



ICHTHYS LNG FACILITY EMERGENCY RESPONSE PLAN

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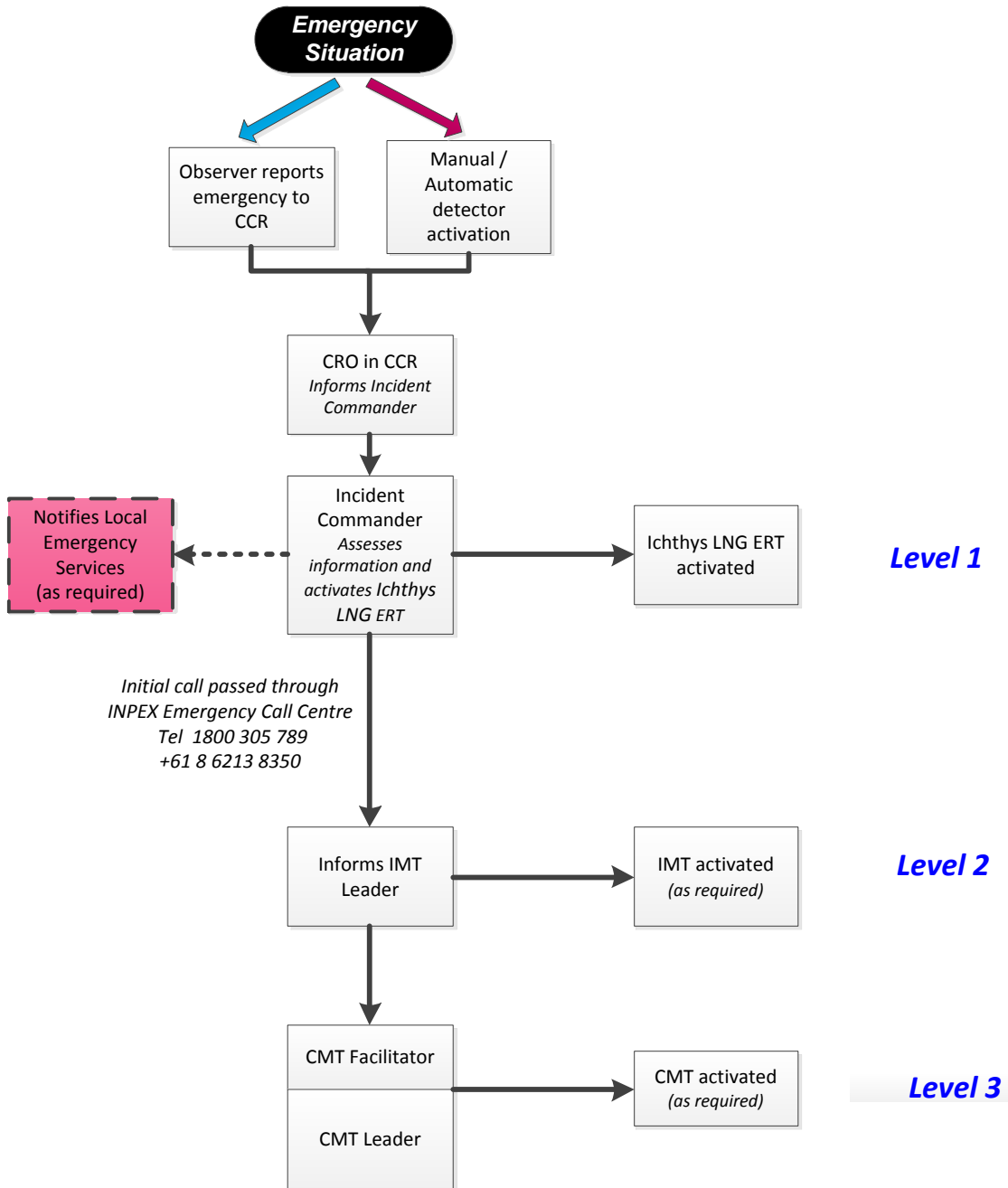
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1 INTRODUCTION

INPEX Operations Australia Pty Ltd is established as the local INPEX Company responsible for operation and management of the Ichthys onshore LNG (ICHTHYS LNG) Facility located at 144 Wickham Point Road on Middle Arm Peninsular, Darwin.

INPEX is committed to protecting the health and safety of its people, those who work with INPEX and the communities where INPEX operates. "Anzen Dai Ichi" or Safety Number One encapsulates the focus INPEX has for acting safely and promoting safety.

Emergency planning is a key component of this commitment to maintain health, safety and environmental values across INPEX's operations.

The ICHTHYS LNG Facility is designated as a Major Hazards Facility (MHF) under Northern Territory (NT) legislation. The Facility's emergency planning processes are developed to deliver an emergency preparedness capability and effective, integrated response outcomes in line with legislation.

This Emergency Response Plan (ERP) outlines the processes for managing and responding to emergencies at the ICHTHYS LNG Facility or any emergency situation in immediate adjoining areas that could impact on the operation of the Facility or the safety of personnel.

Prevention, Preparedness, Response and Recovery (PPRR) are a central feature of the Company's emergency management (EM) planning approach and this ERP uses this same structure to describe activities completed to deliver effective emergency response.

