the Territory Controller, who did a sterling job. Managing two sites (site of the incident and the offload site) proved difficult because of communications but the situation was kept under control. There was difficulty in contacting EMC members because of busy phones. It was suggested that the communications issues could be addressed by one or some of the following means:

- Marine radio at each agency with a dedicated listening officer;
- Handheld marine radios;
- Use of community radio network to cut into broadcast;
- Notices on the blackboard at the roundabout;
- Klaxon horn – air-raid siren

While activity on the island was well coordinated there were problems associated with activities being organised externally without consultation. Arrangements for aircraft to come to the island are a particular instance of lack of consultation by external agencies with the local community organisations and their requirements. It is a principle of effective emergency management recovery that the management of the emergency recovery should be entrusted to the local community under the control of the Territory Controller. In the absence of effective communication and consultation there is potential for wasted resources and/or duplication of effort.

Media interest

The incident attracted significant media interest and was widely reported in the press, on radio and on TV. An aircraft carrying 10 journalists arrived at Christmas Island in the early hours of the morning of 16 December 2010. Other journalists arrived subsequently. The island was fortunate to have the Minister for Home Affairs to lend support generally and in dealing with the press in particular. Regular press statements and updates were made by the Minister for Home Affairs.

Resource implications

The response and recovery revealed the urgent need for the following additional resources and or facilities:
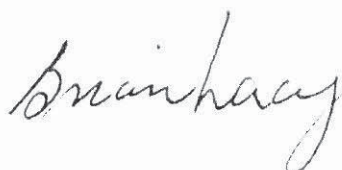
- Throwable grenade life jackets;
- Inflatable life rings;
- Hand-held radios;
- Rescue trailer containing life jackets, inflatable rescue rings, ropes, lighting, generator, fire extinguishers, first aid kits, flares, radios, megaphones, blankets, rope ladder;
- VMR rescue kits (miniature version of rescue trailer);
- Waterproof mobile phone bags;
- Mats that do not hold water for people to lie on when recovered from the sea;
- Incident management tabards;
- Body bags/coffins for contingency;
- Dedicated chiller container with racks for the morgue;
- Toyota landcruiser PC troop carrier;

- Life rings placed at strategic places on shoreline;
- Life saving devices at Ethel Beach;
- Emergency lighting at Ethel Beach;
- Toilet facilities at Ethel Beach;
- Ramp improvements at Ethel Beach;
- Secure shelter at Ethel Beach;
- Surf jet ski;
- Surf RHIB;
- Accident/incident familiarisation course for members of the community;
- General upgrade of VMR headquarters and facilities, e.g. boat shelter, air conditioning for meeting room, emergency generator.

Recommendation

The contents of this report be noted.

The issues raised concerning the need for additional resources and facilities be discussed at the next meeting of the EMC.

BRIAN LACY
Administrator
Chair EMC

Date: 7 January 2011

DEPARTMENT OF REGIONAL AUSTRALIA - DETAILED RESPONSE TO CHRISTMAS ISLAND EMERGENCY MANAGEMENT COMMITTEE REPORT RECOMMENDATIONS

Item	Response	Current status
Throwable grenade life jackets/ inflatable life rings	Yes. Department to source and fund	DRA, in consultation with WA FESA, is currently considering a proposal for a fully equipped rescue trailer. The equipment includes grenade life rings.
Hand-held radios	Yes. Department to source and fund	DRA is currently considering a proposal for a fully equipped rescue trailer. The equipment includes radios.
Rescue trailer containing life jackets, inflatable rescue rings, ropes, lighting, generator, fire extinguishers, first aid kits, flares, radios, megaphones, blankets, rope ladder	Yes. Department to source and fund	DRA is currently considering a proposal for a fully equipped rescue trailer with equipment to include: • a communications base using two VHF radios, a HF radio and a UHF radio (this caters for all rescue scenarios where communications to vessels and shore stations is required); • a remote control centre facility using fold-down desk and chairs, communications facilities, lighting and separate shelter; • equipment necessary for coastal based search and rescue activities, including

		lighting, shelter, refreshments, PPE, first aid, triage, tools and other miscellaneous items necessary for either a brief or extended shore-based search and rescue operation
VMR rescue kits (miniature version of rescue trailer)	Yes. Department to source and fund	DRA is currently considering a proposal for a fully equipped rescue trailer. The equipment includes miniature rescue kits.
Waterproof mobile phone bags	Yes. Department to source and fund	DRA is sourcing waterproof mobile phone bags from commercial suppliers.
Mats that do not hold water for people to lie on when recovered from the sea	Yes. Department to source and fund, IOTHS to store with other emergency equipment	DRA has ordered and received 10 high density foam mats that can be used for patients to lie on in wet conditions or where beds are unavailable. **COMPLETED**
Incident management tabards	Yes. Department to source and fund	DRA is currently considering a proposal for a fully equipped rescue trailer. The equipment includes incident management tabards.
Body bags/coffins	Yes. Department to source and fund, IOTHS to store and maintain	Contingency reserves of 60 body bags and 10 coffins are on site. IOTHS advise that this will be adequate for their needs for the medium to long term assuming normal levels of activity. **COMPLETED**
Dedicated chiller container with racks for the morgue	Yes. A dedicated chiller container is unnecessary. Department to source and fund chiller racks. As occurred during SIEV 221, a local chiller could be hired as required.	DRA is sourcing custom made racks from local commercial suppliers
Toyota Landcruiser PC troop carrier (to be used as an ambulance)	Yes. Department to source and fund. A replacement all terrain ambulance has been	The replacement fully equipped all terrain ambulance is expected to arrive on Christmas

	ordered and fit out is currently underway.	Island on the next boat, scheduled to arrive in late April/early May 2011.
Life rings placed at strategic places on shoreline	Yes. Department to work with Parks Australia and VMR to identify suitable locations. Department to source and fund.	DRA, VMR and Parks have identified a set of suitable locations. Consideration is currently being given to placing both life rings and defibrillators (these are additional to EMC report recommendations) in these locations, to reduce maintenance costs.
Life saving devices at Ethel Beach	Yes. Department to source and fund. To be included as part of the recommendation above.	DRA, VMR and Parks have identified a set of suitable locations. Ethel Beach is one of the identified locations
Emergency lighting at Ethel Beach Toilet facilities at Ethel Beach Secure shelter at Ethel Beach	No. Ethel Beach is a dangerous area and neither the Emergency Management Committee nor the Department support its use in anything other than emergency conditions during daylight.	N/A
Ramp improvements at Ethel Beach	Yes. The Ethel Beach community boat ramp is the responsibility of the Shire of Christmas Island. The suggested improvements relate primarily to repairs and maintenance of the existing boat ramp (filling potholes and cracks, installing stanchions for a safety rope along the edge of the ramp)	The Shire advises that cracks and potholes have been repaired and tie down bolts installed. The ramp has also been cleaned using high pressure hoses. Collapsible halyard rails have been ordered. **COMPLETED**
Surf jet ski	? Department to work with WA FESA to determine if use of a jet ski like vessel for search and rescue would be feasible in Christmas Island conditions and whether it would meet AMSA survey requirements.	DRA consulting with WA FESA and AMSA.

Surf RHIB	No. The Department does not support purchasing a surf RHIB.	This is part of a broader issue about whether new boats will be purchased.
Accident/incident familiarisation course for members of the community;	Yes. Department to source and fund.	The Emergency Management Committee is currently considering how best to action this recommendation. Options include using local media (radio and print), distributing community bulletins, holding public meetings, sourcing formal training, and/or combining information provision with other community events.
General upgrade of VMR headquarters and facilities, e.g. boat shelter, air conditioning for meeting room, emergency generator.	Yes. VMR to develop a proposal for Departmental consideration. Department to fund.	VMR to submit a formal proposal for Departmental consideration.

Attorney-General's Department
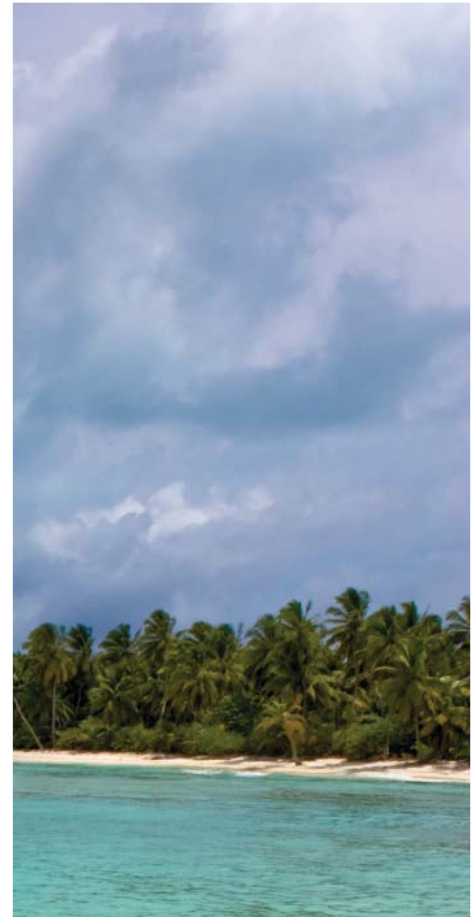
EMERGENCY MANAGEMENT REVIEW
FOR THE INDIAN OCEAN TERRITORIES
08/26300

Emergency Management Review for the Indian Ocean Territories

08/23600

January 2010

Attorney-General's Department

Author: Mal Purcell, Kade Greenwood ....

Signed: ....

Reviewer: Brian Grandin ....

Signed: ....

Approved by: Casey Dwyer ....

Signed: ....

Date: ....

Distribution: Attorney-General's Dept & PB Library ....

Contents

Contents (continued)

Contents (continued)

Acronyms

AGD	Attorney-General's Department
AEP	Airport Emergency Plan
AFP	Australian Federal Police
BOM	Bureau of Meteorology
CASA	Civil Aviation Safety Authority
CI	Christmas Island
CIIA	Christmas Island Internet Administration Inc.
CIP	Phosphate Resource Limited
CITA	Christmas Island Tourism Association
CKI	Cocos (Keeling) Islands
EMA	Emergency Management Australia
EMC	Christmas Island Emergency Management Committee
EMP	Emergency Management Plan
EOC	Emergency Operations Centre
FESA	Fire and Emergency Services, Western Australia
IOT	Indian Ocean Territories
IOCOMM	Indian Ocean Communication Technologies
IOTHS	Indian Ocean Territories Health Service
PB	Parsons Brinckerhoff Australia Pty Ltd
PPRR	Prevention, Preparedness, Response and Recovery
RAAF	Royal Australian Air Force
SDA	Service Delivery Agreement
SES	Christmas Island State Emergency Service
SOCI	Shire of Christmas Island
SOCKI	Shire of Cocos (Keeling) Islands
TC	Territory Controller
TW	Territories West Branch, Attorney-General's Department
VMRS	Christmas Island Volunteer Marine Rescue Service

Executive Summary

Whilst there has not been a major emergency or large scale disaster in the Indian Ocean Territories in recent history, the possibility of it occurring in the future cannot be discounted. The IOT comprise Christmas Island (CI) and Cocos (Keeling) Islands (CKI). CKI is a group of 27 low lying coral atolls located in the Indian Ocean some 3,000 kilometres north-west of Perth. Christmas Island is the summit of a seamount and is located approximately 350 kilometres south of Indonesia and 975 kilometres to the north-east of the Cocos (Keeling) islands. The IOT are officially designated external, non-self governing territories of Australia.

In early 2009, Parsons Brinckerhoff Australia (PB) was engaged by the Attorney-General's Department to undertake a comprehensive review of the emergency management arrangements in the IOT, with a view to improving these arrangements. This report summaries the project methodology, key findings, recommendations and proposed structure for future emergency management in the IOT.

The Review

The project was completed in three stages: Project initiation, on-site investigation and analysis, and project report and recommendations. Throughout the duration of the project, consultation was undertaken with a wide range of individual stakeholders. These included government and non-government organisations and a visit to the IOT to validate and build on our understanding of the issues and challenges. The early engagement of stakeholders, including island residents, was critical to the success of the project. Good emergency management arrangements rely on strong, cooperative, coordinated and consultative relationships among key community stakeholders.

A community-centred approach to emergency management has the primary objective of minimising the impact of emergencies on the community. The IOT have a culturally diverse community and effective emergency management in these areas must take into account the traditions, culture experience, and sensitivities of all members of the community. Emergency management arrangements for the IOT should recognise and build upon the communities' organic level of resilience.

Risks & Vulnerability

Risk is defined in terms of the probability of a particular event occurring and the likely consequences of the outcome. Although various risk assessment methodologies are in use globally, the current Australian standard (AS4360) has been reference during this project. The unique characteristics of the IOT (small population, geographic isolation, exposure to natural hazards and limited resource base) combine to create a high vulnerability to natural disasters.

Although a number of studies looking at discrete 'risks' have been performed in the IOT, no quantitative or integrated review of the vulnerability & risk of the IOT has been undertaken. The lack of an integrated risk assessment may result in specific hazards being treated at the expense of less obvious but potentially more damaging risks.

EM Arrangements

Emergency Management in the IOT is the responsibility of Emergency Management Committees (EMCs) on Christmas and Cocos (Keeling) Islands. Both Committees are chaired by the IOT Administrator and contain representatives from local organisations. The coordination of emergency response is largely the responsibility of the Territory Controller, who is the senior Australian Federal Police officer in each Territory.

Emergency management training and advice is provided to IOT organisations by WA Fire and Emergency Services Authority (FESA) via a Service Delivery Arrangement with the Attorney-General's Department. Emergency Management Australia, a division of the Attorney-General's Department is the lead Australian Government body for emergency management, including the coordination of physical assistance during times of disaster. Volunteer organisations are essential to emergency management activities in the IOT and staff of the fire brigade, SES, Ambulance service and a marine rescue unit.

Findings & Recommendations

Some of the key findings and recommendations from the project include:

- No comprehensive 'all-hazard' risk assessment has been completed for the IOT although a number of studies looking at discrete 'risks' have been undertaken.

- Establish a Community Emergency Management Officer (CEMO) in the IOT to drive an emergency management culture, initiatives and priorities.

- Single hazard plans, such as the Rockfall Risk Management Plan, should be consolidated into single reference documents and action-on procedures should be developed specific hazards.

- The Department should develop clear and measurable KPI's for FESA under the SDA including a focus on expenditure in the IOT.

- The lack of a clear legislative framework for emergency management the IOT should be addressed through the development of an Ordinance to either replace or amend the provisions contained within WA Emergency Management Act (2005)

- The IOT also would benefit from an international benchmarking exercise to determine 'best practice' in emergency management for small, isolated, island communities.

- Geoscience Australia (GA) should be engaged by the Department to perform a full analysis of the seismic risk to CI.

- Engineering surveys of public buildings in the IOT to be undertaken to determine seismic resistant structures and clarify safe evacuation locations & recovery points.

- Incorporation of emergency management principles within individual SDA's with the Western Australian Government.

- Establishment of an IOT recovery committee and the development of recovery plans for CI & CKI would greatly hence the resilience of the IOT community to future disasters.

Proposed Structure for EM in the IOT

The project has developed a proposed structure for emergency management in the IOT. The structure provides a sustainable framework that clarifies existing coordination arrangements and improved efficiency and effectiveness. A central element of the proposed structure is the establishment of a permanent Community Emergency Management Officer (CEMO) in the IOT. The vision for the CEMO is a senior emergency manager, who able to act as a reference point for emergency management in the IOT and support other key appointments. A diagrammatic representation of the proposed structure is outlined below.

Proposed Structure
Emergency Management in the Indian Ocean Territories
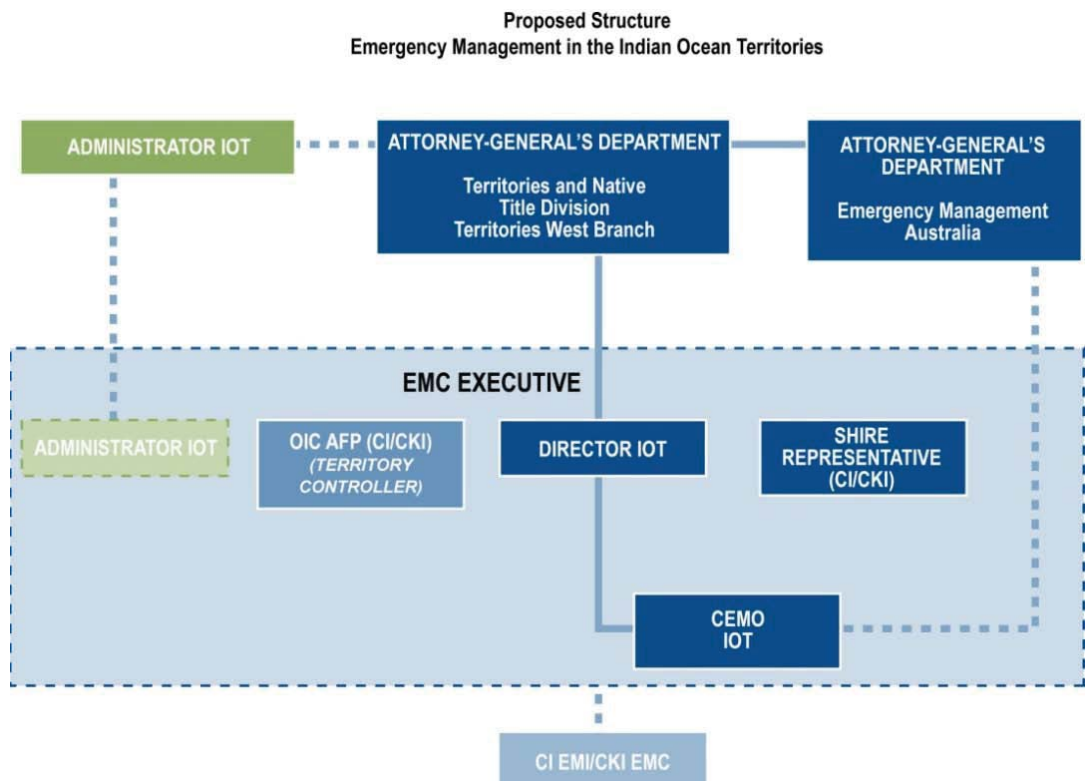
1. Introduction

The Indian Ocean Territories (IOT) Christmas Island and the Cocos (Keeling) Islands are external, non-self governing territories of Australia. Christmas Island is located approximately 2,600 kilometres North-West of Perth and 360 kilometres South of Indonesia, and has a permanent population of approximately 1400 people. The Cocos (Keeling) Islands are located approximately 2,770 kilometres North West of Perth and 900 South-West of Christmas Island with a population of approximately 600 people.

1.1   Background

The Attorney-General's Department administers the IOT on behalf of the Australian Government and provides State type services, including support to emergency management planning and preparedness activities via an arrangement with the Fire and Emergency Services Authority of Western Australia. In early 2009 Attorney General's Department engaged Parsons Brinckerhoff (PB) to undertake a review of the current arrangements of emergency management in the Indian Ocean Territories (IOT) with the view of identifying possible areas of improvement. The Attorney General's Department seeks to clarify the structure of emergency management activities in the IOT with a view to enhancing the good governance of the region. The Attorney-General's Department has portfolio responsibility for the IOT, including the provision of emergency management type services. It is Australian Government policy to provide services comparable to a similar mainland community.

1.2   Project Scope

The review will make recommendations on how the current emergency management arrangements in the IOT may be reformed to improve their efficiency and effectiveness. In undertaking this review, PB engaged in a consultative process with major stakeholders engaged in emergency management arrangements for the IOT. As part of the project PB considered:

- current emergency management arrangements in the IOT, including their strengths and weaknesses;

- the personnel, resources and equipment available for emergency management in the IOT;

- the particular features of the IOT, including their culturally and linguistically diverse communities, natural environment and risk profile; and

- emergency management arrangements in Western Australia and how these arrangements affect the IOT; national emergency management arrangements, and how these arrangements affect the IOT.

1.3   Methodology

This section provides an overview of the methodology used to undertake the project. The flowchart below outlines the three key stages of the project that included, project initiation; emergency management review and on-site investigation; recommendations and final report.

EMP review – Indian Ocean Territories (IOT)
Methodology flowchart
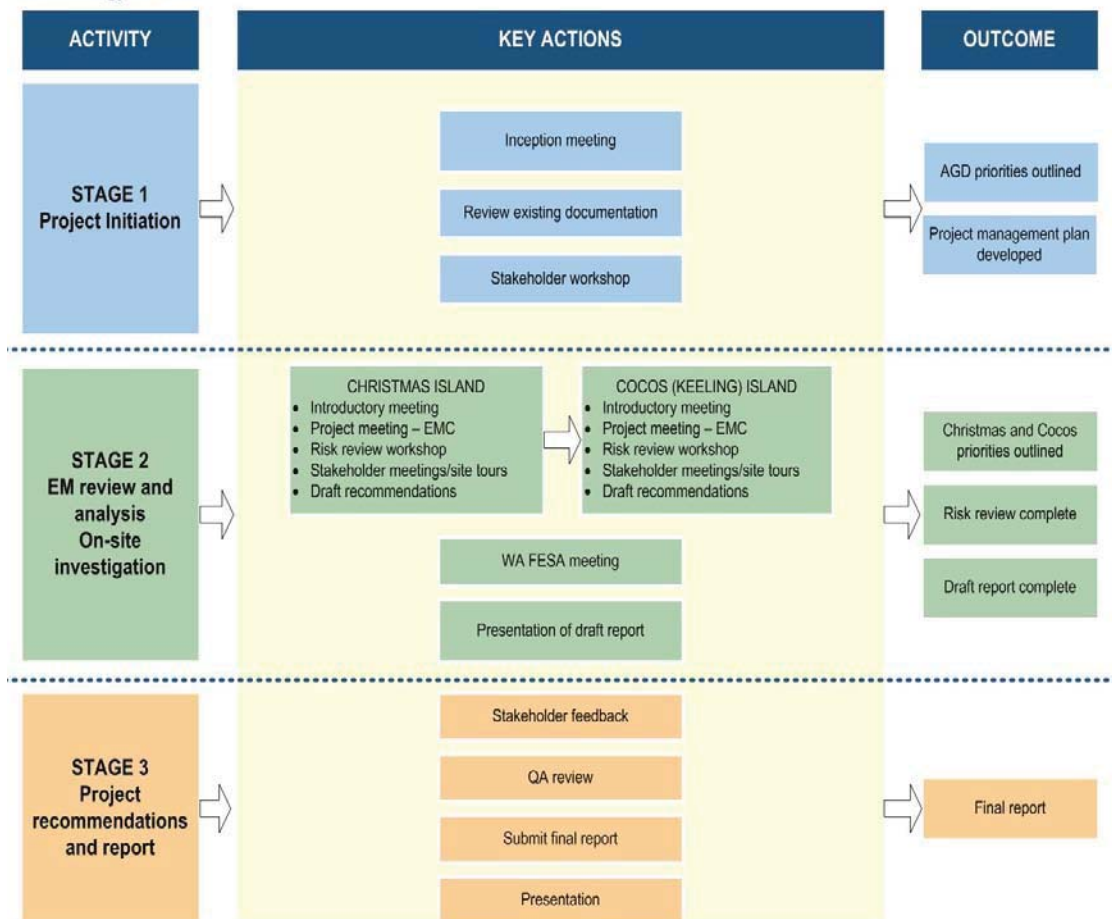
1.3.1   Literature Review

The literature review formed a key component of the project. The findings from the literature review have been incorporated into the overall project findings and summary of the islands preparedness. The project team noted that whilst there was a large amount of information available, there was very little reference made to a central or master document. As a result, most of the key stakeholders seemed unaware of some or all of these documents or had out-of-date versions.

1.3.2   Site Visits

As part of the project the consultants travelled to the IOT's during August 2009. The visits were very successful in enabling the project team to contextualise the unique challenges facing the IOT, particularly preparedness activities, response coordination, and the level at which planning was conducted for response and recovery operations.

1.3.3   Stakeholder consultation

Throughout the duration of the project, consultation was undertaken with a wide range of individual stakeholders. These included government and non-government organisations. The engagement of key stakeholders, including many local residents, was critical to the success of the project. This consultation ensured that relevant issues were identified and that the appropriate level of analysis occurred. Additionally, the consultation served to:

- Highlight the potential risks facing the IOT, including predicted climate change impacts.

- Provide key stakeholders with the opportunity to contribute to the report

- Identify potential improvements to emergency management within the IOT, including proposed structures and funding models.

1.3.4   Project Stakeholders

Australian Government
Attorney-General's Department
Emergency Management Australia
Australian Federal Police
Bureau of Meteorology
Department of Immigration & Citizenship
Department of Defence
Airservices Australia

State & Local Government
Shire of Christmas Island
Shire of Cocos (Keeling) Islands
WA Water Corporation
WA Department of Premier & Cabinet
WA Fire and Emergency Services Authority
IOT Customs Service

Industry & Commercial Organisations
SOS International
G4S Pty Ltd
SERCO Asset Management
Forte Airport Management
Patrick Port Management (IOT)
Phosphate Resources Ltd (T/A CI Phosphates)
Indian Ocean Territory Power Authority
Indian Ocean Health Service
IOCOMM Technologies

Other agencies
Australian Red Cross
FESA – CI & CKI
Volunteer Marine Rescue Service
CI EMC
CKI EMC

2. The Indian Ocean Territories

2.1   Christmas Island

Christmas Island is located 2600 kilometres northwest of Perth, 500 kilometres south of the Indonesian capital, Jakarta, and 975 km ENE of the Cocos (Keeling) Islands. The Island is the summit of a submarine mountain and rises steeply to a central plateau dominated by stands of rainforest. The island's 139 kilometre coastline is an almost continuous sea cliff, of up to 20 metres in height. Murray Hill is the highest point on the island at 361m above sea level. The island has an area of 135 square kilometres most of which is covered by tropical rainforest. In a few places, the cliff gives way to shallow bays with small sand and coral shingle beaches. The largest of these bays forms the island's only port; Flying Fish Cove. The Island has a typical tropical equatorial climate, with heat and humidity moderated by trade winds. The majority of the island (63%) has been reserved as a National Park in recognition of its outstanding biodiversity and conservation value.

The Shire of Christmas Island provides standard local government type services as well as acts as agent for the Commonwealth in the provision of some services. CI Resources conducts phosphate mining on the island directly employing over 100 people, as well as contractors, making it the Island's largest employer. Mining infrastructure is located throughout the island, including disused equipment and phosphate stockpiles.

The North West Point Immigration Detention Centre (IDC) provided a boost to the local economy during the construction phase with a large number of workers travelling to the island. The long-term impact of the IDC on the Christmas Island community is yet to be determined and is likely to be dependent upon the number of asylum seekers detained on Christmas Island.

Christmas Island
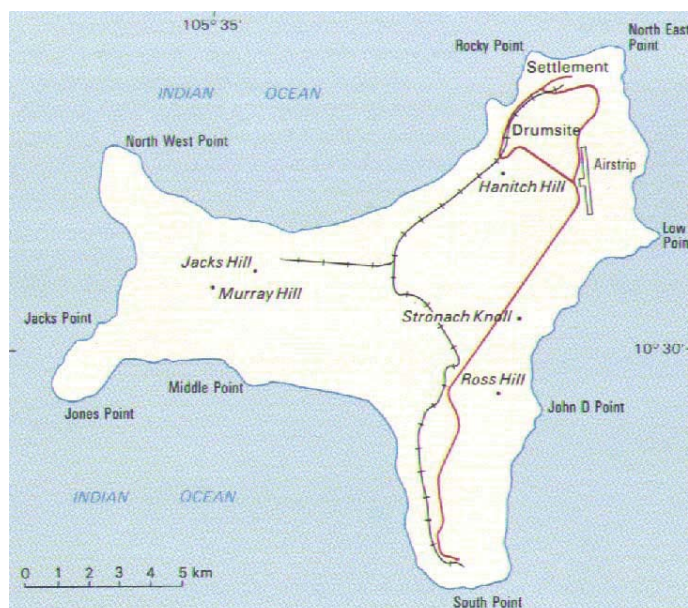
2.2   Cocos (Keeling) Islands

The Cocos (Keeling) Islands are a relatively small mid-oceanic atoll comprising twenty-seven coral islands surrounding a shallow lagoon. The Islands are located 2,950 km north-west of Perth and 900 km south-west of Christmas Island. Accordingly, the residents of the Cocos group are some of the most isolated in the world.

The group consists of 27 low lying coral atolls with an approximate coastline of 26 kilometres. The maximum elevation of these islands is generally below 5 metres above sea level; however many of the islands are barely 1-3 metres above sea level. The island group is divided between 26 islands in the Southern Atoll and North Keeling Island, located some 24 kilometres away. Only two of the islands are inhabited, Home Island and West Island. These are located on opposite sides of the lagoon, approximately 12km apart. Rudimentary port facilities are located on Home Island and a jetty is located on the Northern tip of West Island. The Sydney Highway, a sealed road running the length of the island, links the Rumah Baru jetty with the settlement area (note: this facility is currently under construction). A large quarantine station operated on West Island until 1996 when its functions were transferred to the Australian mainland.

The islands are low lying, approximately 5m above sea level and heavily vegetated with coconut palm. The climate is tropical with high humidity. Temperatures range from 23°C to 30°C. The average rainfall is 2,000 mm per annum falling mainly from January to August. The south-east trade winds blow most of the year producing pleasant weather conditions.

Cocos (Keeling) Islands
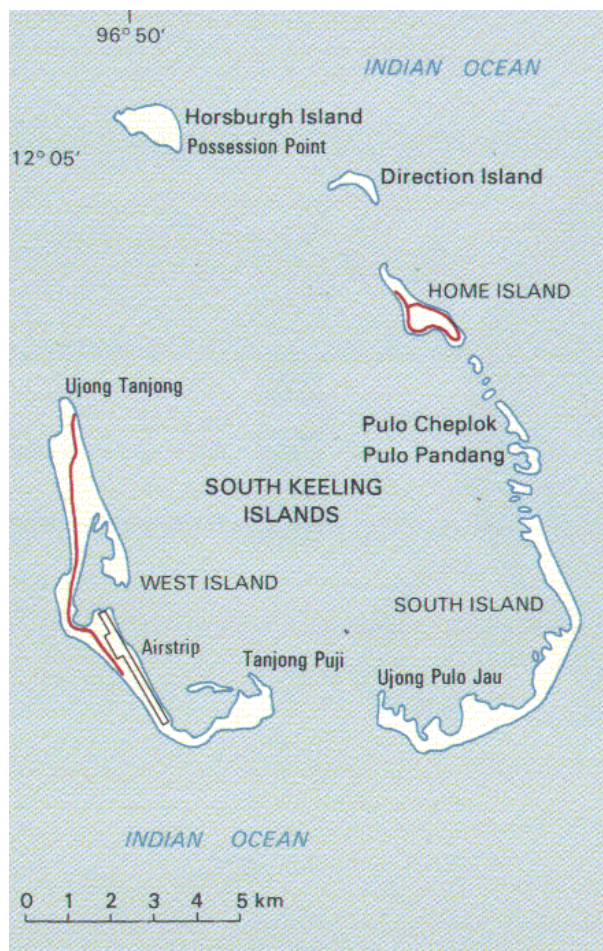
2.3   The IOT Community

A key element of Australia's national emergency management arrangements is sustainability and resilience at a local community level. Community resilience is the capacity of social groups and communities to respond positively or recover from crises. Studies from international and local events have increasingly revealed the importance of agencies working in partnership with communities to deal with emergencies. It is therefore imperative that emergency managers develop strategies for working with culturally and linguistically diverse (CALD) communities. Potential 'fracture points' within communities should be identified to assist in the design and implementation of prevention and preparedness strategies. Improved engagement with CALD communities leads to increased risk awareness and overall community resilience.

The IOT have a culturally diverse community and effective emergency management in these areas must take into account the traditions, culture experience, and sensitivities of all members of the community. Emergency management plans and other local arrangements must recognise and build upon the communities' organic level of resilience.

2.3.1   Christmas Island

The population of Christmas Island is estimated to be around 1000 of which approximately 60% is of Chinese background, 20% is of Malay background and 20% is of European background. The principle languages are Mandarin, Bahasa Malay and English. Other Chinese dialects are also spoken. The islands residents live in a number of "settlement areas" on the northern tip of the island. At sea level is the main population centres of Flying Fish Cove (also known as Kampong) and Settlement. Level two, which is approximately 200m above sea level consists of Drumsite, Poon Saan and Silver City. The majority of residents in the Poon Saan and the Kampong area live in centrally located, multi-storey accommodation blocks.

2.3.2   Cocos Keeling Islands

The Cocos (Keeling) Islands has a population of approximately 600 people spread across two islands, West and Home Island, separated by the lagoon. The population of Home Island comprises mainly the Cocos Malay community. The Cocos Malays are descended from people brought to the Islands in the 19th century from Malaya, East Africa, China, Java, India and Ceylon. They are predominantly Malay, speak a local variant of Malay known as Cocos Malay and follow the Islamic faith. The Home Island community lives in close proximity to one another in a central part of the island. The majority of the West Island population is of a European background. West Island (population 130) comprises mainly employees of government departments, contractors and their families. Whilst the population of both islands mix freely, the community on Home Island follows a largely traditional life and adhere to Muslim religious beliefs and customs.

3. Risk and Emergency Management

3.1   Emergency Management

Emergency Management can be defined as 'a range of plans, structures and arrangements that are established to manage risks to communities and the environment'. Emergency Management is not a "black art" practiced and known only by "uniformed" professions such as police, or fire and emergency services. Emergency management is everyone's business and is an essential part of an isolated community's daily business.

Good emergency management arrangements rely on strong, cooperative, coordinated and consultative relationships among key community stakeholders. This is based, as far as possible, on the all-hazard principle and the requirement for an integrated approach, ensuring the actions of government and non-government agencies are coordinated with those of the community. This strategy encompasses targeted prevention and preparedness measures based on risk management principles and the maintenance of a range of capabilities to manage various types of incidents and their consequences. It has four principal components – prevention, preparedness, response and recovery.

- Prevention: To provide a range of prevention services to increase community awareness of hazards and involvement in minimising their impact. Without adequate prevention, a community is unlikely to become more resilient in the future, as it continues through short-term cycles of preparedness and response without any fundamental changes.

- Preparedness: To provide and maintain appropriate and adequate infrastructure, equipment, skilled personnel, plans and programs in preparation for emergencies. Preparedness activities include analysing probable threats, setting up warning and communication systems and stockpiling supplies.

- Response: To ensure rapid and comprehensive response to emergencies, to contain and minimise the impact of hazards and to perform rescues. During the response phase the focus is on the preservation of life and property and minimising disruption to the community.

- Recovery: To assist the community, employees and volunteers affected by major emergencies to recover effectively and efficiently. During the recovery phase damage assessment is completed and used to inform the re-building of infrastructure and assisting the community recovery mentally from psychological trauma.

Although the words 'disaster' & 'emergency' are used interchangeably throughout this report, it should be noted that this review was focused on those larger scale incidents capable of overwhelming the resources of the IOT.

3.2 Risk Management

The philosophy and methods of emergency risk management are a blend of traditional emergency management and the risk management approaches outlined in AS/NZS 4360:2004 Risk management (ISO 13000 will supersede AS4360 by late 2009). It is an iterative process that, with each cycle, can contribute progressively to improved outcomes by providing decision makers with a greater insight into the risks and their impact. A community-centred approach to emergency management has the primary objective of minimising the impact of emergencies on the community. Disaster mitigation measures act by lessening the hazard, reducing the vulnerability of a community to the hazard, or changing the environment in which hazards and communities interact. A rigorous and systematic risk management process enables communities to identify the most cost-effective combination of measures for the range of risks which they face.

Emergency risk management is a systematic process, which produces a range of measures that contribute to the well being of communities and the environment". It includes: context definition; risk identification; risk analysis; risk evaluation; risk treatment; monitoring and reviewing; and, communicating and consulting. The risk management methodology does not simply analyse 'hazards' but also considers the resilience of a community to those hazards.

Emergency risk management:

- Provides a series of tools and processes that can be used by communities;

- Focuses on the causes of risk, rather than on emergencies that may result from risk;

- Provides an auditable and credible means of reducing risk; and,

- Uses a language that is common to other risk management approaches.