This ERP is divided into five parts:

1. Introduction	<i>The framework under which this ERP is developed.</i>
2. Prevention	<i>Processes which seek to eliminate or reduce the impact of hazards and reduce the susceptibility and increase the resilience of the ICHTHYS LNG Facility</i>
3. Preparedness	<i>Activities that establish arrangements and plans, provide training and familiarisation or verify processes and equipment which will prepare the ICHTHYS LNG Facility to effectively manage emergencies that could eventuate.</i>
4. Response	<i>The activation of emergency preparedness arrangements, plans and processes to manage an emergency situation at the ICHTHYS LNG Facility effectively.</i>
5. Recovery.	<i>Actions that assist the ICHTHYS LNG Facility affected by an emergency event restore the physical infrastructure, emotional, social, economic and physical well-being and environmental values.</i>

To print the ERP and issued IMG's as one document go to Dossier L060-AH-MAN-60004. Right click on Dossier and then click on "View assembled rendition". You will be able to see the whole compilation in the one location and print the ERP and issued IMG's as one document.

1.1 AIM AND OBJECTIVES OF THE PLAN

The overall aim of this ERP is to detail processes that can be implemented safely to protect people, the environment, minimise asset damage and restore the ICHTHYS LNG Facility to safe normal operations following an emergency situation to minimise business disruption.

The specific objectives of this ERP are:

- Provide an overview of the ICHTHYS LNG's design elements, systems and processes established to prevent emergencies from occurring;
- Document the overall emergency response process and key interfaces;
- Define the roles and responsibilities of personnel in an emergency event at, or threatening, the ICHTHYS LNG Facility;
- Detail information flows and communication mediums to be used during an emergency situation;
- Identify credible potential emergency scenarios that could occur;
- Detail the procedures that will be implemented to manage emergency events;
- Outline how to initiate Incident Management Team (IMT) support to assist in the management of a significant emergency;
- Outlining measures to maintain interoperability with emergency services and other support organisations; and
- Establish a framework of assurance activities to maintain the ICHTHYS LNG emergency response capability in a state of readiness.

1.2 PARAMETERS OF THE PLAN

This ERP only contains the emergency processes for the downstream component of the Ichthys LNG Project including the Gas Export Pipeline (GEP), which supplies feed gas to the ICHTHYS LNG Facility.

The upstream components include the offshore facilities (Central Processing Facility, Floating Production Storage and Offloading Facility) and their associated subsea collection flowlines. All upstream components are covered by separate ERPs which detail emergency processes for these assets.

Operationally Onshore Operations are responsible for the GEP up to the Beach Valve. Legislatively Onshore Operations are responsible for the GEP up to the NT coastal waters, in the Timor Sea approximately 80 Kms (45nm) offshore from the GEP Beach Valve. Functionally, for emergency response purposes Onshore Operations are responsible for initiation and Control of the response to a GEP event that they have identified until such time as it is agreed between Onshore and Offshore Operations as to the location of the event and who is best placed to manage the ongoing response. If at this time it is decided that Offshore Operations will

become responsible for the ongoing response, Control will be handed over to Offshore Operations.

This ERP includes emergency processes for the following:

- The GEP;
- Gas pipeline from the connection point on the NT Power Water Corporation (PWC) Wickham Point pipeline;
- LNG Facility (process, utilities and storage areas);
- Operations Complex which is located approximately 1.5km south of the LNG trains,
- Loading jetty areas and all areas within the Facility's perimeter fencing.

In addition, emergencies occurring outside the confines of the Facility have also been considered in this ERP where there is potential for these external emergencies to impact operations of the Facility or compromise safety of personnel. This includes adjoining areas of the Darwin Harbour, emergencies emanating from neighbouring facilities and natural hazards that could impact the ICHTHYS LNG Facility.

Management actions necessary to manage security-related events are also included in this ERP as they have potential to impact the safe operation of the ICHTHYS LNG.

1.3 DEFINITION OF AN EMERGENCY

An emergency event is defined as:

"An unplanned or uncontrolled situation that harms or has the potential to harm people, the environment, assets, Company reputation or Company sustainability and is unable, through the implementation of Company standard operating procedures, to be contained or controlled."

An emergency can be minor such as a small fire in a non-production area and potentially through to a complex long duration emergency involving consequences that have the potential to cause significant threat to personnel safety, damage assets and threaten Facility operation.

Events involving unauthorised access and criminal acts are included as emergencies as they will require specific actions to resolve.

Emergencies outside the Facility that have potential to impact the Facility's operations and safety of personnel have been included in this ERP. Also, if any unplanned event has potential to cause an environmental impact, these events shall also be classified as an emergency situation.

The response elements of this ERP will be activated when any emergency situation occurs at the Facility, or external event threatens the Facility. Hazard planning has identified potential emergency situations that could arise at the Facility and detailed procedures have been developed to

manage should these events actually occur. See Facility Incident Management Guides in [Section 4.7](#).

1.4 RESPONSE PRIORITIES

When planning or dealing with any emergency situation, response priorities are to be based on the philosophy of *People, Environment, Assets, Reputation and Sustainability* (PEARS). Elements of *PEARS* are considered concurrently and not in isolation as follows:

People – minimise the immediate and long term impact to our people by ensuring the safety and welfare of personnel immediately or subsequently involved, peripheral to the event or affected by our operations;

Environment – minimise the immediate and long term impact to the environment, environmentally significant and sensitive habitats and resources as a result of the emergency and response activities;

Asset – minimise the impact of the emergency on Company and public assets; facilitate the restoration of normal business operations and protection of the operational integrity of the asset base;

Reputation – defending and minimising the immediate and long term impact to INPEX reputation within the communities in which we operate, Regulators we work with, external stakeholders and the industries we are a part of through implementation of core Company values in response to events; and

Sustainability – minimise the impact to INPEX through utilisation of business continuity plans to facilitate restoration of the business to normal operations as quickly as possible whilst ensuring compliance with legislative and regulatory requirements.