3.2.1 Risk Management Flowchart

The figure below graphically represents the generic risk management process as outlined in AS/NZ 4360:2004.
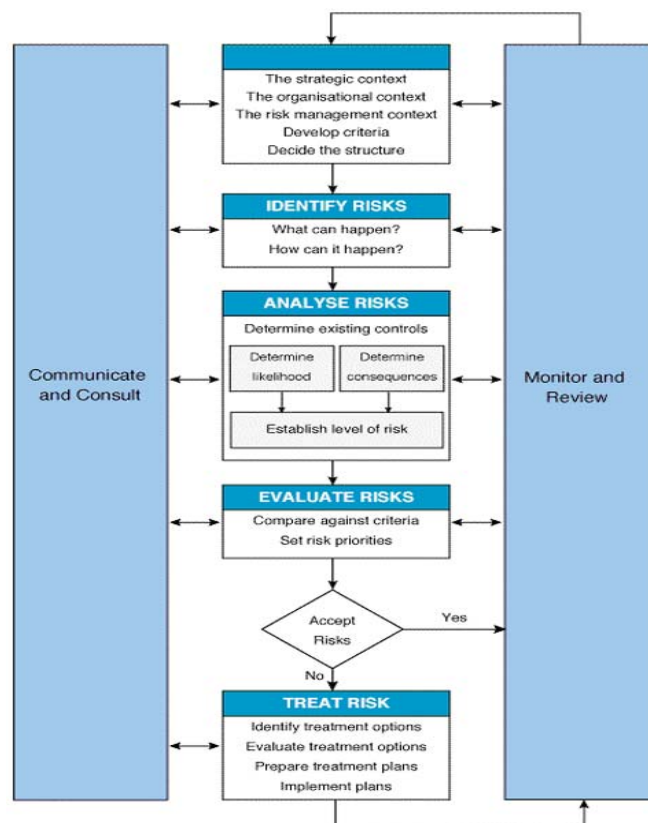
4. Vulnerability and Environmental Hazards

4.1 Risk and Vulnerability

A risk can be defined quite simply as, 'the chance of something occurring that will impact upon objectives'. The process of identifying and analysing key risks should be detailed and applicable to how the community is capable of operating under the worst of circumstances. It is this analysis that should form the basis of the Emergency Management Plans.

Although a large number of studies looking at discrete 'risks' (i.e. rockfall, climate change) have been performed in the IOT but no holistic review of the vulnerability & risk of the IOT has been undertaken. The lack of an integrated risk assessment may result in specific hazards being treated at the expense of less obvious but potentially more damaging risks.

The geographic isolation of the IOT from mainland Australia is an overarching consideration when assessing the risk posed by human and environmental hazards. No Australian community are further removed from the mainland yet closer to major South East Asian centres. In most instances, 12 hours or more would elapse before large numbers of emergency response personnel would arrive on-island. Put simply, the time required to mount a coordinated response is too long to be considered as an integrated component of the response to a disaster.

Notwithstanding the lack of an integrated, comprehensive risk review for the IOT, the Emergency Management Committee's on both CI and CKI have completed organic risk identification exercises. As stated previously, a detailed risk review of the IOT island components would greatly assist in building a stronger EMP in the future.

4.1.1 Christmas Island

The current CI EMP (Nov 2007) lists the following hazards as high risks:

- Earthquake
- Rockfall
- Severe Storm

4.1.2 Cocos (Keeling) Islands

The CKI EMP (April 2008) does not contain a risk assessment of the key hazards facing the island group. During the project team's visit to CKI, four key hazards were identified as high risks by EMC members. These included:

- Tsunami
- Air Crash
- Tropical Cyclones
- Storm Surge

4.2   Christmas Island

There are a number of risks and environmental natural hazards on Christmas Island, not least of which is the sheer isolation of the population from 'normal' mainland emergency services. These include but are not limited to:

4.2.1   Rockfall

A Rockfall Risk Management Plan (RRMP) was originally developed by GHD in 2001 in response to a geological survey conducted by Golder Associates in 1995. A complete revision of this plan was completed in 2006 by GHD Geotechnics and found that the slopes above Flying Fish Cove and the road to Smith Point remain subject to instability and potential landslide events, particularly during heavy rainfall or seismic activity. This is due to the fact that much of the island is composed of porous limestone, which is weakened significantly by water action.

- The geological formations and physical geography of some areas of the Island, such as Flying Fish Cove and the Kampong, lead to a higher likelihood of a rockfall or catastrophic landslide. This series of vegetated cliffs form a natural bowl, rising to approximately 200m above sea level. Several large residential buildings have been developed at the base of cliffs.

- A purpose-designed fence has been built to restrict the effect of a rockfall in the most sensitive area. In 1999 a rockfall in the Kampong area deposited over 10m3 down the slope with the largest single piece weighing over 10 tonnes. This rock was actually caught by the Rockfall Fence and is now located on the seawall.

- Should a rockfall occur, there is the potential to damage critical infrastructure on the island including cutting of the power cable to Smith Point and/or damage to the water and waste water piping. Additionally, access to the Waste Water Treatment Plant may not be accessible during high threat periods.

- The current RRMP contains no reference to other plans and no provision of community awareness activities. The warning system would not readily apparent to new residents of short term visitors to the island.

Rockfall Fence – Flying Fish Cove CI

4.2.2 Storm Surge

As most of the coastline is an almost continuous sea cliff, of up to 20 metres in height in some areas, the risk of storm surge is low. However, Flying Fish Cove on the northeast side of the island, where the port facilities are located, is particularly exposed to large seas impacts of storm surge from the northwest. Tropical cyclones that approach from the west or northwest are the type most likely to generate a damaging storm surge. In addition, north-westerly monsoon winds could generate sufficient swell waves to adversely impact this area of the island. There are recent records showing that swell has inundated the houses of those residing on the north east of CI.

- Christmas Island is less vulnerable to storm surge than Cocos (Keeling) Islands because of its volcanic origins and the surrounding sea cliffs.

- With the exception of the low lying beaches, the coastline inhibits destructive wave run-up throughout most of the island.

- It should be noted that the event of storm surge and the standard weather patterns that accompany them have the potential to impact on the rock fall hazards, given the nature of the island rock formations, and the weakening effect of the running water.

4.2.3 Climate Change

A greater frequency and intensity of severe weather events, such as tropical cyclones, poses a significant risk to the island. Reduced rainfall poses a serious risk to the islands water supply. Other climate change impacts such as rising sea levels and increased temperatures may also impact the flora and fauna on the island. The most recent climate change assessment conducted the CSIRO & Maunsell (2009) found that:

- Christmas Island is less vulnerable to the direct impacts of climate change than the Cocos (Keeling) islands.

- Christmas Island is surrounded by sea cliffs with an average height of approximately 15 metres. Low lying areas such as the Kampong and Settlement are exposed to the affects of sea level rise and storm surge.

4.2.4 Water

The Island's main water supply is pumped underground from Jedda Caves, which is located on the central part of the island to a series of holding tanks within the population centre. Current precipitation projections are associated with high certainties and cannot currently be relied upon for emergency planning purposes. Key issues to note include:

- The demand for water on Christmas Island is largely proportional to the population. Should the population of Christmas Island dramatically rise in the In the future it will have implications for existing water reserves.

- If existing water sources became exhausted tapping natural springs would be required to meet demand until an alternative solutions could be found.

- CI is far less sensitive to a reduction in precipitation than CKI.

- Works are currently underway to bring additional water supply from Waterfall on online, this will further diversify Christmas Island's water supply.

4.2.5 Pandemic Outbreak

Proximity to SE Asia for migratory birds and the increasing exposure to viral diseases carried by visitors to the islands means that a pandemic plan is relevant to the IOT. Controlling the spread of these diseases can be difficult with limited medical resources and supplies. Pandemic planning seems to focus on timing requests from the mainland for help to along with the overwhelming of medical resources on island. Whilst the threat of a pandemic outbreak is a worldwide phenomenon, the isolation of Christmas Island may actually assist health authorities to control and minimise the spread of the contagion.

4.2.6 Flooding

During the wet season, heavy rainfall can occur on Christmas Island at any time. Of particular concern on the island is the impact that heavy rain can have on destabilising the slopes surrounding Flying Fish Cove. As a result, landslips and rock falls are a potential danger during periods of heavy rainfall; however, flooding is not considered a significant hazard in its own right.

4.2.7 Tropical Cyclone

Between 1972 and 2005 there have been 13 tropical cyclones which have passed within 220 kilometres of the Island (BOM). On average this equates to one about one every two to three years. While this suggests that Christmas Island has a low-medium cyclone risk, there is still the potential for a major impact on Christmas Island in the future. Importantly recent analysis by the CSIRO & Maunsell (2009) predicts that:

- There may be a slight decrease in cyclonic activity in the future however the intensity of these events is likely to increase (Category 4 and 5).

- Over 66 Tropical Cyclones have occurred within 500km of Christmas Is in the past 50 years.

- Tropical Cyclone Rosie, a Category 2 Cyclone passed close to Christmas Island in August 2008 resulting in damaging 5-7m waves in Flying Fish Cove.

- There are no purpose built cyclone shelters CI. The newly opened DIAC Immigration Detention Centre at North-West Point has been cyclone rated.

4.2.8 Aviation Accident

Air services are a vital link for the IOT and the Christmas Island international airport handles a small number of regular passenger transport flights per week. The current aircraft types flying to Christmas Island include jet aircraft such as the BAE 146 and Airbus A320. Due to the relatively high passenger capacity of these aircraft, a significant accident at the Christmas Island airport is likely overwhelm the islands response capacity.

- A contractor is responsible for the day-to-day management of the airport, including the development of an Airport Emergency Plan (AEP) and the conduct of an annual exercise.

- A large number of on-islands agencies are included within the AEP and many of these have specific actions identified during an airport emergency.

- The AEP is only valid for incidents occurring within the geographic boundaries of the airport, outside of these boundaries the island's EMP would apply.

4.2.9 Fire

Christmas Island, like many small communities faces a risk posed by a fire in an industrial, commercial or residential area of the island. A volunteer FESA brigade (FESA CI) is the sole combat agency on island. Whilst there has not been a significant fire on island in recent history community awareness activities remain important. For example, Bushfires are a hazard during the dry season given the extensive natural vegetation on the island.

4.3 Cocos (Keeling) Islands

Similarly to Christmas Island there are a number of risks and environmental natural hazards in the Cocos (Keeling) Islands. The ability to mitigate the hazards on CKI is constrained by the smaller population, which limits the depth and breadth of services available during an emergency response. Some of the identified risks and environmental hazards include:

4.3.1 Tropical Cyclone

Since 1952 there have been 27 tropical cyclones which have caused severe wind gusts of at least 90 km/h in the Cocos (Keeling) Islands with several causing destructive winds. In the past 50 years over 95 Tropical Cyclones have occurred within 500 kilometres of CKI. Historically the most significant cyclone to affect the Islands occurred in 1909 when a wind gust of 225 km/h was estimated and a pressure of 945 hPa was recorded.

- A recent climate change study by the CSIRO and Maunsell found that the number of tropical cyclones will decrease by approximately 25% but the frequency of high intensity cyclones will double.

- Purpose built cyclone shelters exist on both Home and West islands and are maintained by nominated community members.

- According to BOM cyclone patterns in the Indian Ocean have become far more erratic over the past decade (see image below). The existing data on historical cyclonic activity is no longer considered representative of probable future events by many meteorologists.

Tropical Cyclones crossing within 250km of CKI –1996 to 2006
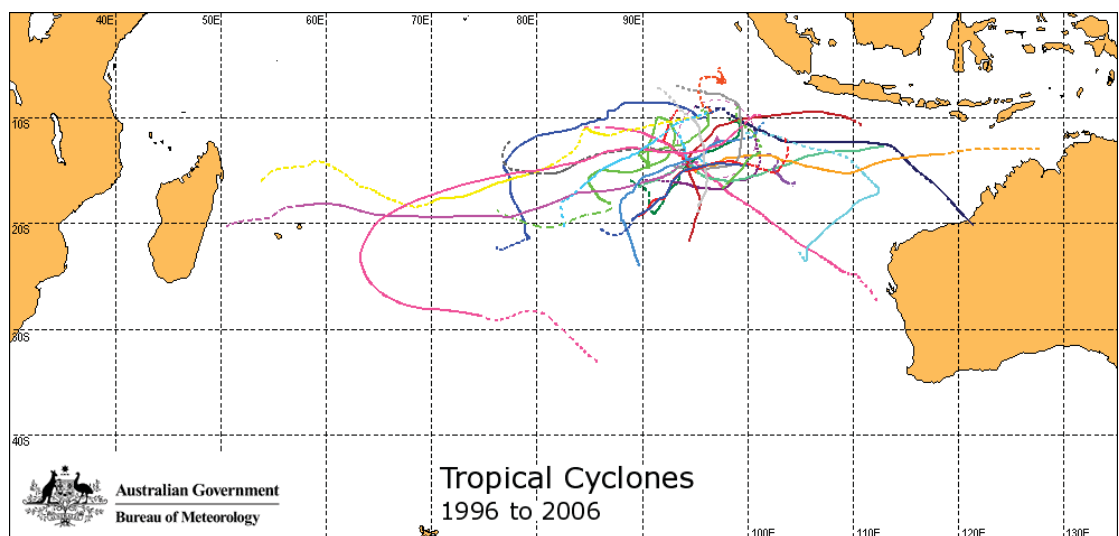
4.3.2 Tsunami

The low lying nature of the islands makes Tsunami a serious threat. Whilst not significantly impacted by the tragic events of the Indian Ocean tsunami on 26 December 2004, the first wave passed the Cocos (Keeling) Islands just two and a half hours after the earthquake occurred.

- Whilst destructive tsunami didn't occur at CKI following this incident, it is probable that such an event will occur in the future, although the time period cannot be predicted with any accuracy.

- It is likely that future tsunamagenic events on CKI will occur with little or no warning to the community, despite the establishment and ongoing development of a Tsunami Warning System (TWS) for the Indian Ocean.

4.3.3 Storm Surge

The Cocos (Keeling) Islands are low lying coral atolls in the Indian Ocean and as a result are highly exposed to potential storm surge activity. The median height above sea level for most of the islands in the Cocos group is between 2-3 metres above sea level. A strong tropical cyclone combined with a high tide could result in a devastating storm surge across the islands due to the narrow shallow shelf.

- A devastating storm surge event occurred on CKI on 27th November 1901 during a cyclonic event. Wave heights of greater than 10 metres above sea level were reported across Home Island.

- A storm surge may result in other impacts such as salt water inundation of the water supply and/or loss of mains power.

4.3.4 Water

The bulk of freshwater comes from large natural reserves called lenses in the coral sand and gravel beneath the islands. The lenses float on top of the ocean's denser salt water and are recharged only by rain.

A very serious threat is posed by saltwater inundation of the CKI water supply making it unusable. Whilst this threat has not been quantified, international experiences on other coral atolls with similar fresh water lens have highlighted the vulnerability to salt water inundation. Contamination of the fresh water lens by other substances, such as chemicals or fuel is also a potential risk. This is of major concern to the local community and would necessitate the use of desalinated water until supply could be restored.

4.3.5 Climate Change

The Cocos group may be one of the most at risk areas in Australia from the effects of climate change Whilst there is general agreement amongst the scientific community about the potential impacts of climate change, the probable timeframe for these impacts to occur is less clear A greater frequency of intense severe weather events, such as category 4 and 5 Tropical Cyclones, poses a significant risk to the island. Reduced rainfall poses a serious risk to the islands water supply as does steadily rising sea levels. The most recent Climate Change modelling by the CSIRO & Maunsell (2009) found that:

- The Cocos (Keeling) islands are extremely vulnerable to the potential impacts of climate change, particularly sea level rise. The settlements located on Home and West Islands would be directly impacted.

- Sea level rise is particularly important for low lying areas as it enhances coastal erosion and susceptibility to inundation.

- Even relatively minor changes in sea level associated with other meteorological events such as storm surge are likely to have dramatic consequences.

4.3.6   Maritime Accident

The passenger ferry between Home and West islands is used by residents as the primary means of crossing the lagoon. The risk of an accident occurring, especially during the evening hours cannot be discounted as the ferry travels several times per day, each day during the year.

4.3.7   Aviation Accident

The airfield on CKI has been of strategic importance to Australia since the Second World War. The airport acts as the primary link between Australia and the CKI community. The airport on West Island handles a small number of jet services per week and irregular military aircraft traffic. The consequences of a major accident would be likely to overwhelm the islands response capacity immediately.

- A contractor is responsible for the day-to-day management of the airport, including the development of an Airport Emergency Plan (AEP) and the conduct of an annual exercise.

- An air crash on CKI may result in other, indirect hazards including the contamination of the fresh water lens by fuels or specialist fire fighting chemicals, such as Aqueous Fire Fighting Foam (AFFF).

- There are also plans to upgrade this airfield. An opportunity to address these issues and construct a robust airfield upgrade seems logical.

5. Emergency Management in the IOT

5.1 Governance

The current legal framework in the Indian Ocean Territories was established by the *Territories Law Reform Act 1992* (Cth) which amended the definition of "Australia" in the Acts *Interpretation Act 1901* (Cth) to include Christmas Island and the Cocos (Keeling) Islands. This means that any Commonwealth legislation that applied to Australia (in a geographical sense), also applies to the Indian Ocean Territories. However, some Commonwealth legislation may expressly and intentionally exclude the IOT for specific purposes, such as the amendments to the *Migration Act 1958* (Cth)

Western Australian laws apply to the Indian Ocean Territories by virtue of sections 8A and 8G of the *Christmas Island Act 1958* (Cth) and sections 8A and 8G of the *Cocos (Keeling) Islands Act 1955* (Cth). Under the act, all powers vested in a person or authority under Western Australian laws are vested in the Minister, with the exception of those vested in a court official or a court. *The Local Government Act 1995* (WA) was introduced in 1992 and the Shire Councils on both CI and CKI have the same responsibilities as a local government on the Australian mainland.

Western Australian law

Western Australia laws applied in the IOT may be amended, repealed or suspended by an ordinance made by the Governor- General. The *Emergency Management Act 2005* (WA) is applies to the Indian Ocean Territories without modification. However, an ordinance is required to give effect to the provisions of the Act due to the unique characteristics of the IOT. The Governor-General may also create ordinances for the peace, order and good government of each territory under sections 9 and 12 of the *Christmas Island Act 1958* (Cth) and the *Cocos (Keeling) Islands Act 1955* (Cth), respectively.

State and territory authorities have constitutional responsibility for the planning and coordination of the response to disasters and other emergencies within their territorial boundaries. When the total resources (government, community and commercial) of an affected State or Territory cannot reasonably cope with the needs of the situation, the respective State or Territory government can seek assistance from the Australian Government. The Commonwealth Government accepts responsibility and prepares plans for providing Commonwealth physical resources in response to such requests. In practical terms this results in either physical assistance (often provided by the ADF) or financial support to the recovery effort.

5.2 Responsibilities

An Administrator appointed by the Governor-General under the Administration Ordinance 1968 is the senior Australian Government representative in the Territory and resides on Christmas Island. The Administrator is responsible for law, order and the general good

government of the Territory. The Attorney-General's Department (AGD), on behalf of the Minister for Home Affairs, is responsible for the provision of all State services to the Indian Ocean Territories. State-type services are provided either directly by the Department, through Service Delivery Arrangements (SDA's) with the Western Australian Government or through contracted service providers. In effect, the various SDA's function like a Memorandum of Understanding (MOU) between Commonwealth and the Government of Western Australia.

Other services are provided by private providers under contracts managed by the Department (e.g. port and airport management). Some specialised services are delivered directly by several AGD "business units' these include health services (IOTHS) and power generation (IOTPA).

Within the Attorney-General's Department, Territories West (TW) Branch coordinates day-to-day government administration within the IOT. TW Branch also provides support to the Office of the IOT Administrator. During previous emergencies, TW has performed a liaison role between other Australian Government agencies and non-government stakeholders.

Australian Government Emergency Management Arrangements
As a rule, Australian emergency management arrangements broadly reflect the three levels of government, that is, Local, State/ Territory and Commonwealth. The situation with the IOT is somewhat unusual in that normal State/Territory functions are the responsibility of the Commonwealth.
Whilst there is no Commonwealth legislation for emergency management, the Australian Government accepts responsibility and prepares for providing assistance to States and Territories during an emergency. The Attorney General is the minister responsible for emergency management matters and Emergency Management Australia (EMA), a division of the Attorney-General's Department, is nominated as the agency responsible for planning and coordinating Australian Government physical assistance to the states and territories.
The Commonwealth Government Disaster Response Plan (COMDISPLAN) provides the framework for addressing state and territory requests for Commonwealth physical assistance arising from any type of emergency. Such physical assistance is provided when State and Territory resources are inappropriate, exhausted or unavailable. Coordination of these functions is carried out by Attorney-General's Department Coordination Centre (AGDCC) located in Canberra.

5.3   Stakeholders & EM Arrangements

5.3.1   Emergency Management Australia (Attorney-General's Department)

Emergency Management Australia (EMA), a division of the Attorney-General's Department, maintains responsibility for national disaster-related matters or when a state or territory governments seek disaster assistance from the Commonwealth Government. EMA maintains a suite of contingency plans and arrangements for use during times of disaster within Australia or overseas.

Current arrangements

The Commonwealth Government Disaster Response Plan (COMDISPLAN) provides the framework for addressing state and territory requests for Commonwealth physical assistance arising from any type of emergency. COMDISPLAN is normally activated when Commonwealth assistance for emergency response or short-term recovery is requested or likely to be requested. COMDISPLAN (4.6.1 & 4.6.2) refers specifically to the Indian Ocean Territories and states that the Australian Government retains responsibility for the coordination of support during times of disaster.

EMA has recently undergone a wide ranging restructure as part of a broader, Department wide initiative. At the time of this report, an updated version of COMDISPLAN reflecting the amended internal arrangements was not available for review.

EMA advised the project team that it had not conducted any emergency planning or preparedness activities in the IOT since Exercise Crabs Revenge in late 2007. No exercises or other training activities are forecast to be conducted by EMA in the IOT during the 2009/2010 financial year. EMA staff expressed the view that management of a major incident would be 'as per COMDISPLAN arrangements' as the situation occurred. EMA could not locate copies of the extant CI and CKI EMP's and it was unclear what links, if any, are maintained with key stakeholders such as the Office of the Administrator and the Territory Controller. Correspondence between the Office of the IOT Administrator and EMA from 2007, including requests for emergency management collective training and exercise support was not able to be located for this project

5.3.2   Department of Immigration & Citizenship

The Department of Immigration and Citizenship opened a new Immigration Detention Centre (IDC) at North West Point in late 2007. This state of the art facility was designed as a self-contained facility, requiring little infrastructure support from the remainder of the island. Due to the small size of the CI community, the large and growing DIAC presence warrants ongoing attention from an emergency management perspective.

DIAC Facilities

There are currently three Immigration facilities in use on Christmas Island. At surge capacity in all three facilities, the number of people within detention on CI may actually eclipse the number of people living in the broader island community.

- North West Point: Nominal capacity 400 persons / surge 800 persons
- Construction Camp: Nominal capacity 350 persons / surge 350 persons
- Phosphate Hill: Nominal capacity 52 persons / surge 104 persons

The North West Point IDC is located approximately 20 kilometres from the main settlement of Christmas Island. It consists of permanent buildings including medical facilities, kitchens, laundries, internal and external visits areas, conference facilities and back-up power and communications equipment. The total floor area of the IDC is 30,000 square metres and the entire site has been landscaped. The IDC is equipped with a secure, satellite link to mainland Australia. This network is independent of other communications systems on CI and could provide an alternate means of communications if other linkages have failed.

The provision of health services to people within the IDC is the responsibility of DIAC. A contractor provides health services staff including doctors, nurses and specialist health care

professionals in line with the level of demand and individual health care requirements. IOTHS may also provide limited health services to immigration clients as required.

North West Pont IDC – Christmas Island

Current Arrangements

At present there is little evidence of any integration between DIAC and the EMC in emergency management planning. The EMC is not aware of DIAC contingency plans and it is unlikely that DIAC management are conversant with the emergency management arrangements on island. The CI EMC has DIAC representation, although many stakeholders commented that contacting DIAC is problematic and was reliant upon a mobile phone number. The EMC is not currently aware of DIAC's contingency arrangements to manage an emergency at the IDC or what additional support may be required.

DIAC have advised that they are still establishing a steady state of operations at the North West Point facility. The isolated location of the IDC and independent nature of their operations has resulted in limited engagement with the local emergency management community. At present, notification of the arrival of suspect illegal entry vessels (SIEV's) is currently not well coordinated. As a result, some key island stakeholders such as medical, transport & port authority staff are not informed of the arrival of a vessel until the last possible moment. The politically sensitive nature of this information does not lessen the requirement for emergency management stakeholders to be informed as soon as possible.

To support future operations, DIAC's intent is to base a significant proportion of staff on CI on a semi-permanent basis (postings) that will include local CI residents in addition to mainland based DIAC staff. A recent development has been the inclusion of a designated DIAC staff member at CI Emergency Management Committee meetings.

DIAC have recognised that it is beneficial to establish a relationship with the local community that is sustainable and mutually beneficial. It is DIAC's intent to engage more meaningfully with the CI EMC to better appreciate the complexity of the emergency management environment on the island in the future.

5.3.3 Australian Federal Police

The Australian Federal Police (AFP) provides community policing services to Christmas Island via an agreement with the Australian Government. The AFP station on CI is staffed by a combination of uniformed police officers and special constables, who are drawn from the local community. The senior AFP officer is designated as the Territory Controller, who is responsible for the overall management of an emergency response on island.

Current Arrangements

The Territory Controller is responsible for advising the Administrator and the EMC on emergency related matters, including the management of the EOC during an emergency, In the absence of the Administrator, the Territory Controller assumes responsibility as the Chair of the EMC. During an emergency, the Territory Controller in consultation with the Administrator is authorised to request Australian Government assistance via EMA.

5.3.4 Defence

The Australian Defence Force (ADF) maintains a suite of contingency plans for assistance to the civil community during times of disaster. These arrangements are well practised and the ADF has extensive experience conducting disaster relief operations in the region and maintains specific capabilities such as heavy lift aircraft, deployable medical teams and specialist communications personnel who could assist during an emergency response. EMA indicated that they would approach the Australian Defence Force (ADF) in the first instance for the provision of physical assistance to the IOT following a disaster.

Current Arrangements

There is no permanent ADF presence on CI. The EMC is currently advised by a former ADF Officer living on the island. This appears to be an ad-hoc arrangement and the project team was unable to verify the existence of formal links to either HQ Northern Command (NORCOM) or HQ Joint Operations Command (JOC).

The RAAF has two communications technicians based permanently on CKI to support air operations.

5.3.5 Fire & Emergency Services Authority Western Australia (FESA)

The Fire and Emergency Services Authority of Western Australia (FESA) provides services to the Indian Ocean Islands under an operational brief which is part of a Service Delivery Arrangement (SDA) with the Commonwealth of Australia. The cost of providing these services is met entirely by the Australian Government

FESA's services to the islands developed from previous arrangements with the Western Australian Fire Brigades Board. These arrangement included fire suppression, hazardous materials response and emergency rescue services, the arrangements were expanded to include support for airport emergency response and other hazards for which FESA's State Emergency Service is responsible. In addition, the SDA establishes that FESA may, at the invitation of the Territory Controller or the Administrator, provide emergency management planning advice, or assist with the development, running or assessment of emergency preparedness exercises. The current SDA also makes provision for support to Volunteer Marine Rescue services.

Current Arrangements

The coordination of state-level services to the Indian Ocean Territories is the responsibility of the FESA Chief of Operational Services. In February 2006, direct support to the volunteers at Christmas and the Cocos (Keeling) Islands was transferred from the FESA Operations Coordination Directorate to the FESA Operational Services District Manager Pilbara. The delivery of Marine Rescue Units on Christmas and Cocos Island was coordinated by the FESA Volunteer Marine Rescue Services Coordinator. The Commonwealth retains all responsibility for dealing with major disasters or emergencies in the Territories, including the coordination of disaster assistance. FESA may provide support to these operations upon request from Commonwealth.

No permanent FESA staff are located in the IOT, although staff from a number of FESA business units travel to the IOT on a bi-annual basis. The current annual expenditure by WA FESA is approx $600k per annum. A large component of the budget is consumed by travel and other expenses associated with FESA staff travelling to the IOT. Travel to the IOT is both time consuming and expensive. Under current funding arrangements, the majority of emergency management funding provided by AGD to FESA is not actually spent in the IOT.

FESA training is primarily targeted at developing the individual skills for their volunteer staff. It is acknowledged that FESA is able to provide additional emergency management training and professional development opportunities should AGD provide further funding. The transient nature of many CI & CKI residents' has resulted in a turnover of trained volunteers every two to three years. The sequencing of training is also important – for example the CI VMRS recently received a marine rescue vessel from FESA. However, the use of this vessel for training purposes has been curtailed by a lack of suitably qualified personnel.

Whilst the number of individual volunteers with training has increased, many members of the EMC commented that there had not been a corresponding increase in the level of preparedness amongst first responder agencies.

FESA conducts most of its specialist volunteer training in Perth. Attendance at external training by groups of CKI volunteers can be problematic for a number of reasons. Firstly, the ability to respond to an incident may be comprised with even a relatively small number of staff absent given the small number of first responders on CI & CKI. Many volunteers have 'day jobs' that are important to the efficient and effective operation of the IOT. The cost of travel & accommodation to Perth should also be considered.

5.3.6   Emergency Management Committee (EMC)

Emergency management in the IOT is currently the responsibility of an Emergency Management Committee in each Territory. Both Committees are chaired by the IOT Administrator and contain representatives from local organisations. In practical terms, the AFP Territory Controller would assume responsibility for overall coordination during an emergency. Due to the isolation of the IOT the initial response to an emergency or disaster will be led by the on-island resources available at that time.

Several volunteer organisations also undertake emergency management activities in the IOT, including a fire and emergency services unit, St Johns ambulance service and a marine rescue service. It is desirable that emergency management arrangements in the IOT strongly reflect the identity of the unique environment and culture of the Territories and FESA's efforts to support this are commended.

The Cocos (Keeling) and Christmas Islands EMCs are responsible for preparing, implementing and validating EMPs. The EMPs are authorised by the Administrator and act as a reference document for the EMC. The EMPs do not use the Australian Inter-service Incident Management System (AIIMS) Incident Control System (ICS) methodology. The AIIMS has been widely adopted by Australian Fire services, including FESA.

5.4 Other Agencies & Issues

5.4.1 Indian Ocean Territories Health Service (IOTHS)

The IOTHS operates the 12-bed, Christmas Island Hospital, which is staffed by two doctors, several nurses and allied health professionals. Additional medical support is provided by combination of visiting health providers travelling to CI on a regular basis or patients are transferred to Perth for individual care. The IOTHS maintains a contingency plans for a health emergency on-island and minimum staffing numbers are maintained via locum medical staff as necessary.

Whilst the IOTHS facilities at the Christmas Island hospital are of a high standard, the number of small number of trained medical staff means that resources would be quickly overwhelmed during an emergency. In particular, the small number of ventilators restricts the number of high dependence patients to a maximum of two at any one time.

5.4.2 Communications

The isolation of the IOT necessitates a robust and layered communications network that can be relied upon during normal and emergency situation. The primary link between Christmas Island and the mainland is via a satellite link located at Irvine Hill. This system supports all telephone, mobile and data services on the island. In the event that the satellite link was lost, satellite phone communication would be required until normal services could be restored. The DIAC facility at North West Point also maintains a 'stand-alone' satellite communications capability.

The landline network on both CI & CKI is well serviced. The lack of a mobile phone network on CKI means that a reliable landline phone network is vital for intra and inter-island communications. A limited (non-3G) mobile phone network is operated by Telstra on Christmas Island. Whilst reliable, the coverage of mobile phone system is limited to the populated areas of the island with the vast majority of the national park without any coverage. On CKI, a private mobile phone system is gradually being phased out, with coverage already lost on Home Is.

Internet services are provided via a dedicated satellite (Intelsat). There is no fibre or cable link to the IOT and no domestic satellite broadband service available. However due to the specialist nature of these services, the costs are prohibitive compared to mainland Australian rates.

A VHF marine radio network provides coverage for approximately 15 kilometres offshore on both CI and CKI via repeater towers. The VHF radio network is considered vital to both islands during both normal and emergency situations. Many residents have access to a VHF radio in their boat, vehicle and private residence.

Christmas Island Internet Administration

The Christmas Island Internet Administration (CIIA) provides a wireless internet service on both CI and CKI. The CIIA system utilises a private satellite system and is independent of

the Telstra network for data services. In the event of a failure of the Telstra system, the CIIA wireless internet system could be used as a redundancy during an emergency or disaster.

6. Key Findings

This section of the report outlines the key findings of the project. For ease of reference, project findings have been ordered according to the PPRR principles for both Christmas and Cocos (Keeling) Islands.

6.1 Christmas Island

6.1.1 Prevention

- **Risk analysis and rating**: CI has a substantial portfolio of risks that have potential to cause major disruption to life on island. Whilst some work has been done to identify these risks and explain them, there has not been any link made to how they may affect a response. This linkage is important across the entire spectrum of EM. The ability to assess severity and rate risks allows contingency planning to be more focussed and preparedness to be effectively targeted. Given the restricted nature of resources and personnel on the island, any analysis done on likelihoods and impact of risks will place the EMC in a far better position to respond.

- **Lessons learnt:** Lessons from previous incidents and exercises on Christmas Island have not been formally captured by the EMC. As a result, much of the EM knowledge on island has become folklore amongst local residents. It is critically important to understand what has occurred previously, including the successes and failures to fully appreciate capability gaps. The most obvious of these are:

  o The lack of formal records of significant rockfalls incidents in Flying Fish Cove.

  o The reports on recent storm surges and impacts

  o Impact studies after major storms and wind effects on communications, road conditions, and island structures.

- **Infrastructure:** A substantial amount of the existing infrastructure on CI has not been designed in accordance with Australian building standards. This includes water services, residential & commercial buildings and some of the road network.

  o With the exception of the North West Point IDC, there are many buildings on CI that are of questionable build quality. Whilst no specific studies have been made available on this issue, conformity to the Building Code of Australia cyclone standards would be a valid starting point. The implications of buildings and homes being destroyed are obvious, but an understanding of how severe things could be will assist in planning.

  o The SOCI conducts community cleanup days prior to the Cyclone season commencing to ensure that household items do not become debris during a severe storm.

- Service Delivery Arrangements: The Attorney-General's Department uses a number of services delivery arrangements to provide State Government type services on island. Current SDA's do not include provision for emergency management (with the exception of FESA). The inclusion or reference to emergency management in these arrangements would:

  o Ensure each party is fully aware of their potential role in emergency, including short notice requests for additional personnel or equipment.

  o Assist to develop a culture amongst service providers that emergency management is 'everyone's business'.

- Communications: The isolation of Christmas Island has resulted in the development of a robust communications system that encompasses the spectrum radio, mobile, landline, internet and satellite services. The existing communications network on Christmas Island is considered adequate for emergency management purposes, although mobile phone coverage could be extended to a greater proportion of the island.

  o The current receiver system for communications on island revolves around a single communications dish, located on Irvine Hill. This is a potential single point that may represent a prolonged communications gap on the island.

  o The current DIAC suspect boat arrival procedures are not well understood by emergency management stakeholders, including EMC members.

6.1.2   Preparedness

- Resilient community: The CI community is a culturally and linguistically diverse group with a permanent population of approx 1200. Due to the presence of the mine, there is substantial heavy plant and other resources in addition to those of the SOCI. There appears to be an appropriate amount of good will and an assumption that key stakeholders will provide any and all required support in terms of resources and staff during crisis. Whilst this is encouraging and highlights a strong community bond, many stakeholders lack the detail required in the provision of these services, and as a result, there appears to be a discrepancy in expectation. Formal dialogue and an agreed level of support must be reached to clarify these assumptions.

  o Many community members are self-reliant and able to actively support the EMC to response and recover from an emergency.

  o A significant proportion of the population have access to 4WD vehicles, generators, VHF radios and other emergency supplies.

  o Many community members are members of more than one voluntary organisation on the island, and in the event of s significant emergency, would potentially be required in two separate capacities.

- Training: At present FESA does not provide training to other members of the CI or CKI emergency management committees. These agencies would benefit from professional development activities such as 'coaching' or 'mentoring' key EMC appointments who do not have an emergency management background. Whilst this would enhance emergency preparedness, it will also build resilience within the EMC and confidence of their ability to manage an emergency.

- o Whilst recognising the challenges of delivering training remotely, further consideration should be given by FESA to providing training that includes self paced course packages. This may enable a greater number of CI residents to become emergency management volunteers

- o Additional focus should also be given to FESA tailoring training packages for delivery in the IOT. FESA's current focus is in the delivery of fire training and 'On Scene Commander' training for fire incidents. These packages are relevant, but could certainly be of more benefit if tailored to specific IOT threats/ risks

- Coordination: Emergency management is often an afterthought on CI. As part of the stakeholder engagement process undertaken by this report, many comments were made about the possibility of having a full time role focussing on EM on island. An 'Community Emergency Management Officer', or CEMO, could coordinate training at all levels on-island, monitor and address issues as they arise and further develop the capabilities of the EMC. This role is discussed further in the report.