The health and welfare of people will always be the highest priority.

1.5 LEVELS OF EMERGENCY

The Company's response to emergency situations is graduated with three levels of response depending on the severity of the incident, as either Level 1, 2 or 3. A Level 1 incident is a lower magnitude situation while significant events that involve complex scenarios and consequences will be classified as Level 3.

The emergency response resourcing, activations and notifications will depend upon the incident level classification. See [Table 1.1](#). In determining the appropriate incident Level classification, Incident Commanders (IC) and Incident Management Team (IMT) Leader shall consider both the:

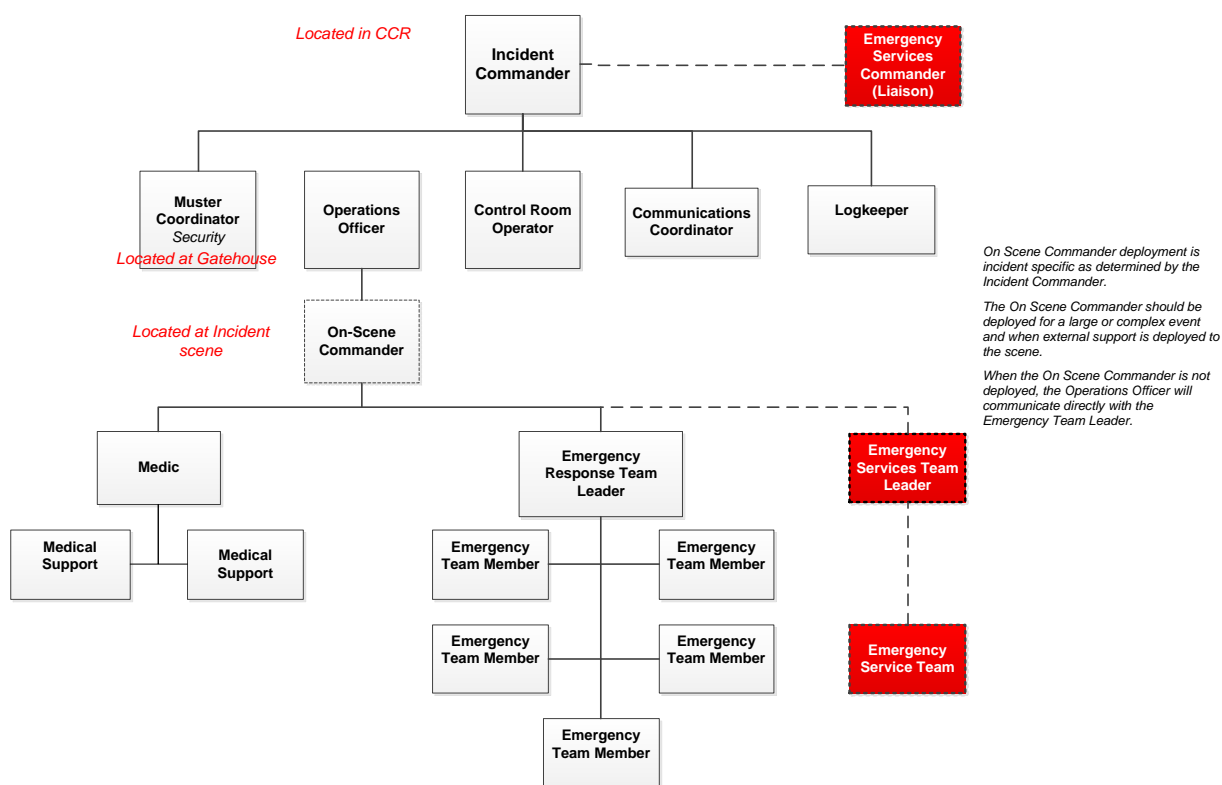
- current situation of an emergency incident and evaluation of current risk; and
- potential for escalation of the current emergency situation and evaluation of potential risk.

Table 1-1: Emergency Classification Levels

Level 1 ERT	<p>A Level 1 event is an event that can be managed at a tactical objectives level utilising the ICHTHYS LNG Facility response resources without the need for additional external assistance or resources. Generally, a level 1 event is managed at the ERT level. The IMT Leader will be notified of any ERT activation.</p>
Level 2 IMT activation	<p>A Level 2 event is an event where the ICHTHYS LNG Facility emergency response resources require, or may require, additional external assistance or resources to assist with response to, or recovery from, an emergency event from a tactical and operational strategic objectives perspective. All (or part) of the IMT will be activated. The INPEX Crisis Management Team (CMT) Leader will be advised of any Level 2 event.</p>
Level 3 CMT activation	<p>A Level 3 event is an event where a very high level of Business strategic direction and decision making is required to respond to or recover from a Crisis emergency event. Level 3 incidents, given their complexity, require Company strategic direction due to the potential impact on reputation, liabilities, business continuity and stakeholders. All (or part) of the CMT can be activated as determined by the CMT Leader. Level 3 incident activation can also occur where there is a developing threat or issue or can occur when there is a standalone event where the ERT and IMT are not activated.</p>

1.6 LEVEL 1 EMERGENCY RESPONSE ORGANISATION STRUCTURE

The following is the Ichthys LNG Emergency Response Organisation structure. Section 3.2 provides more detail regarding the structure.