- Emergency Management Plan: Many stakeholders approached during the review, already had their own 'emergency or crisis plans', to assist in managing their individuals responsibilities during crisis. Whilst this is encouraging, there was almost always references made to other stakeholders in the community, and the support that they would expect from the 'government'.

  - o The existing CI EMP is not a user friendly document and should be the primary reference point for emergency management stakeholders on island.

  - o The CI Airport Emergency Plan (AEP) includes actions of a large number of on island stakeholder agencies, including AFP, IOTHS etc. It is unclear how many stakeholders are actually aware of their assigned roles within the plan.

  - o It is unclear under what authority, if any, has authorised the CI AEP.

- Exercises: Many of the comments received on island revolved around communication issues, and the ability to coordinate the wide range of resources available on island during crisis. A staged approach, commencing with walk-through scenarios leading to mock exercises with real time constraints would allow the EMP to be tested.

  - o There has been an average of one desktop exercise run for the EMC each year, focussing on a single scenario. From all reports, these exercises have been well run, and adequate to test basic process.

  - o There has not been any real reference to lessons learnt, or follow up training to rectify deficiencies faced during exercise conditions. The transient nature of the island means that many of the linkages in the community you would expect on the mainland do not exist, and they are important during crisis.

  - o Exercising is a skill and without regular practice, it is unlikely that sustainable progress will be made. The commitment to bringing these individuals together is critical. An exercise regime should commence with a focus on developing solutions to lessons learnt as part of the process.

- Emergency stocks and supplies: CI has an appropriate supply of parts and supplies for daily operations that applies to a crisis situation where support from the mainland could be delayed. Machinery parts, fuel, food stores and technical parts are all held

on island. This is to be commended, despite the obvious auditing difficulties that causes on an annual basis for agencies such as the Water Corporation.

- o Some gaps exist in stockpiles of emergency supplies, for example tarpaulins & portable generators.

- Communications: The communication system, maintained by the Telstra contractor on island is robust and of a high standard. With an initial feed via satellite, all landline communications are run underground via optic fibre cable. The availability of the phone system on CI compares favourably with the mainland.

  - o The single satellite dish at Irvine Hill is potential a single point of failure in the communications system.

  - o The CI VMRS is developing a radio logging system for recreational marine vessels using the VHF radio network.

- Warning Systems: Cyclone Warning lights are strategically positioned throughout the community in prominent locations. There is a general understanding within the community as to their purpose and procedures,

  - o A system of automatic warning lights to indicate a potential rockfall hazards are located in Flying Fish Cove.

  - o The cyclone warning lights require manual operation.

  - o They are poorly signed and their purpose remains a mystery to island visitors and short term residents.

6.1.3   Response

- Emergency Management Committee: The EMC is not functioning as effectively as it could be and is in need of strong leadership to be recognised by the community as having a meaningful role. An emergency response would be led by the Territory Controller

  - o Many of the activities conducted by the EMC are due the level of commitment of key individuals rather than a part of a structured training program. An emergency management exercise (MV ROSITA) was conducted in 2009. Whilst this exercise is commendable, it was only developed because of the interest and drive of the AGD officer concerned.

  - o Ideally, EMC positions should be based upon roles within the community, rather than personalities, to enable a logical transition when key appointments leave the island either temporarily or permanently.

  - o Key appointments within the EMC (Administrator, Territory Controller etc) are positions that rotate every two years (often much more often) resulting in a lack of continuity and fragmented understanding of other agencies roles & capabilities.

  - o The EMC's contact lists are out of date. Stakeholders involved in providing support to the EMC should know how to contact their counterparts at all times.

  - o EMC is not meeting frequently enough to enable lessons to be learnt from previous exercises/incidents.

- The existing EMC membership is unwieldy and too large to conduct an effective response during an emergency.

- EMC currently lacks strategic direction; there are no clear KPI's or objectives that drive the training program on an annual basis. Without clearly specified metrics, it is hard to determine whether the activities of the EMC have been successful or not. At present the activities of the EMC are largely determined by the EMC Executive, of which only one member has a background in emergency management.

- The EMC is essentially a second or third role for many of its members. The EMC would benefit from a fulltime, experienced emergency manager who is able to drive and guide the committee on an ongoing basis (i.e. CEMO).

- **Hierarchy of plans:** In a similar to the situation on CKI, several agencies made reference to their own plans and arrangements that have been developed without reference to the CI EMC. Where practicable, these arrangements should reference the broader CI EMP as a minimum and ideally become sub-plans (or appendices) of the broader document.

- **Medical capabilities:** Whilst the CI Hospital is well staffed and resourced for day to day island medical issues, a medical staff consisting of two doctors, four nurses and three mental health professionals means that they reach capacity at two critically ill/injured patients.

  - Well practiced procedures are in place for the aero-medical evacuation of seriously ill individuals from both CI and CKI.

  - During an emergency or disaster it is virtually certain that the medical resources of the IOTHS will be quickly overwhelmed.

  - The DIAC IDC health capability current matches the CI Hospital for numbers, and the current contract held by IHMS (International SOS) has emergency nurses and doctors on staff.

- **Volunteers:** The strong sense of community on CI has resulted in strong volunteer base. Indeed, with the exception of the AFP, volunteer's staff form the backbone of the remainder of the emergency agencies on island including the VMRS, SES and fire service.

- **Phosphate Resources:** The Mine does not have an emergency response team – staff from the mine currently comprises the majority of the Fire, SES and VMRS members. As such, the mine has anticipated being able to draw upon these resources to assist it with responding to an incident.

6.1.4 Recovery

- **Planning:** A lack of recovery planning remains a key area of concern and this has been raised in the past during previous exercises. Optimal recovery initiatives should reflect learning gained from previous disasters or training activities. Effective recovery plans and arrangements are a critical yet often neglected element of emergency management.

  - The SOCI has previously expressed a desire to undertake further recovery planning, including the development of an integrated plan however they lack the personnel with skills necessary to complete this work.

- Several agencies expressed strong views regarding the response phase of an emergency but were unclear what resources and support would be needed to aid a community recovery.

- **Industry Support:** The Mine recognises that their staff are members of the local CI community – whilst the mine faces commercial pressure to re-establish operations as soon as possible; the welfare of staff and their families is paramount. Following and emergency on island the mine will release staff and equipment to assist with the community recovery.

6.2 Cocos (Keeling) Islands

6.2.1 Prevention

- **Community:** The CKI population is a resilient, tight knit community. They are familiar with general emergency management principals and used to living in an isolated environment with the threat of severe weather events on an annual basis. The WI population includes a number of people who have been on island for many years and have a detailed understanding of the capabilities and limitations of on-island agencies and the capacity of individuals in the community.

  - The outcomes of previous exercises and incidents are well known amongst community members, although formal records were not produced during the review.

  - The very small number of residents on CKI and the co-location of residential and commercial facilities enabling information to be passed quickly amongst community members.

  - The Cocos Malay community on Home Island has informal leadership groups such as village elders who are not necessarily represented in formal appointments on the CKI EMC. Without the support of these influential community members and emergency response may be complicated or delayed.

  - Control during crisis conditions in the past have fallen to AFP Special Constables on HI. These locally appointed officers have the complicated task of balancing the Response requirements of the AFP representative and that of the elders on the island.

- **Risk analysis and rating:** The CKI EMP does not contain a risk analysis. This is a critical omission and should be a priority for the EMC. The ability to assess severity and rate risks allows contingency planning to be more focussed and preparedness to occur. Given the restricted nature of resources and personnel on the island, any analysis done on likelihoods and impact of risks will place the EMC in a far better position to respond.

- **Lessons learnt:** Lessons from previous incidents and exercises on Cocos (Keeling) Islands not been formally captured by the EMC, AFP CKI or the Attorney-General's Department.

  - The museum on West Island contains limited written and photographical of the Tropical Cyclone that devastated the island group in 1909.

- Infrastructure: Some of the infrastructure on CKI has been designed in accordance with Australian building standards for cyclonic areas. Home and West islands contain purpose built cyclone shelters that are maintained by community members. The shelters are capable of accommodating both residents and visitors to CKI.

  o The vessel operating the ferry service between Home & West Island is aging rapidly and requires frequent maintenance. The serviceability of this vessel is important to the efficient and effective functioning of CKI and would assume greater importance during an emergency response.

- Service Delivery Arrangements: The current SDA's for the IOT do not include provision for emergency management (with the exception of FESA). The inclusion of reference to emergency management in these arrangements would:

  o Ensure each party is fully aware of their potential role in emergency, including short notice requests for additional personnel or equipment.

  o Assist to develop a culture amongst service providers that emergency management is 'everyone's business'.

- Communications: The CKI communications system includes radio, limited private mobile, landline and satellite services. The existing communications network on CKI is considered adequate for emergency management purposes.

  o The replacement of the private mobile phone network would significantly enhance safety for marine vessels in the lagoon and outer reefs by providing a redundancy for the VHF radio system.

  o The AGD operated television system is capable of broadcasting emergency warning to the community

  o Airservices Australia on CKI maintains a HF radio system as backup communications link if all other systems fail.

  o The private wireless internet service provided by CIIA provides an alternate data service to the more expensive satellite internet service which is used primarily by Australian Government agencies.

6.2.2 Preparedness

- Incident Response: Within its resources constraints, CKI is well practiced at managing a variety of emergency situations these include: searching for missing vessels, aero-medical evacuation, cyclone alert requirements.

- Communications: CKI is a very small community and information flows quickly throughout. Communications during an emergency is unlikely to be problematic due to the availability of redundant systems (VHF Radio, Landline, Vehicle) and the knowledge of local personnel.

- Training: The CKI EMC would benefit from professional development activities such as 'coaching' or 'mentoring' key EMC appointments who do not have an emergency management background. Whilst this would enhance emergency preparedness, it will also build resilience within the CKI EMC and confidence of their ability to manage an emergency.

- Coordination: A 'Community Emergency Management Officer', could coordinate training at all levels on-island, monitor and address issues as they arise and further

develop the capabilities of the EMC. Stakeholders consulted as part of this review suggested that this position should be located on CKI rather than CI due to the higher perception of risk to the community on CKI compared with CI.

▪ Emergency Management Plan: It is particularly concerning that several agencies have their own emergency procedures that do not refer to the procedure contained within the CKI EMP. This is often to meet contractual obligations; reference should be made to the CKI EMP as the reference document for emergency management on CKI.

  o The existing CKI EMP has not been finalised and several different versions of the EMP are currently in use, including by the EMC.

  o It is confusing and potentially counterproductive to have a number of separate plans and arrangements in place for such a small community.

  o Action on procedures should be developed in the CKI EMP for specific hazards; rather than the development of separate plans and arrangements for individual hazards.

  o The CKI AEP includes actions of a large number of on island stakeholder agencies, including AFP, IOTHS etc. It is unclear how many stakeholders are actually aware of their assigned roles within the CKI AEP.

  o It is unclear under what authority, if any, has authorised the CKI AEP.

▪ Exercises: The CKI EMC has not conducted an emergency management exercise in the past two years. The airport operator is required to conduct an annual field exercise in accordance with CASA licensing requirements. This activity has been used by the EMC to validate procedures.

  o There has not been any real reference to lessons learnt, or follow up training to rectify deficiencies faced during exercise conditions.

▪ Emergency stocks and supplies: CKI has a wide range parts and supplies for daily operations that could be applied to a crisis situation. Machinery parts, fuel, food stores and technical parts are all held on island.

▪ Communications: The communication system, maintained by Airservices Australia is robust and relies upon a satellite link. Landline communications are run underground and the availability of the phone system on CKI compares favourably with the mainland.

  o The single satellite dish at the WI Airport is potential a single point of failure in the communications system.

  o The CKI VHF radio network is occasionally used by community members for inappropriate communication between each other. A lack of radio discipline may lead to congestion during an emergency situation.

▪ Warning Systems: A cyclone warning siren is part of the shelters on both West and Home Islands. The small geographic area of the island means that virtually all community members will quickly become aware of the siren sounding.

  o Some stakeholders commented that whilst the siren could be heard, individual community members were unsure exactly what action to take upon hearing the siren.

6.2.3   Response

- **Resources:** The physical resources of CKI are severely constrained by the limited, able-bodied adult population. The community is resilient to localised emergency situations and has developed organic preparedness and response arrangements that are well understood, exercised and proven during previous incidents.

- **Emergency Management Committee**: The EMC requires a robust process whereby emergency management planning is developed, implemented and validated in a transparent manner. The EMP for CKI was last reviewed in 2008 and the CKI EMC were unable to locate this document whilst the review team were on island. Whilst noting the effort taken to develop this plan, it is effectively meaningless when key appointments within the EMC are not aware of the details of the plan.

  o EMC positions should be positions on the community, and not personalities, to enable smooth transition when key people leave the island either temporarily or permanently.

  o EMC members are familiar with the roles and responsibilities of other members and in some cases, individuals have performed several committee roles during their time on CKI.

  o Key appointments within the EMC (Administrator, Territory Controller etc) are positions that rotate every two years (often much more often) resulting in a lack of continuity and fragmented understanding of other agencies roles & capabilities.

  o The EMC is essentially a second or third role for many of its members. The EMC would benefit from a fulltime, experienced emergency manager who is able to drive and guide the committee on an ongoing basis (i.e. CEMO).

- **Hierarchy of plans:** In a similar to the situation on CKI, several agencies made reference to their own plans and arrangements that have been developed without reference to the CKI EMC. Where practicable, these arrangements should reference the broader CKI EMP as a minimum and ideally become sub-plans (or appendices) of the broader document.

- **Medical capabilities:** The medical facilities on CKI are extremely limited with a single doctor and several registered nurses. Medical clinics operate on both West Island and Home Island, with the doctor usually located on Home Island.

  o Well practiced procedures are in place for the aero-medical evacuation of seriously ill individuals from CKI.

  o During an emergency or disaster it is virtually certain that the medical resources of the IOTHS will be quickly overwhelmed.

- **Volunteers**: With the exception of the AFP, volunteers form the backbone of the remainder of the emergency service organisations on island including the VMRS, SES and fire service. One of the challenges this poses is that some community members are actually members of several organisations. This may result in some double counting of the actual response capability available on the island.

- **Proposed Infrastructure works**: The airfield remains the centre of gravity for response and recovery operations on CKI. Without it, support from the mainland or CI becomes dangerously far away. Design flaws with the current airfield, including

fire fighting hydrants and suppression outlets should be rectified if that airfield is to be upgraded. Preliminary designs released to the CKI community have not these requirements into account

6.2.4 Recovery

- **Planning:** A lack of recovery planning remains a key area of concern on CKI. Due to the very limited on-island resources it is likely that recovery efforts would be delayed until external support could arrive following an emergency.

  o The SOCKI would be the lead agency during a sustained recovery operation; however no plans currently exist to support this role.

7. Recommendations & Priority Actions

7.1   Recommendations

Based upon the key findings of the report, the following recommendations are made. For ease of reference, recommendations have been grouped subjectively according to their perceived importance; Critical, Significant and Minor. A qualitative definition of these groups is as follows:

- Critical – potential threat to life or extensive infrastructure damage

- Significant – important for effective emergency management operations

- Minor – if practicable and within resource constraints

Critical
Develop an Emergency Management Ordinance for the IOT that incorporates the key findings, recommendations and proposed structure from this report
Establish a risk register on CI & CKI to record significant incidents and near misses
Geoscience Australia to conduct geotechnical survey of CI to determine seismic risk
Structural survey to determine seismic & cyclonic resistant public buildings to be undertaken to clarify safe evacuation locations & recovery points.

Significant
Finalise the CKI EMP and conduct a validation exercise to confirm the arrangements within the EMP are adequate.
Conduct a risk analysis for CKI
The IOT Administrator has a critical role in emergency management coordination
Investigate the authority of Airport Emergency Plan and its practical application
CI and CKI EMC's conduct an audit of the agency resource lists contained within the EMP's and amend where necessary
Develop community based recovery plans and appropriate recovery facilities on CI. Conduct community recovery planning on CKI
DIAC key personnel and resources are incorporated in future EM planning, preparedness and response activities on CI
Lessons learnt register established by the CI & CKI EMC and used to inform future preparedness and response planning.
Ensure the CKI runway upgrade project considers potential EM requirements as part of the project, in particular, prevention measures such as enhanced instrument landing systems and /or navigational aids. Preliminary designs upgrading the airstrip at CKI must be reviewed to include fire fighting and fire suppression requirements.

Significant
DIAC to amend the CI suspect boat reception procedures to ensure that the CI EMC is informed as soon as practicable to enable inter-agency coordination to occur.
Investigate the feasibility of distance education courses for some FESA training courses.
AGD in collaboration with the BOM and review the current classification of CI to consider the potential impacts of increased cyclonic activity. Consideration should also be given to ensuring that any future construction works on CI adhere to the higher construction standards as a contingency measure
Monitor the ongoing and variable impacts of climate change in the IOT, particularly sea level rise on CKI
Establish a CEMO position in the IOT to coordinate & drive emergency management throughout the community
MOU established with key employers (DIAC, CI Phosphate, SOCI, SOCKI) within the IOT for emergency management response
All EMC members to champion the EMC and EMP arrangements during future emergencies or disasters
Community awareness initiatives to inform the community of the existence of the EMC & EMP and their role during a disaster
Refocus the current funding provided to FESA under the SDA to more locally based activities and initiatives.
Investigate preparedness activities that extend to tourists & short-term visitors
Professional development training (by FESA) for all EMC members, including EOC management, evacuation planning, recovery planning
Incorporate the provision for emergency management in future SDA's negotiated with the Western Australian Government and other service providers
Establishment of an IOT recovery committee the development of recovery plans for CI & CKI would greatly hence the resilience of the IOT community to future disasters

Minor
Investigate the feasibility of developing a mobile phone network on CKI to enable 100% coverage of Home and West Islands.
Benchmarking and knowledge sharing activities with international island communities and emergency management agencies. This could include lessons learnt studies resulting from similar emergency situations likely to be encountered in the IOT
The SOCI investigate the possibility of permanently re-opening Linkwater road, including the cost or civil engineering works required
Proposed EM structure (i.e. CEMO & reporting relationships) should be formally reviewed within three years of implementation or following a significant event
Establish semi-permanent community recovery facilities on CI for use following a disaster, similar to those already in use on CKI.
EMA to re-establish links with the CI & CKI EMC's

7.1 Priority Actions

7.1.1 All-Hazards Risk Assessment

Although a large number of studies looking at discrete 'risks' (i.e. rockfall, climate change) have been performed in the IOT but no holistic review of the vulnerability & risk of the IOT has been undertaken. The lack of an integrated risk assessment may result in specific hazards being treated at the expense of less obvious but potentially more damaging risks.