1.7 PLAN TITLE AND AUTHORITY

INPEX Operations Australia Pty Ltd as Operator of the Ichthys Field have developed and maintain this ERP in accordance with Company documentation controls.

The Plan Title is: *Emergency Response Plan - Ichthys LNG Facility.*
 [Document Reference No: S060-AH-PLN-6001]

Plan development and maintenance involves considerable consultation and collaboration, both within the Company and with external parties to articulate the processes and interfaces. The approval process reflects that collaborative approach.

The approver of the ERP	Managing Director Ichthys Project
The plan is endorsed by <i>Individuals who are required to support the facility's emergency response processes</i>	Operations Director; General Manager Onshore Operations; HSEQ Director;
Custodian of the plan <i>Responsible for scheduling regular reviews of this ERP</i>	Director HSEQ

The plan is implemented and maintained by: <i>This includes monitoring the appropriateness of the plan's emergency processes so they reflect the current situation at the Facility and initiate a review if deficiencies are identified. Further information on ERP review processes is contained in Section 3.19.</i>	General Manager Onshore Operations
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1.8 SUPPORTING DOCUMENTATION

Table 1-2: Supporting Documentation References

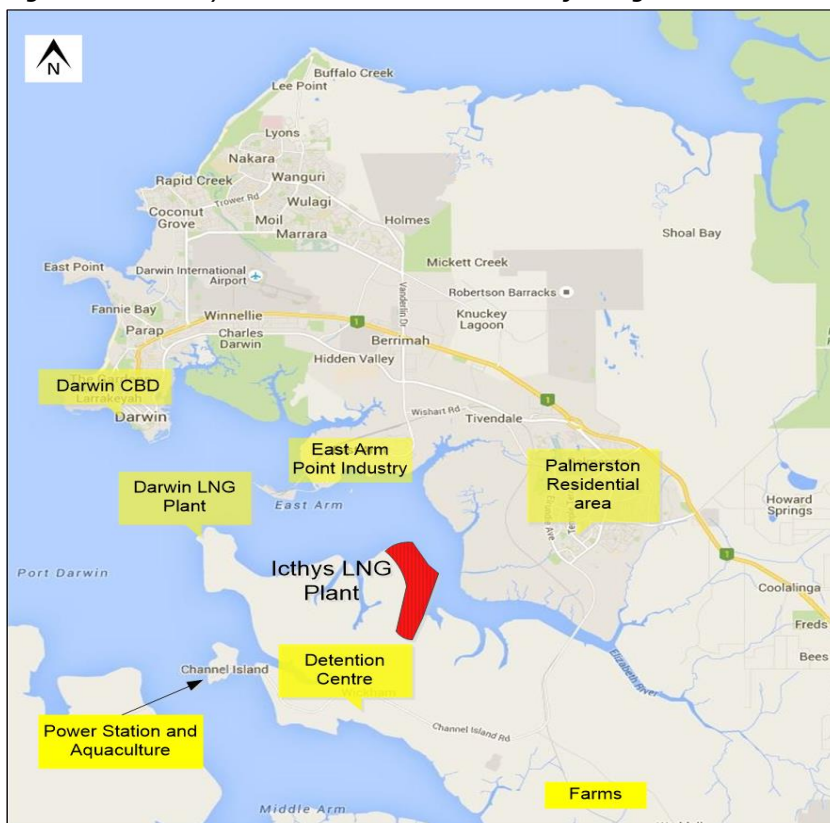
Reference Number	Document
0000-AH-STD-60051	Emergency and Crisis Management Standard
0000-AH-STD-60052	Medical Emergency Response Standard
0000-AH-STD-60053	Extreme Weather Management Standard
0000-AH-OVR-60002	Emergency and Crisis Management Process Overview
0000-AH-PRC-60005	Event Reporting & Investigation Procedure
L290-AH-PLN-10235	Darwin Incident Management Plan
L290-AH-SCA-10000	ICHTHYS LNG Safety Case
L290-A1-LIA-60001	Onshore Incident Response Systems and Equipment Overview
0000-AH-SCA-10000	GEP Safety Case (<i>This includes processes for the PWC gas connection pipeline</i>)
B060-AH-PLN-60001	CPF Emergency Response Plan
X060-AH-PLN-60003	Ichthys LNG Project Nearshore Operations Oil Pollution Emergency Plan -Northern Territory Waters
PER-2152631168	INPEX Ichthys LNG Facility Security Threat and Vulnerability Assessment
0000-AH-PLN-60002	INPEX Australia Management of Fatalities Plan
Various	ICHTHYS LNG Incident Management Guides
<i>External Regulations</i>	NT Worksafe Guide for Major Hazard Facilities – Emergency Plans

1.9 LOCATION MAP

The ICHTHYS LNG Facility is located on Middle Arm peninsular on the eastern side in the vicinity of Blaydin Point, with the loading jetties projecting into the Port of Darwin waters. See location map [Figure 1.2](#)

The site is located on undeveloped crown land within the Litchfield Council with no residential development in the vicinity. The NT Government current land use zoning classification for areas adjoining the Facility are zoned CN (Conservation) or DV (Industrial Development). Road access to the Facility is only possible via Wickham Point Road.