7.1.2 Establish CEMO in IOT

A key element of the recommended approach for future emergency management in the IOT is the creation of a Community Emergency Management Officer (CEMO). The CEMO position is staffed by an experienced emergency manager with the expertise, experience and credibility to drive an emergency preparedness culture in the IOT. This recommendation is discussed in further detail later in the report.

7.1.3 Refining the EMP

The CI and CKI EMPs are the reference document for emergency management issues in the IOT. It is critical that these documents are finalised and validated as soon as possible. Single hazard plans, such as the Rockfall Risk Management Plan, should be consolidated into a single reference document. Action-on procedures should be developed specific hazards in preference to the development of separate plans and arrangements for individual hazards as they arise. Furthermore the current EMPs do not use AIMS – ICS methodology and consideration should be given to using this format in the future. FESA is able provide training on AIIMS ICS to the EMC and selected stakeholders.

7.1.4 Amend FESA Training Program

The Department should develop clear and measurable KPI's for FESA under the SDA. The primary focus should be on locally based activities within the IOT as this is where the initial response to any disaster will be led. The KPI's should also include further training to the CI or CKI EMC's. The EMC's would also benefit from professional mentoring by senior FESA staff, particularly as the majority of EMC members do not have an emergency management background.

7.1.5 Creation of an Emergency Management Ordinance

The lack of a clear legislative framework for emergency management the IOT should be addressed through the development of an Ordinance to either replace or amend the provisions contained within *WA Emergency Management Act* (2005) and the recommendations of this report. The present situation is unacceptable from an operational and good governance perspective. Furthermore the present situation may expose individuals and /or agencies during a coronial or other investigation. The Ordinance should be prepared in close consultation with the CI and CKI EMC and local community organisations.

7.1.6 International Benchmarking

The IOT would benefit from an international benchmarking exercise to determine 'best practice' in emergency management for small, isolated, island communities. Many of the risks and challenges facing the IOT are similar to those faced by other international communities. A desktop study of the emergency management initiatives in these

communities would be an excellent means of benchmarking current practice in the IOT, particularly community awareness and volunteer initiatives.

7.1.7 Geotechnical Survey & Safe Structures Report

Geoscience Australia (GA) should be engaged by the Department to perform a full analysis of the seismic risk to CI. Subsequent to this analysis, engineering surveys of public buildings in the IOT to be undertaken to determine seismic resistant structures and clarify safe evacuation locations & recovery points. The survey could also be extended to consider those buildings likely be resistant to cyclonic weather events.

7.1.8 Incorporation of EM principles and requirements in future SDA's

Consideration should be given to including specific KPI's that relate to emergency management within individual SDA's with the Western Australian Government. This will ensure that these agencies are fully aware that emergency management considerations are important to the AGD and an integral part of service provision in the IOT. Provision for emergency management should also be included in contracts with other services providers engaged by the Department in the future.

7.1.9 Development of Recovery Plans for CI & CKI

The lack of existing recovery plans would delay the provision of essential services such as welfare, counselling and financial assistance. It is likely that this would have adverse consequences for the community following a disaster. AGD to urgently consider assisting the SOCI & SOCKI to develop community recovery plans with FESA providing technical advice and support as necessary.

8. Future Directions

This section of the report outlines the recommended future structure for emergency management in the IOT. The proposed structure, including the establishment of a permanent Community Emergency Management Officer (CEMO), is a key outcome of the report and will assist in taking emergency management forward in an effective manner.

8.1 Refining EMC Coordination

8.1.1 IOT Coordination Arrangements

During an emergency the EMC will act as the central coordinating body. Due to its remoteness, it's likely that the EMC will be required to function without external assistance for at least 48hrs. The existing emergency management arrangements in the IOT are complicated by a lack of clear inter-agency reporting protocols. The CI and CKI EMC's are compromised largely of staff from different Commonwealth and State/Territory agencies. Whilst the different organisations have discrete roles and responsibilities during 'normal' operations, they must be able to function collectively during an emergency with only limited mainland support. Put simply, coordination remains the biggest challenge to effective emergency management in the IOT. The creation of an emergency management ordinance would greatly assist in clarifying the EMC's authority for emergency management in the IOT.

8.1.2 Off-island Coordination Arrangements

Off-island emergency coordination is the dual responsibility of the IOT Administrator and the AFP Territory Controller. A decision on requesting additional Commonwealth physical assistance shall be taken in consultation with other members the EMC Executive and approved by the Administrator. Depending upon the nature of the request, coordination of assistance may be delegated to other EMC members as appropriate i.e. welfare support.

During an emergency the EMC key appointments have the following roles and responsibilities:

Appointment	Roles/ Responsibilities
IOT Administrator	Chair EMC, Media and community liaison, Represent the Australian Government
AFP Territory Controller	law enforcement, protection of life and property, search and rescue coordination, evacuation management
Director IOT	liaison with AGD for support as required
Shire Representative	Recovery coordinator, transport and Engineering support, coordination Shire resources
CEMO IOT	Advice to EMC members, Ongoing coordination support, Incident reporting

8.1.3 Proposed EM Structure

Under the proposed structure, consideration of emergency management issues will become a 'normal' part of business' in the IOT. This approach simplifies coordination and maximises the use of existing communication links rather than advocating the development of new linkages. The recommended structure clarifies the coordination arrangements during a disaster and will result in more effective and efficient emergency management arrangements. This approach will also help to build upon the high level of community resilience in the IOT. The organisation chart below graphically illustrates how the proposed coordination arrangements would function during an emergency in the IOT.

Proposed Structure
Emergency Management in the Indian Ocean Territories
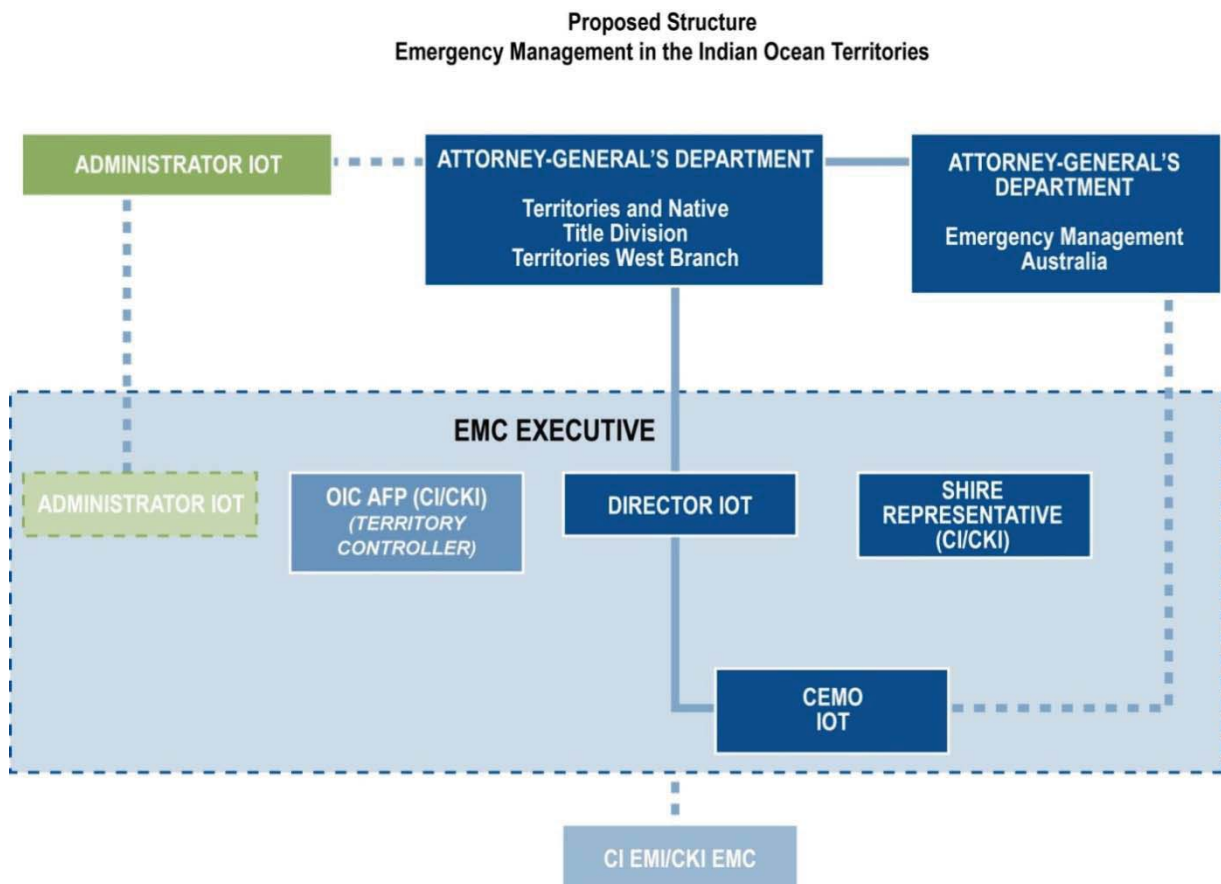
The key assumptions that underpin this structure are:

- FESA continues to provide emergency management training and educational services to the IOT under an SDA with the Australian Government.

- The CEMO is a permanent AGD employee with formal emergency management skills and qualifications; mentoring key EMC appointments and other stakeholders.

- The CEMO forms part of the EMC Executive; but do not usurp the roles or responsibilities of the AFP Territory Controller or Administrator.

- Regular technical liaison should occur between the CEMO, FESA and EMA.

- TW Branch should have an active, ongoing role in IOT emergency management issues, including the response to disasters.

8.2 Community Emergency Management Officer

A key element of the recommended approach for future emergency management in the IOT is the creation of a Community Emergency Management Officer (CEMO). The vision for the CEMO is a senior emergency manager, who able to act as a reference point for emergency management in the IOT and support other key appointments. The CEMO would provide also provide continuity within the CI and CKI EMC's.

It is essential that the CEMO position is staffed by an experienced emergency manager with the expertise, experience and credibility to drive an emergency preparedness culture in the IOT. This is not a straightforward or short-term task. The CEMO would capture lessons learnt from previous exercises, drills and real life experiences to improve existing plans and arrangements. It is likely that this officer would become an important source of advice during the response & recovery phases of an emergency for the Territory Controller and the Administrator IOT.

8.2.1 Roles and Responsibilities

The CEMO would be a permanent APS employee of the Attorney-General's Department. The position would be physically located on CI but would have a whole of IOT responsible. The proposed role and responsibilities of the CEMO would include, but not be limited to:

- Champion emergency management issues on both CI & CKI

- Coordinate IOT emergency management training and preparedness initiatives, including the development of appropriate plans and standard operating procedures

- Liaison with key emergency management bodies including FESA and EMA

- Develop an annual exercise program for the IOT, including field, desktop and simulation activities

- Act as the secretariat for the CI & CKI EMC's

- Develop community resilience programs that account for the culturally & linguistically diverse communities in the IOT

- Coordinate & prioritise FESA training for the CI and CKI volunteer emergency management community to ensure value for money is obtained

- Other duties as directed by the Director IOT

8.2.2 Funding/Cost

An estimated costing for provision of a dedicated Community Emergency Management Officer position in the IOT is detailed below. It is anticipated that the presence of an additional AGD staff member in the IOT would have ancillary benefits for the Department with other policy and administrative tasks. Several options exist for funding this position, including:

- assigning CEMO responsibilities to an existing AGD IOT position

- proportional reduction of the funding provided to FESA under the SDA

- creation of a new APS position by the Department (*preferred solution*)

CEMO	Cost
Salary (APS6/EL1 equivalent)	$115,000
On-costs & allowances (housing, IT etc)	$45,000
Travel 8 x rtn trip CKI/CI 2 x rtn trip IOT – Canberra 3 x rtn trip IOT – Perth	$35,000
Training & development funds 1 x Live exercise 2 x Desktop exercises (CKI & CI)	$40,000
TOTAL (indicative)	$235,000

9. References

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Global Reporting Initiative – Sustainability Reporting Guidelines, 2003

HB203:2006 Environmental Risk – Principles and Processes (Standards Australia)

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	Recommendation	**Proposed Action**
	CRITICAL	
1	Develop an Emergency Management Ordinance for the IOT that incorporates the key findings, recommendations and proposed structure from this report.	Regional Australia is in the process of developing an Emergency Management Ordinance for the IOT with drafting being undertaken by the Office of Legislative Drafting and Publishing (AGD). The Ordinance will reflect supported recommendations only.
2	Establish a risk register on Christmas Island and the Cocos (Keeling) Islands to record significant incidences and near misses.	This is a role for the Emergency Management Committees in each Territory. Each member of the Emergency Management Committee has been directed to create a risk register for their organisation. A central risk register is maintained by the Operations Manager for the Indian Ocean Territories.
3	Geoscience Australia to conduct a geotechnical survey of Christmas Island to determine seismic risk.	Regional Australia will discuss this recommendation with Geoscience Australia and seek their expert opinion. The Department is aware of anecdotal evidence that suggests Christmas Island is in an area of high seismic activity. Existing emergency plans consider seismic risk and appropriate responses; however a comprehensive analysis has never been undertaken.
4	Structural survey to determine seismic and cyclone resistant public buildings to be undertaken to clarify safe evacuation locations and recovery points.	Regional Australia has completed structural assessments of public buildings on Christmas Island that are particularly important, vulnerable or would be used in emergency response and recovery (e.g. the recreation centre, CI District High School and CI Hospital). Other buildings have not been assessed as they are of minimal importance, such as storage buildings.
		This information will be submitted to the CI Emergency Management Committee for use in planning. Christmas Island is in Region B for building standards relating to wind loads. This rating may need to be adjusted to reflect predicted changes in storm activity and Regional Australia has written to Standards Australia asking for the rating to be reviewed when they next undertake a review. The Cocos (Keeling) Islands are in Region C, which requires a higher standard. Public cyclone shelters exist on Home and West Islands in the Cocos (Keeling) Islands.
	SIGNIFICANT	
5	Finalise the Cocos (Keeling) Islands Emergency Management Plan and conduct a validation exercise to confirm the arrangements within	The CKI Emergency Management Committee completed the draft updated Emergency Management Plan in November 2010 and is currently going through the process of testing. A desk top exercise was conducted on CKI in February. A field exercise is being planned for

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Parsons Brinckerhoff emergency management review recommendations and proposed actions

	the Plan are adequate.	September 2011.
6	Conduct a risk analysis for the Cocos (Keeling) Islands.	A risk analysis will form part of the emergency planning process for the Cocos (Keeling) Islands and has been undertaken by the Emergency Management Committees on Christmas and Cocos (Keeling) Islands, although Cocos is currently finalising the risk ratings.
7	The Indian Ocean Territories Administrator has a critical role in emergency management conditions.	The Government has appointed an Administrator and Deputy Administrator for the Indian Ocean Territories. These positions have critical roles in emergency management and Regional Australia has implemented measures to ensure that they are filled, on either a permanent or acting basis, at all times.
8	Investigate the authority for the Airport Emergency Plan and its practical application.	The operators of Christmas Island Airport and Cocos (Keeling) Islands Airport are required to have an emergency plan by the Civil Aviation Safety Authority (CASA). The operators are members of the Emergency Management Committees in each Territory and the plans are integrated with the Territories' plans.
9	The Emergency Management Committees for each Territory to conduct an audit of the agency resource lists contained with the Emergency Management Plans and amend where necessary.	This is a role for the Emergency Management Committees in each Territory and has been completed as of April 2011.
10	Develop community based recovery plans and appropriate recovery facilities on Christmas Island. Conduct community recovery planning in the Cocos (Keeling) Islands.	The Emergency Management Committees in each Territory should take the lead role in this task. Recovery management plans have been completed for both Christmas Island and the Cocos (Keeling) Islands. Regional Australia has approached the WA Fire and Emergency Services Authority to provide planning support to the Committees. The Committees in turn have initiated discussions with WA FESA for community awareness programs. Regional Australia is responsible for state level arrangements and funding. EMA will examine the application of Federal support to the Territories.
11	DIAC key personnel and resources are incorporated in future emergency management planning, preparedness and response activities on Christmas Island.	The CI Emergency Management Committee includes a representative from DIAC. DIAC and AFP have undertaken planning and desktop exercises to specifically address the role of DIAC on Christmas Island.
12	Lessons learnt register established by the Emergency Management Committees in both Territories and used to inform future preparedness and response planning.	This is a role for the Emergency Management Committees in each Territory. Regional Australia will support the IOT Administrator in performing this task.
13	Ensure the Cocos (Keeling) Islands runway upgrade project considers potential emergency management requirements as part of the project,	Emergency management considerations are being incorporated into the runway upgrade project which is being managed by the Department of Finance and Deregulation. The

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	in particular, prevention measures such as enhanced instrument landing systems and/or navigational aids. Preliminary designs upgrading the airstrip at the Cocos (Keeling) Islands must be reviewed to include fire fighting and fire suppression requirements.	Airports meet current CASA requirements and the proposed upgrades will not alter these requirements.
14	DIAC to amend the Christmas Island suspect boat reception procedures to ensure that the Emergency Management Committee is informed as soon as practicable to enable inter-agency coordination to occur.	Commonwealth agencies on Christmas Island have amended their operating procedures to ensure appropriate information is shared as soon as possible and the response to a boat arrival is properly coordinated. Recent experiences show that this arrangement is working well.
15	Investigate the feasibility of distance education courses for some FESA training courses.	Advice received to date from WA FESA acknowledges that training covers a mix of knowledge and practical skills, therefore distance education may not always be an option. Regional Australia is pursuing this recommendation with WA FESA.
16	The Department of Regional Australia in collaboration with the Bureau of Meteorology to review the current classification of Christmas Island to consider the potential impacts of increased cyclonic activity. Consideration should also be given to ensuring that any future construction works on Christmas Island adhere to the higher construction standards as a contingency measure.	Regional Australia will discuss this recommendation with BOM, although Standards Australia is the appropriate body to deal with classifications relating to cyclonic activity. Regional Australia has written to Standards Australia requesting that the current classifications be reviewed when a review is next undertaken. Christmas Island is in Region B for building standards relating to wind loads. The Cocos (Keeling) Islands is in Region C, which requires a higher standard.
17	Monitor the ongoing and variable impacts of climate change in the Indian Ocean Territories, particularly sea level rise in the Cocos (Keeling) Islands.	Regional Australia has engaged Aecom to provide climate change modelling for the Indian Ocean Territories. Regional Australia has requested that Aecom update these observations and projections.
18	Establish a Community Emergency Management Officer position in the Indian Ocean Territories to coordinate and drive emergency management throughout the community.	Regional Australia does not support this recommendation. The funding required to establish and maintain a Community Emergency Management Officer is significant and would be better spent in other areas, such as training and equipment for emergency responders. Regional Australia is exploring options for this function to be provided through existing structures, such as the WA Fire and Emergency Services Authority and AFP, at a lower cost. Possible options include WA FESA taking a more community oriented approach using fly-in fly-out officers on a part time basis.
19	MOU established with key employers (DIAC, CI Phosphate, and local Shire Councils) within the Indian Ocean Territories for emergency management response.	The availability of volunteers during emergencies is a matter for the Emergency Management Committees in each Territory. There is no formal Memorandum of Agreement in place, but each of DIAC, CI Phosphates and the local Shires are tasked with roles in the Emergency Management Plans as they apply in each of Christmas Island and the Cocos (Keeling) Islands.

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20	All members of the Emergency Management Committees to champion the Committees and Emergency Management Plans during future emergencies and disasters.	This is a role for the Emergency Management Committees in each Territory. The Emergency Management Plan addresses communications and public education. Regional Australia will seek advice on best practice for community engagement in emergency management and provide this advice to the Committees. Once the Emergency Management Plans are tested they will be provided to Emergency Management Australia for consideration and coordination of local and external tasks.
21	Community awareness initiatives to inform the community of the Emergency Management Committees, Plans and their role in an emergency.	This is a role for the Emergency Management Committees in each Territory. The Emergency Management Plan addresses communications and public education. Regional Australia will seek advice on best practice for community engagement in emergency management and provide this advice to the Committees. Discussions with WA FESA are progressing this recommendation.
22	Refocus the current funding provided to WA FESA under the SDA to more locally based activities and initiatives.	Regional Australia is continuing the development of appropriate training through WA FESA, including whether that training should be delivered locally, by distance learning or on the mainland.
23	Investigate preparedness activities that extend to tourists and short-term visitors.	This is a role for the Emergency Management Committees in each Territory. It is be undertaken as part of the normal planning process and advice is being sought from WA FESA on this issue. Regional Australia is investigating ways to support and improve this process through additional training and mentoring for Committee members. The recent cyclone alert on the Cocos (Keeling) Islands showed that tourists were addressed well.
24	Professional development training for all Committee members, including Emergency Operations Centre management, evacuation planning and recovery planning.	This is a role for the Emergency Management Committees in each Territory. The WA Fire and Emergency Services Authority has been conducting training for emergency services on Christmas Island and the Cocos (Keeling) Islands. Emergency Management Australia also provides advice and support to the Committees on this issue and it is addressed in the Emergency Management Plan. Other aspects of professional development are being covered by a consultant in exercising the Emergency Management Plans.
25	Incorporate the provision of emergency management in future SDA negotiations with the WA Government and other service providers.	Regional Australia is considering this recommendation in ongoing negotiations with the WA Government.
26	Establishment of an Indian Ocean Territories recovery committee to develop recovery plans for Christmas Island and the Cocos (Keeling) Islands.	Recovery planning will be the focus of ongoing work in the Territories. While the current responsibility for recovery plans lies with the Emergency Management Committees, Regional Australia will consider alternative options for this task. EMC has engaged a consultant who is currently organising recovering planning exercises as part of the

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Emergency Recovery Plan.

MINOR

27	Investigate the feasibility of developing a mobile phone network on the Cocos (Keeling) Islands to enable 100% coverage of Home and West Islands.	Mobile phone services on the Cocos (Keeling) Islands are provided by a private organisation. Regional Australia is investigating options to support this service.
28	Benchmarking and knowledge sharing activities with international island communities and emergency management agencies. This could include lessons learnt studies resulting from similar emergency situations likely to be encountered in the Indian Ocean Territories.	This is a role for the Emergency Management Committees in each Territory. The Committees are encouraged to apply to Regional Australia for grant funding to support specific projects. This task could be incorporated in the Committee's regular and periodic review of emergency management plans. The Committees have signalled an intention to commence this process once testing of the Emergency Management Plans is complete.
29	Christmas Island Shire to investigate the possibility of permanently reopening Linkwater Road.	Work on Linkwater Road is underway, with funding provided by Regional Australia. Linkwater Road will be reopened to the public before mid-year 2011 at the conclusion of the work.
30	Proposed emergency management structure should be formally reviewed within three years of implementation or following a significant event.	Regional Australia supports this recommendation. A review by the Emergency Management Committees in each Territory has been ongoing over the course of the past year.
31	Establish semi-permanent community recovery facilities on Christmas Island for use following a disaster, similar to those already in use in the Cocos (Keeling) Islands.	The CI Emergency Management Committees will discuss this recommendation in the context of recovery planning. These discussions will involve Regional Australia as asset manager and as a source of funding for projects.
32	EMA to re-establish links with the Emergency Management Committees in both Territories.	Officers from EMA travelled to the Indian Ocean Territories in late May 2010 and met with the Emergency Management Committees for both Territories. It is planned for further discussions between EMA and the EMC for each Territory to take place once the Emergency Management Plans have been tested, and gaps, if any, have been identified.

2010

Emergency Management Australia Status Report on emergency management arrangements in the Indian Ocean Territories

An internal report

for the Territories Division

of the

Attorney-General's Department

CONTENTS

EXECUTIVE SUMMARY

The Parsons Brinckerhoff Report '*Emergency Management Review for the Indian Ocean Territories*' commissioned by Attorney-General's Department Territories Division provided a view on emergency management arrangements on Christmas and Cocos (Keeling) Islands and provided recommendations to improve emergency management.

Territories Division (TD) considered the Report, but due to a number of changes and developments requested that Emergency Management Australia (EMA) undertake a review of recommendations in light of the current status of emergency management in the Indian Ocean Territories.

EMA undertook the review and travelled to Christmas and Cocos (Keeling) Islands in May 2010, meeting with a range of key stakeholders and attended Emergency Management Committee (EMC) meetings, and desktop exercises.

Whilst the Parsons Bricknerhoff Report identified thirty-two recommendations, and EMA has commented on each individually, EMA consider that emergency management should be addressed holistically and the recommendations can be grouped together making it possible to undertake a few strategic initiatives to address the majority of issues.

A summary of the options and recommendations offered by EMA to enhance emergency management arrangements are as follows:

1. The development of an ordinance outlining the roles and responsibilities of key stakeholders including the Territory Administrator, Territory Controller and the local Government.
2. Increase emergency management support to key positions and the EMCs through the provision of emergency management training, advice and exercising. The development of handover briefs for incoming or relieving officers.
3. Enhance relevance and ownership of a comprehensive emergency management planning process, that includes risk analysis and includes prevention, preparedness response and recovery strategies. The plan should be exercised and reviewed annually.
4. Build on stakeholder engagement, ensuring inclusive representation on Emergency Management Committees and exercises.
5.   Enhance community resilience, including developing strategies to engage with minority groups from non English speaking backgrounds.
6. Clarify Service Delivery Agreements (SDA) and other support arrangements to ensure the most effective support is provided within the allowable budget.
7. Continue to support local emergency services ensuring appropriate equipment for changing demands (re risk assessment) and ensure staff and volunteers have access to appropriate training through the SDA with West Australia Fire and Emergency Services (FESA).

INTRODUCTION

This report outlines the review undertaken by EMA on the recommendations of the *Emergency Management Review for the Indian Ocean Territories* (Parsons Bricknerhoff Report). This includes the developments observed in addressing the report recommendations, identified options to progress those recommendations, and observations and proposed improvements to the arrangements.

This report was compiled by Peter Willett and Rebecca Crawford.

BACKGROUND

In late 2009 the Attorney-General's Department TD commissioned a report by Parsons Brickerhoff (PB) into the review of the Indian Ocean Territories (IOT) emergency management arrangements. This report was released in January 2010 outlining key findings in accordance with the PPRR Principles: prevention, preparedness, response and recovery. In addition, recommendations and possible future directions to enhancing the IOT emergency management arrangements were provided.

Since commencing the report process, some recommendations have been already been addressed. However, the TD requested EMA to further review and evaluate the remaining recommendations, in light of the current situation and newly adopted advice from the report, noting that the TD is responsible for administering the IOT on behalf of the Australian Government, including the provision of State type services such as emergency management planning and training.

In addition consideration should be given to the fact that the PB Report was collated and released prior to the significant population increase of the Immigration Detention Centre (IDC); the impact of this IDC on the community in relation to the current emergency management arrangements must be considered.

SCOPE

In May 2010 TD requested EMA to review the recommendations of the PB Report, *Emergency Management Review for the Indian Ocean Territories*, including a review of the risks, report on the current status of emergency management arrangements on the IOT and provide TD with observations, options and recommendations on improvements to the arrangements that may be considered. Advice on access to emergency management training for members of the EMCs and on appropriate arrangements for the Territories to link with the national emergency management support arrangements is also within the scope of this report. Emergency management within the IDC remain the responsibility of Department of Immigration and Citizenship (DIAC) and EMA's review is to focus on the civil population of Christmas and Cocos Islands.

METHODOLOGY

From 24 May until 2 June 2010 two officers from EMA travelled to both Christmas and Cocos (Keeling) Islands and met with key stakeholders with the aim of reviewing the recommendations of the PB Report and the current status of emergency management arrangements of IOT.

EMA officers examined the PB Report, met with a range of individuals, attended EMC meetings and observed emergency management exercises on both Christmas and Cocos (Keeling) Islands.

Through discussions and observations EMA has reviewed the recommendations of the PB report, noted progress, identified other issues and offered suggestions to progress the identified issues. This paper addresses the above.

LITERATURE REVIEW

EMA reviewed and analysed a number of documents relating to the emergency management arrangements of the IOT, these included:

- *Emergency Management Review for the Indian Ocean Territories* (Parsons Brickerhoff Report) – January 2010
- The Service Delivery Arrangements between Commonwealth of Australia and Western Australia (Fire and Emergency Service Authority) - 2007
- The Christmas Island Emergency Management Plan – January 2008
- The Cocos (Keeling) Islands Emergency Management Plan – DRAFT- April 2008
- The Territories Division emergency management review and proposed actions – March 2010

STAKEHOLDER ENGAGEMENT

EMA engaged with a number of stakeholders both on the IOTs and on Australia mainland. Throughout the site visit, EMA was able to meet with both EMC members on Christmas and Cocos (Keeling) Islands, in addition to key individual contacts. This enabled EMA to discuss the PB report recommendations, current issues and emergency management arrangements with key stakeholders, as well as providing stakeholders with the opportunity to offer further input into the review.

EMA met with the following stakeholders:

Australian Government
- Attorney-General's Department, Territories Division

- Department of Defence
- Department of Immigration and Citizenship
- Australian Federal Police

State and Local Government
- Shire of Christmas Island
- Shire of Cocos (Keeling) Islands
- WA Fire and Emergency Services Authority

Industry and Commercial Organisations
- Indian Ocean Territory Power Authority
- Indian Ocean Health Service

Other Agencies
- Christmas Island Volunteer Fire Service
- Christmas Island Volunteer Ambulance Service
- Christmas Island Emergency Management Committee
- Cocos (Keeling) Islands Emergency Management Committee

FINDINGS

The findings include reviews written specifically on the recommendations of the PB report and additional observations.

RECOMMENDATIONS RATED AS **CRITICAL** BY PB

RECOMMENDATION 1:

Develop an Emergency Management Ordinance for the IOT that incorporates the key findings, recommendations and proposed structure from this report.

Proposed TD Action: Attorney-General's Department (AGD) is in the process of developing an Emergency Management Ordinance for the IOT. The Ordinance will reflect supported recommendations only.

EMA Comment: EMA supports the development of the Emergency Management Ordinance. This Ordinance should clearly detail the role of the Administrator, Territory Controller and the local government. The ordinance should also clarify the role of the EMC and requirement for the EMC to develop a comprehensive Emergency Management Plan and to exercise and review it on an annual basis.

RECOMMENDATION 2:

Establish a risk register on Christmas Island (CI) and Cocos (Keeling) Island (CKI) to record significant incidents and near misses.

Proposed TD Action: This is a role for the EMCs in each Territory. AGD is investigating what additional support and training can be provided to allow the EMCs to undertake this task.

EMA Comment: EMCs should conduct post activation reviews following incidents, activations or near misses and capture lessons for future events (eg Power house fire on CKI). EMA could, if requested, facilitate post activation workshops. EMA could also provide the EMCs a template of EMA's internal post activation reports format.

RECOMMENDATION 3:

Geoscience Australia (GA) to conduct geotechnical survey of CI to determine seismic risk.

Proposed TD Action: AGD will discuss this recommendation with Geoscience Australia and seek their expert opinion. AGD is aware of anecdotal evidence that suggests CI is in an area of high seismic activity. Existing emergency plans consider seismic risk and appropriate responses, however a comprehensive analysis has never been undertaken.

EMA Comment: EMA support this recommendation and suggests it forms part of the risk study. Information from GA and the Bureau of Meteorology (BOM) should also be acquired as to tsunami and cyclone/storm surge risk on all territory islands.

RECOMMENDATION 4:

Structural survey to determine seismic and cyclonic resistant public buildings to be undertaken to clarify safe evacuation locations and recovery points.

Proposed TD Action: AGD has completed structural assessments of public buildings on CI that are particularly important, vulnerable or would be used in emergency response and recovery (e.g. the recreation centre, CI District High School and CI Hospital). Other buildings have not been assessed as they are of minimal importance, such as storage buildings.

This information will be submitted to the CI EMC for use in planning. CI is in Region B for building standards relating to wind loads. This rating may need to be adjusted to reflect predicted changes in storm activity. The CKI are in Region C, which requires a higher standard. Public cyclone shelters exist on Home and West Islands in the CKI

EMA Comment:
EMA supports this (link to Recommendation 3). Recommend that the CI Recreation Centre be assessed and consideration be given to upgrading it to cyclone rating as its size, location and facilities (toilets, showers and kitchen etc) making it suitable for use as a cyclone shelter.

RECOMMENDATIONS RATED AS **SIGNIFICANT** BY PB

RECOMMENDATION 5:
Finalise the CKI Emergency Management Plan (EMP) and conduct a validation exercise to confirm the arrangements within the EMO are adequate.

Proposed TD Action: The CKI EMCC is in the process of completing an updated Emergency Management Plan. The Plan will be tested once it is complete.

EMA Comment: Whilst EMA supports this recommendation, EMA also recommends undertaking a risk study prior to reviewing or validating the EMP.

RECOMMENDATION 6:
Conduct a risk analysis for CKI.

Proposed TD Action: A risk analysis will form part of the emergency planning process for the CKI. This is being undertaken by the CKI EMC and AGD will investigate what additional support may be provided for this task.

EMA Comment: EMA supports engaging the services of a consultant to assist in the development of an all hazards risk study for both CI and CKI. The facilitator (consultant) would require the active engagement of the EMC and other stakeholders to ensure ownership of the process.

RECOMMENDATION 7:
The IOT Administrator has a critical role in emergency management coordination.

Proposed TD Action: The Government has appointed an Administrator and Deputy Administrator for the IOT. These positions have critical roles in emergency management and AGD has implemented measures to ensure that they are filled, on either a permanent or acting basis, at all times.

EMA Comment: EMA agrees and believes the Emergency Management Ordinance should define the role of the Administrator, Territory Controller and local government in relation to emergency management. These positions play key leadership roles in emergency

management and need to be supported with training and advice to assist them to drive the emergency management agenda.

RECOMMENDATION 8:
Investigate the authority of Airport Emergency Plan and its practical application.

Proposed TD Action: The operators of CI Airport and CKI Airport are required to have an emergency plan by the Civil Aviation Safety Authority (CASA). The operators are members of the EMC in each Territory and the plans are integrated with the Territories' plans.

EMA Comment: EMA attended as observers at airport exercises on both CI and CKI which were facilitated by a consultant. Due to the limited resources at the airport most airport incidents will require the coordinated support of the EMC. The entire EMC should be involved in any airport emergency planning or exercises. Recommend that FESA and AirServices Australia provide advice to the EMC in relation to aerial fire fighting requirements, including training and equipment.

RECOMMENDATION 9:
CI and CKI EMC's conduct an audit of the agency resource lists contained within the EMP's and amend where necessary.

Proposed TD Action: This is a role for the EMCs in each Territory. AGD is investigating what additional support and training can be provided to allow the EMCs to undertake this task.

EMA Comment: EMA supports this and believes it is underway on CI. The understanding of agency roles and capabilities is vital in emergency planning. Recommend that agencies brief the EMC on their agency arrangements and capabilities.

RECOMMENDATION 10:
Develop community based recovery plans and appropriate recovery facilities on CI. Conduct community recovery planning on CKI.

Proposed TD Action: The EMCs in each Territory should take the lead role in this task. AGD has approached the WA FESA to provide planning support to the EMCs. AGD is responsible for state level arrangements and funding. EMA will examine the application of Federal support to the Territories.

EMA Comment: EMA supports the need for recovery to be included in comprehensive Emergency Management Plans. The current draft plans identifies Local Government as having the lead role in relation to recovery coordination. EMA supports the need for greater training and planning support in relation to recovery. Recommend discussion with EMA Relief and Recovery Section on recovery funding arrangements.

RECOMMENDATION 11:

DIAC key personnel and resources are incorporated in future emergency management planning, preparedness and response activities on CI.

Proposed TD Action: The CI EMC includes a representative from DIAC. DIAC and Australian Federal Police (AFP) have undertaken planning and desktop exercises to specifically address the role of DIAC on CI.

EMA Comment: DIAC have well established emergency and contingency plans for their facilities. A number of new processes have been adopted to enhance the engagement between DIAC and the CI community. These processes include the establishment of the CI Interagency Committee (CIIC) Meeting, comprised of Commonwealth agencies (DIAC, AFP, AGD) and is chaired by the CI Administrator. This group meets weekly to discuss issues impacting the community, accommodation, health and facilities.

The AGD, through the Administrator should continue to foster engagement between the EMC and stakeholders. EMA recommends the need to continue to include DIAC in training and exercises and consider conducting emergency management exercises that impact both the community and the IDC's, such as cyclones, and include a recovery component.

RECOMMENDATION 12:

Lessons learnt register established by the CI and CKI EMC and used to inform future preparedness and response planning.

Proposed TD Action: This is a role for the EMCs in each Territory. AGD will support the IOT Administrator in performing this task.

EMA Comment: EMA recommends conducting post activation debrief workshops following events, near misses and activations. Lessons identified in the report can be used to enhance plans and arrangements. EMA undertakes posts activation activities and could facilitate such activities (link to Recommendation 2).