Figure 1-2 Ichthys LNG Plant Location and Adjoining Landuse



1.10 NEIGHBOURING COMMUNITIES AND LAND USE

The nearest surrounding industry is:

- East Arm Point 3km North of the Facility;
- Darwin LNG Facility, also a Major Hazardous Facility, operated by ConocoPhillips is 4.5kms West of the Facility;
- Bladin Point Immigration Detention centre 4kms south of the Facility.

The closest residential settlements to the ICHTHYS LNG Facility are Darwin (approximately 8 km across the harbour) and Palmerston (5 km).

1.11 AREA COVERED BY THE EMERGENCY PLAN

There is a potential for an emergency at the ICHTHYS LNG Facility to have an effect on areas outside the boundary of the Facility.

These include:

- Areas where the underground GEP traverses the peninsular between the beach crossing, beach valve, easement and the ICHTHYS LNG Facility and extending to the NT coastal waters boundary (approximately 45 nautical miles from the GEP Beach Valve).
- Land from the tie-in connection point of the underground PWC fuel gas supply line to the ICHTHYS LNG Facility boundary fence.
- Darwin Harbour, particularly in the East Arm vicinity.
- Locations immediately adjacent to the perimeter of the Facility.
- Neighbouring premises including the Darwin LNG Facility and Bladin Point Detention Centre.
- Ben’s Hill Communications tower located at the East Arm Industrial Area.

These potential offsite impacts have been considered in the emergency planning in the development of this ERP and consultation has been completed with stakeholders to involve them in the Facility’s emergency planning processes. In particular, the development of timely communication processes to alert affected stakeholders of any actual or imminent situation where there is a chance of off-site impact.

1.12 PEOPLE COVERED BY THE EMERGENCY PLAN

The ICHTHYS LNG Facility will operate 24 hours per day, 365 days per year.

The estimated staffing levels during normal production are listed in [Table 1.3](#).

Table 1-3 Estimated Staffing Levels at ICHTHYS LNG (Normal Production)

Personnel	Staffing Level
Operations Personnel	22 per shift (day and night) (Includes Maintenance Support)
Maintenance Personnel	28 (day shift)
Security Personnel	4 on days, 3 on Nights
Contractors (maintenance, transport, facilities support, cleaners, warehouse etc)	120 (predominantly day shift)
Support Personnel (engineering, administrative, HR, safety, warehouse etc)	110 (Generally 8 hr day x 5 day week)
Total on-site population	284

Visitors to the Facility (those that have not completed a site induction) will be escorted at all time while they are in the Facility including assembly at muster points.

If at any time during induction processes any individuals are assessed as being unable to meet Facility muster processes, specific evacuation and muster arrangements for the individual will be implemented to protect their safety.

During planned maintenance shutdowns the number of personnel on site will increase. During shutdown periods, specific simultaneous operations (SIMOPS) planning may be developed so personnel safety is not compromised. Any contractor emergency response arrangements in place during the shutdown period will align with the Facility's emergency response processes.

1.13 CONSULTATION WITH WORKERS

This ERP and supporting emergency procedures (Incident Management Guides) are developed in consultation with personnel involved in the day to day management of the ICHTHYS LNG Facility. This includes workshops during initial development to verify the appropriateness of the arrangements and in subsequent reviews completed following emergency drills and exercises or actual emergency situations.

1.14 ASSUMPTIONS INCLUDED IN EMERGENCY PLANNING

The following assumptions have been made in the development of the ICHTHYS LNG ERP.

- The plant is manned and controlled 24/7 with competent emergency response personnel available to respond at all times.
- The ICHTHYS LNG Facility is supported by a corporate incident management framework that will deliver assistance and support to the ICHTHYS LNG emergency response when required. The IMT will be the primary support for the Facility ERT.
- Facility design principles and supporting operational management processes within the plant involve emergency actions designed to prevent dangerous situations escalating to an emergency. This includes de-pressuring, inventory management, flare capability and Emergency Shutdown processes.
- Passive protection features are included in facility design and complemented by multi-layered detection networks and active fixed protection installed in identified high hazard areas.
- Emergency service agencies will be involved in Facility emergency planning and will be notified of an emergency on the Facility in line with agreed protocols. Emergency Services may respond to the Facility as they determine to meet agency statutory responsibilities.

- Where an emergency involves loss of hydrocarbon containment, the philosophy is:
 - Emergency shutdown of production,
 - Activation of emergency alarm system,
 - All personnel in vicinity to emergency area will proceed to nearest safe muster point,
 - Isolate inventories and depressurise safely to protect exposures,
 - Activate mechanical suppression systems to reduce escalation potential,
 - ERT will only attempt search and rescue or deploy mobile equipment when it is safe to do so.
- The transfer of incident control to an emergency service agency that has statutory responsibility for that hazard is possible during extreme events.
- Mobile response equipment is available across the Facility to be deployed to manage hazardous / emergency situations.
- No loss of power to safety critical equipment is expected as uninterruptable power supplies are incorporated in the plant design.
- No loss of water supply is envisaged due to fire water ring main incorporating alternate supplies and pumping capability.
- Backup telecommunications, alarms and mustering systems are available in the event of a failure of the primary system.
- A framework of emergency preparedness assurance activities are completed routinely to maintain the Facility's emergency response resources in a state of readiness.
- Cyclone rated shelter is available in the Central Control Building. Only essential personnel will remain in-situ during a cyclone.
- The processes within this ERP are based on a single major emergency.

1.15 EMERGENCY RESPONSE PHILOSOPHY – MANAGEMENT OF RISK

Emergency response activities can generate significant risk to personnel, the environment, assets and INPEX reputation. The Incident Commander has considerable knowledge and experience in maintaining safe operations of the Facility and also understands the risk potential during emergency response situations.

Inherent in the Incident Commander's role is implementing actions to manage incident priorities that will involve making decisions on an informed level of risk. The following principles provide guidance on the risk levels associated with the operational response planning:

1. Some level of risk to the safety of emergency responders is acceptable where saving human lives is possible.

2. Minimal level of risk to the safety of emergency responders is acceptable where preventing escalation, or saving structures or endangered environment is possible and the risk to emergency responders is adequately managed.
3. No level of risk to the safety of emergency responders is acceptable where neither saving lives, nor preventing escalation is possible.

In most situations, a defensive approach will be taken utilising the protective measures incorporated into the design of the Facility's process safety controls and active suppression systems.

An offensive response to protect the values under threat may be taken if the risk is assessed as acceptable.

2 PREVENTION

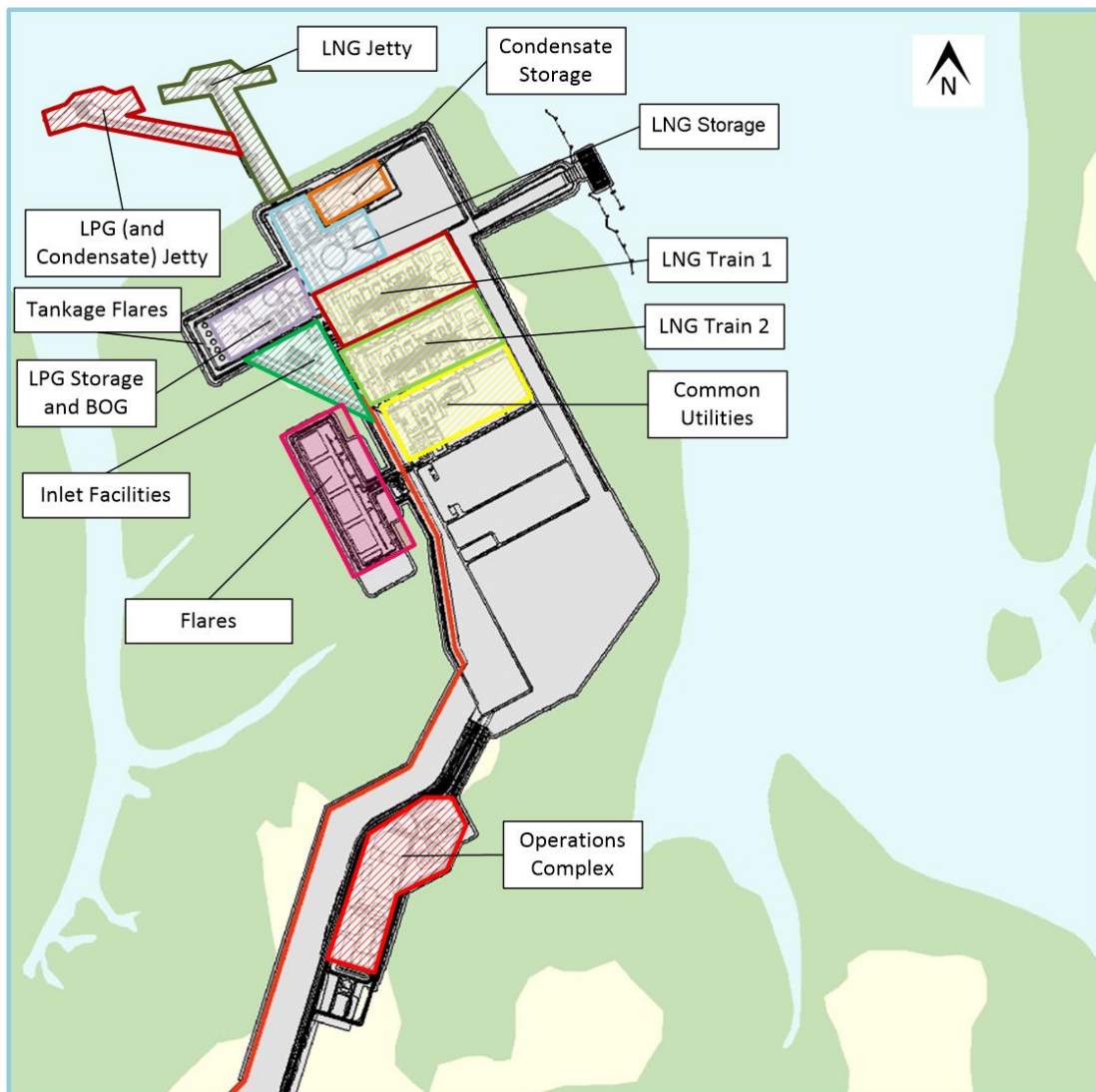
2.1 FACILITY DESCRIPTION

The ICHTHYS LNG Facility has three principal areas:

1. The LNG processing plant area where the two LNG trains are located, storage tanks and site utilities including power generation are located.
2. Jetty Area – adjacent to the LNG processing area- 2 jetties - an LNG jetty and an LPG and Condensate jetty.
3. Operations Complex located approximately 1.5km south of the LNG trains.