RECOMMENDATION 13:

Ensure the CKI runway upgrade project considers potential emergency management requirements as part of the project, in particular, prevention measures such as enhanced instrument landing systems and/or navigational aids. Preliminary designs upgrading the airstrip at CKI must be reviewed to include fire fighting and fire suppression requirements.

Proposed TD Action:
Emergency management considerations are being incorporated into the runway upgrade project. The Airports meet current CASA requirements and the proposed upgrades will not alter these requirements

EMA Comment: Supported

RECOMMENDATION 14:
DIAC to amend the CI suspect boat reception procedures to ensure that the CI EMC is informed as soon as practicable to enable inter-agency coordination to occur.

Proposed TD Action: Commonwealth agencies on CI have amended their operating procedures to ensure appropriate information is shared as soon as possible and the response to a boat arrival is properly coordinated. Recent experiences show that this arrangement is working well.

EMA Comment: Interagency communication appears to be very strong and this has been enhanced by the weekly CIIC meetings. Recommend conducting an EMC desktop exercise involving a suspect boat reception to further enhance engagement and highlight any additional stakeholders required.

RECOMMENDATION 15:
Investigate the feasibility of distance education courses for some FESA training courses.

Proposed TD Action: AGD will pursue this recommendation with WA FESA.

EMA Comment: A full review of the FESA service delivery arrangements (SDA) is recommended with a view to exploring options to effectively delivering required support.

RECOMMENDATION 16:
AGD in collaboration with the BOM review the current classification of CI to consider the potential impacts of increased cyclonic activity. Consideration should also be given to ensuring that any future construction works on CI adhere to the higher construction standards as a contingency measure.

Proposed TD Action: AGD will discuss this recommendation with BOM. Christmas Island is in Region B for building standards relating to wind loads. The CKI is in Region C, which requires a higher standard.

EMA Comment: Agree - advice and findings should be included in the Risk study.

RECOMMENDATION 17:

Monitor the ongoing a variable impacts of climate change in the IOT, particularly sea level rises on CKI.

Proposed TD Action: AGD has engaged Aecom to provide climate change modelling for the IOT. AGD has requested that Aecom update these observations and projections

EMA Comment: Agreed

RECOMMENDATION 18:

Establish a Community Emergency Management Officer (CEMO) position in the IOT to coordinate and drive emergency management throughout the community.

Proposed TD Action: AGD does not necessarily support this recommendation. The funding required to establish and maintain a Community Emergency Management Officer is significant and would be better spent in other areas, such as training and equipment for emergency responders. AGD is exploring options for this function to be provided through existing structures, such as the WA FESA and AFP, at a lower cost. Possible options include WA FESA taking a more community oriented approach using fly-in fly-out officers.

EMA Comment: Several stakeholders raised the need for the establishment an Emergency Management Officer. Whilst FESA may be able to provide greater support to emergency services under a revised SDA, emergency management support is outside their SDA. The territory "status" of the IOT makes emergency management somewhat different to the regional support available from FESA.
EMA has identified that emergency management support is required in areas to:

*   develop and deliver awareness briefings on the implications following the development of the emergency management ordinance;
*   advice and assistance on the development of comprehensive all hazard risk assessments;
*   assist to develop, review and exercise emergency management plans including recovery arrangements;
*   assist in the development of standard operating procedures (SOPs);
*   deliver training and support on Emergency Coordination Centre operations, Emergency Planning, Exercises Management, Risk Management and Recovery;
*   conduct post activation activities, develop reports and incorporate lesson learnt into Plans and arrangements;
*   develop and conduct a suite of desk top exercises for the EMCs and other stakeholders to raise awareness and enhance and validate plans and arrangements; and
*   assist in development of position descriptions, handover briefs and induction training to assist incoming members of the EMC to for fill their emergency management responsibilities.

Whilst members of the EMCs demonstrated a keen desire to enhance emergency management arrangements, many lack the training or time to dedicate. EMA has identified that there are several options to provide additional support and assistance to the EMCS.

These options include:

- the permanent establishment of an Emergency Management Officer (EMO);
- the temporary establishment of an EMO (for an initial 12 month period);
- short term deployment of an emergency management advisor. These could be approximately two week duration trips (3 per year CI and 2 per year CKI) to conduct training, assist to review plans and conduct exercises; and
- use a combination of a consultant and EMA to deliver required support.

RECOMMENDATION 19:

Memorandum Of Understanding (MOU) established with key employers (DIAC, CI Phosphate, SOCI, SOCKI) within the IOT for emergency management response.

Proposed TD Action: The availability of volunteers during emergencies will be discussed by the EMCs in each Territory. The EMCs will consider updating their plans to reflect the multiple roles held by some people in the community.

EMA Comment: Officers holding multiple roles is common in small communities. DIAC expressed a desire to explore options in which they could support the community in times of disaster. Similarly, DIAC would like to explore how they will work together in an event that impacts the whole island. EMC to continue to engage with CI key employers to support local emergency services.

RECOMMENDATION 20:

All EMC members to champion the EMC and EMP arrangements during future emergencies or disasters.

Proposed TD Action: This is a role for the EMC in each Territory. AGD will seek advice on best practice for community engagement in emergency management and provide this advice to the Committees.

EMA Comment: The EMCs requires support to achieve this (refer to Recommendation 18).

RECOMMENDATION 21:

Community awareness initiatives to inform the community of the existence of the EMC and EMP and their role during a disaster.

Proposed TD Action: This is a role for the EMCs in each Territory. AGD will seek advice on best practice for community engagement in emergency management and provide this advice to the EMCs.

EMA Comment: Community awareness and enhancing community resilience is vital. The FESA SDA includes Community Awareness but it is not clear what action has taken place in relation to this. EMA recommends including community representation on the EMCs (eg Home Island representative on CKI EMC)

RECOMMENDATION 22:
Refocus the current funding provided to FESA under the SDA to more locally based activities and initiatives.

Proposed TD Action: AGD is continuing the development of appropriate training through WA FESA, including whether that training should be delivered locally, by distance learning or on the mainland

EMA Comment: Many SDAs appear to be managed from Perth office of TD. Recommend the SDA with FESA needs to be reviewed and clarified with clear deliverables and IOT representatives have increased engagement in SDAs.

RECOMMENDATION 23:
Investigate preparedness activities that extend to tourists and short-term visitors.

Proposed TD Action: This is a role for the EMCs in each Territory. It will be undertaken as part of the normal planning process. AGD is investigating way to support and improve this process through additional training and mentoring for EMC members.

EMA Comment: Recommend exploring products that already exist. Explore whether these should part of FESA's SDA. Also suggest looking at what induction briefs are in existence and look at sharing this information across groups.

RECOMMENDATION 24:
Professional development training (by FESA) for all EMC members, including EOC management, evacuation planning, recovery planning.

Proposed TD Action: This is a role for the EMCs in each Territory. The WA FESA and EMA will provide advice and support to the Committees on how this should be achieved.

EMA Comment: FESA's SDA relates to support to Emergency Service and Community Awareness. As emergency management in the IOT requires specialist support, EMA does not believe FESA is best placed to provide this support. Please refer to Recommendation 18 re options to provide development and training support.

RECOMMENDATION 25:

Incorporate the provision for emergency management in future SDA's negotiated with the Western Australian Government and other service providers.

Proposed TD Action: AGD is considering this recommendation in ongoing negotiations with the WA Government.

EMA Comment: Recommend that FESA's SDA continues to focus on support to Emergency Services and Community Education. EMA recommends response to Recommendation 18 to address emergency management training and development.

RECOMMENDATION 26:

Establishment of an IOT recovery committee the development of recovery plans for CI & CKI would greatly hence the resilience of the IOT community to future disasters.

Proposed TD Action: Recovery planning will be the focus of ongoing work in the Territories. While the current responsibility for recovery plans lies with the EMCs, AGD will consider alternative options for this task.

EMA Comment: Agree the EMCs needs to be supported to develop and implement recovery arrangements into comprehensive Emergency Management Plans.

RECOMMENDATIONS RATED AS **MINOR** BY PB

RECOMMENDATION 27:

Investigate the feasibility of developing a mobile phone network on CKI to enable 100% coverage of Home and West Islands.

Proposed TD Action: Mobile phone services on the CKI are provided by a private organisation. AGD is investigating options to support this service.

EMA Comment: Agree, this would enhance emergency management communications.

RECOMMENDATION 28:

Benchmarking and knowledge sharing activities with international island communities and emergency management agencies. This could include lessons learnt studies resulting from similar emergency situations likely to be encountered in the IOT.

Proposed TD Action: This is a role for the EMCs in each Territory. The EMCs are encouraged to apply to AGD for funding to support specific projects. This task could be incorporated in the EMC's regular and periodic review of emergency management plans.

EMA Comment: Agree. EMA would support learning and sharing lessons from similar communities e.g. Whitsunday Islands and Territories East islands etc.

RECOMMENDATION 29:
The Shire of Christmas Island (SOCI) investigate the possibility of permanently re-opening Linkwater road, including the cost or civil engineering works required.

Proposed TD Action: Work on Linkwater Road is underway, with funding provided by AGD. Linkwater Road will be reopened to the public later in 2010 at the conclusion of the work.

EMA Comment: No comment

RECOMMENDATION 30:
Proposed emergency management structure (i.e. CEMO & reporting relationships) should be formally reviewed within three years of implementation or following a significant event.

Proposed TD Action: AGD supports this recommendation. A review will be undertaken by the EMCs in each Territory after three years.

EMA Comment: Review arrangements should be documented in the ordinance and the EMP.

RECOMMENDATION 31:
Established semi-permanent community recovery facilities on CI for use following a disaster, similar to those already in use on CKI.

Proposed TD Action: The CI EMCs will discuss this recommendation in the context of recovery planning. These discussions will involve AGD as asset managed and as a source of funding for projects

EMA Comment: Recommended investigating the upgrading of the CI Recreation Centre to cyclone rating as it appears very suitable for consideration as an Evacuation Centre.

RECOMMENDATION 32:
EMA to re-establish links with the CI & CKI EMC's.

Proposed TD Action: Officers from EMA will travel to the IOT in late May 2010 to meet with the EMCs for both Territories

EMA Comment: Trip completed in early June 2010. EMA as part of AGD sees an ongoing role as Emergency Management advisor to Territories Division (TD) and IOT. EMA to discuss with TD the best way to continue to support and enhance emergency management within the IOT (refer to Recommendation 18)

EMA OPTIONS AND RECOMMENDATIONS

Effective and inclusive emergency management is not a simple task and community safety is a holy grail, particularly in the dynamic world in which we live. The Indian Ocean Territories face many of the risks of other coastal communities but those risks are exacerbated by their remoteness, their reliance on the mainland and their cultural complexity.
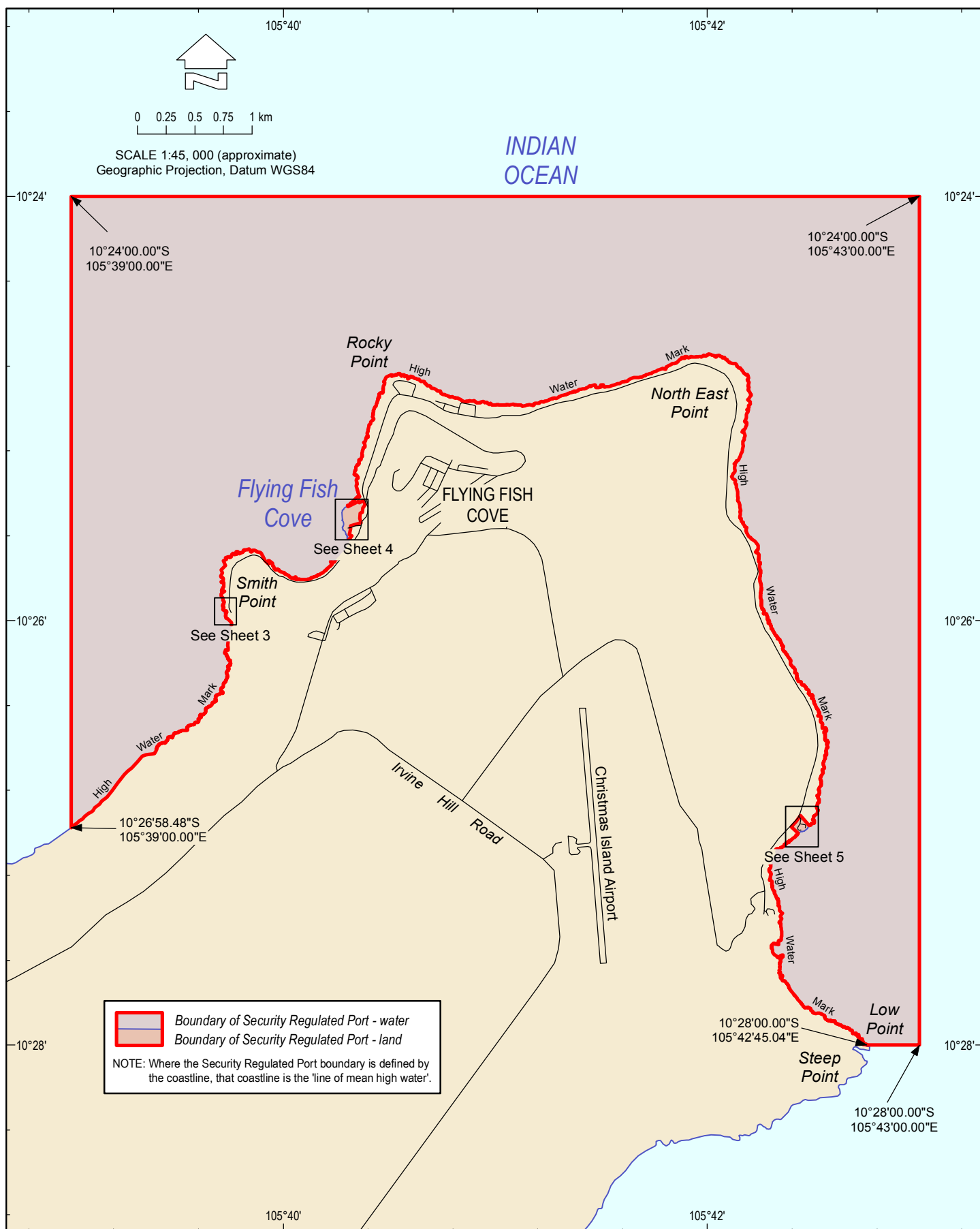
Whilst Parsons Brinckerhoff listed some thirty two recommendations many of those and some identified by EMA are linked and can be addressed either fully or in part by focusing on a few key issues.

Below are seven actions identified by EMA aimed at enhancing emergency management in the Indian Ocean Territories:

1. The development of an Ordinance outlining the roles and responsibilities of key stakeholders including the Territory Administrator, Territory Controller and the local Government. EMA could provide advice to the drafting of an Emergency Management Ordinance including advice on Natural Disaster Relief and Recovery Arrangements.

2. Increase emergency management support to key positions and the EMCs through the provision of emergency management training, advice and exercising. The development of handover briefs for incoming or relieving officers. EMA could assist IOT stakeholders to develop induction briefs and training for incoming officers. EMA could also provide assistance in developing and facilitating awareness training relating to the 'new Ordinance'. These activities would also allow EMA to re-engage with key stakeholders within the IOT and re-establish EMA as the 'go to' support area for those officers (see Recommendation 32). These briefs and training would also serve to reinforce to process access to Australian Government assistance.

3. Enhance relevance and ownership of a comprehensive emergency management planning process, that includes risk analysis and includes prevention, preparedness response and recovery strategies. Would should continue to incorporate individual plans or arrangements into those comprehensive plans (eg separate plan on Home

Island not included in CKI Plan. The plan should be exercised and reviewed annually. This could be achieved through the engagement of a consultant and with support and assistance from EMA. These exercises could coincide with EMAs visits to the IOT.

4. Build on stakeholder engagement, ensuring inclusive representation on EMC and exercises. The Ordinance should provide EMCs with a mandate that may encourage some groups (eg. representation from Home Island) to become more engaged. A broad and diverse range of discussions and exercises should be conducted to engender support.

5. Enhance community resilience, including developing strategies to engage with minority groups from non English speaking backgrounds. . This is a long term and continuing issue that requires the development of a coordinated community engagement strategy.

6. Clarify Service Delivery Agreements (SDA) and other support arrangements to ensure the most effective support is provided within the allowable budget. Consider linking health services to Department of Health and Ageing to provide advice and support. EMA recommends a review of current SDAs along with a review of the management and assessment of SDAs.

7. Continue to support local emergency services ensuring appropriate equipment for changing demands (re risk assessment) and ensure staff and volunteers have access to appropriate training through the SDA with WA FESA. EMA recommends discussions to be held with FESA to ascertain the best way to support and strengthen local Emergency Services within the IOT. The development of a comprehensive risk assessment should be used to validate the requirements of local Emergency Services to undertake their evolving role including the need to undertake Aerial fire fighting.

SCALE 1:45, 000 (approximate)
Geographic Projection, Datum WGS84

0   0.25   0.5   0.75   1 km

N

INDIAN OCEAN

10°40'   105°42'

10°24'   10°24'

10°24'00.00"S
105°39'00.00"E

10°24'00.00"S
105°43'00.00"E

Rocky Point   Mark

High   Water   *North East Point*

Flying Fish Cove

FLYING FISH COVE

See Sheet 4

Smith Point

See Sheet 3

10°26'   10°26'

High   Water

Mark   High   Water

Water

Mark

10°26'58.48"S
105°39'00.00"E

Irvine Hill Road   Christmas Island Airport

See Sheet 5

High

10°28'00.00"S
105°42'45.04"E   *Low Point*

Steep Point

10°28'   10°28'

Water   Mark

10°28'00.00"S
105°43'00.00"E

105°40'   105°42'

	Boundary of Security Regulated Port - water
	Boundary of Security Regulated Port - land

NOTE: Where the Security Regulated Port boundary is defined by
the coastline, that coastline is the 'line of mean high water'.

Port of Christmas Island
Security Regulated Port Boundary
Geocat No. 70412, June 2010, Sheet 2 of 5

This map shows the boundaries of the security regulated port for the purposes of the
Maritime Transport & Offshore Facilities Security Act 2003. This map is not intended for
navigational purposes. Further information can be obtained from the Office of Transport Security (OTS),
GPO Box 594, Department of Infrastructure, Transport, Regional Development & Local Government,
Canberra ACT 2601, or phone the Transport Security Coordination Centre on 1300 307 288.

AUSTRALIA

This map is intended to help clarify the related Security Regulated Port Boundary description. In the event of inconsistency between the written description and the map, the written description prevails.