A site overview map is displayed in [Figure 2.1](#).

Figure 2-1: ICHTHYS LNG Site Layout Overview



2.1.1 LNG Plant

LNG Processing

Feed gas arrives at ICHTHYS LNG Facility via the 890 km long 1067mm diameter GEP which transports product from the offshore facilities in the Browse Basin off the coast of Western Australia. Isolation valves are provided at the shore crossing beach valve on the western side of the peninsular, approximately 8km from the Facility, and at the inlet to the Facility. The onshore component of the GEP is underground and surfaces inside the ICHTHYS LNG Facility.

The inlet gas pipeline incorporates a pig receiver, which is isolated and depressurised when not in use, and a slug catcher to remove liquid slugs.

The feed gas then passes through the following main processes:

- Bulk liquid condensate is extracted from the feed gas stream.
- Removal of mercury, CO₂ and H₂S. Dehydration to remove water vapour.
- Extraction of LPGs and heavier hydrocarbons via a distillation column.
- Liquefaction of the methane and ethane into LNG by progressive lowering of temperature using propane and mixed refrigerant systems.
- Liquefaction reduces the gas volume to approximately 1/600th of its original volume, allowing it to be safely stored and shipped economically. During liquefaction gas is cooled to approximately -160°C and poses a significant cryogenic hazard.
- Following liquefaction, the LNG is stored at near atmospheric pressure in two full containment cryogenic storage tanks before being offloaded to LNG carriers at the jetty.
- LPG is separated into propane, butane and any residual condensate including isopentane liquid which is used in the Facility's power generation. Propane and butane are stored at near atmospheric pressure in separate full containment cryogenic tanks before being offloaded to LPG carriers at the jetty.
- Condensate is stored at near atmospheric pressure in two covered floating roof tanks before being offloaded to condensate tankers at the jetty.
- Boil-off gas generated during processing storage and loading will be collected, compressed and utilised either as fuel gas or recycled to the liquefaction system.

Relief, Flare and Vents System

The purpose of the relief, flare and vents system is to collect and safely dispose of the various gas and liquid releases that occur within the Facility to prevent a loss of containment. The flare systems are located to the west of the common utilities and comprises four flares:

- **Cold Flare** to handle cryogenic hydrocarbon streams
- **Warm Flare** to handle non-cryogenic streams from the process facilities;
- **Liquid Flare:** to handle liquid hydrocarbon streams such as off-spec condensate or isopentane; and
- **Spare Flare:** designed as a hybrid flare for use during maintenance of the cold or warm flares.

The gas flare systems are located approximately 150m from the main plant and include knockout drums to remove liquids.

Refrigerant Storage

Refrigerant grade Propane is stored in a 16.9 metre diameter sphere for use in the refrigeration system adjacent to the LNG storage tanks.

Common Utilities Area

Located south of the process trains, this area contains the fuel gas system, solvent make-up system, compressed air system, nitrogen system, demineralised water system, wash water system, diesel fuel and emergency diesel generator.

Power Generation

The Facility self generates all electrical power when the Combined Cycle Power Plant (CCPP) is fully functional after the initial start-up. There are three sources of power supply, the normal power source, emergency power and the vital power source.

Normal electrical power is supplied from the CCPP. The CCPP comprises five 37MW Gas Turbine Generators running on fuel gas and three 100MW Steam Turbine Generators powered from turbine exhausts.

There are no specific electrical supply isolation points that will need to be accessed during an emergency. 24 hours maintenance staff are available to implement any emergency power isolations required.

Emergency power is provided by diesel driven synchronous generators to facilitate the start-up and shutdown of the plant in the event of loss of main power.

Vital power is supplied via Uninterruptible Power Supply (UPS) systems. The UPS maintains continuity of supply to Safety Critical Elements (SCEs) of the Facility.

Process and utility areas and buildings are equipped with fixed emergency lighting with integral battery back-up to assist with safe egress. The emergency lighting provides a minimum 90 minutes of operation.

Water System

Potable water	Supplied from PWC distribution network. Sufficient supplies on site for 4 days demand plus maximum firewater demand.
Fire Water	Supplied from potable water system with use of seawater as a back-up.

Waste Water

Waste water is collected and treated on site and any water discharged to the environment meets legislative requirements.

Rainwater discharge from areas exposed to possible hydrocarbon or chemical contamination are bunded via kerbs and the effluent from these curbed areas can be isolated and treated in order to prevent discharge of contaminants to the environment.

Product Storage

LNG

The LNG product is stored in two 165,000m³ atmospheric LNG storage tanks which maintain LNG at cryogenic temperature (-160°C). Each tank is 30.7m high with a diameter of 89m. The tanks are a full-containment type comprising a nickel steel inner tank contained within a pre-stressed concrete outer shell with a carbon steel lining. Insulation is provided between the two skins.

Submerged pumps are installed on the roof via internal pump wells. Spill pans are provided to contain any leaks that might occur from flanged joints external to the tanks. All liquid and vapour connections to the LNG tanks pass through the roof. There are no penetrations in the sides or bottom of the inner tank.

LPG

Propane and butane products are stored in atmospheric storage tanks. The propane tank has a capacity 85,000m³ with propane stored at -41.6°C and the tank is 31.9m high and 67m diameter. The butane tank has a capacity 60,000m³ (29.8m high by 59m diameter) with butane stored at -5.2°C.

Condensate

Condensate is stored in two x 60,000m³ covered internal floating roof tanks. Each tank is 60m diameter and 26.5m high. The tank vapour space located between the internal floating roof and the dome roof includes circulation vents to allow natural ventilation, reducing the potential for accumulation of combustible vapour.

To enable production to continue without introducing condensate into the main storage tanks during condensate offloading, an internal floating roof buffer tank with a capacity of 6,500m³ is used.

The condensate storage tanks and the condensate buffer tank are all bunded. The bund capacity is 110% of the total volume of one of the larger tanks.

Jetty Area - Offloading

The jetty provides separate dedicated berths for LNG carriers and either LPG carriers or condensate tankers, so concurrent loading operations can be completed. Each berth is available on a 24 hour basis, weather permitting.

There is one-way access for the safe passage of product carriers at all stages of the tide from the East Arm Channel to the product loading jetties. Tugs will be available to assist the ships while approaching or departing from berths. One standby tug will be available during loading operations.

Each jetty incorporates a central loading platform that supports the loading arms and associated piping, valves, control cabin, fire monitors, crane and gangway tower. Pipe racks along the jetty carry product loading, vapour return, cool-down, firewater and service lines as well as electrical and communication cable trays.

LNG and LPG supply lines to the jetty contain export products at all times.

Loading of LNG carriers and LPG carriers requires pre-cooling of the loading arms and ship manifold and testing of emergency shutdown systems under both warm and cryogenic conditions.

LNG Loading

Submerged LNG pumps (three per tank, with a nominal combined pump capacity of 12,000m³/h) supply product via the offloading lines to the LNG loading arms on the jetty.

LNG product is transferred simultaneously from both LNG storage tanks to the LNG carrier through two loading arms. The vapour return arm is used to return displaced gas and flashed vapour.

After loading, the loading arms are drained back to the loading header by injecting nitrogen. A drain sump is provided to recover liquid from the loading arms. Collected LNG vaporises in the sump and is returned to the LNG storage tanks via the vapour return line.

A containment bund with a volume of approximately 45m³ is provided to collect any LNG spills from the loading arms. A deluge system is provided on the pump manifold for fire protection.

Low temperature detectors in the bund automatically initiate a shutdown of loading and initiation of high expansion foam protection.

LPG Loading

Propane and butane loading is performed simultaneously via separate loading lines and arms. LPG is pumped from the storage tanks via the offloading line to the loading arms on the jetty via submerged pumps (two duty pumps with a nominal combined pump capacity of 2,500m³/h plus one standby pump per tank). Vapour return lines from the jetty feed into the boil off gas suction drum. Return vapour from the ship is sent to the tankage flare

A containment bund is provided to contain spills from the LPG loading arms. The bund slopes away to the rear of the loading arms to two separate drain locations, each equipped with low temperature detectors that automatically initiate shutdown of loading. After loading, the LPG loading arms are drained and the LPG returned to the tanks by injecting nitrogen.

Condensate Loading

Condensate is pumped from the storage tanks via the loading line to the product loading arms. Two pumps operate simultaneously and a third on standby. Combined the pumps have a nominal combined pump capacity of approximately 5,000m³/h. No vapour is returned from condensate carriers and any vapour generated during loading is vented through the ship's vent mast.

A containment bund is provided to contain spills from the condensate loading arms. The bund slopes away to the rear of the loading arms to two separate drain locations, each equipped with flammable gas detectors that automatically initiate a shutdown of loading. After the loading operation is complete, the loading arms are drained and the recovered condensate returned to the storage tanks through the loading line. This is achieved using nitrogen, which is introduced from the top of the loading arms.

Low expansion foam can be applied via the fixed remotely operated monitors on the Condensate / LPG jetty.

2.1.2 Operations Complex

The operations complex is located 1.5km south of the LNG train processing areas and product storage. The complex comprises the following main buildings.

- Security Gatehouse (including Medical Centre see [Section 2.1.6](#));
- Central Control Building (CCB);
- Radio Communication Building;
- Laboratory;
- Fire Station (see [Section 2.1.6](#));
- Warehouse;
- Workshops;
- Canteen and Training area;

- Operations and Administration Building; and
- Hazardous Materials Store.

Central Control Building

The Central Control Building contains the Central Control Room (CCR) which is the centralized location where the supervisory control interface for the Facility's Integrated Control and Safety System (ICSS) is located. The ICSS comprises the Process Control System (PCS), Safety Instrumented System (SIS), Fire and Gas system and associated systems necessary for operational control of the onshore plant, storage and loading facilities.

The CCR is continuously manned by operations personnel and will play a key role in the initial management processes of any emergency at the Facility.

The CCR operators monitor numerous displays, alarms and control interfaces, along with plant diagnostic facilities to enable the safe and efficient control of the facility

Adjacent to the CCR is the Incident Command Centre (ICC) where the Incident Commander (*responsible for managing the Facility emergency response*) will be located during an emergency. See [Section 4.3](#)

The CCB is also the designated cyclone shelter for a small group of personnel remaining on site during storm 'cyclone lockdown'.

Operations Office

The IMT (activated for any Level 2 incident at the Facility) assembles in the Incident Management Centre (IMC) located in the Operations Office. See [Section 3.6](#).

2.1.3 Prevention Features in Facility Design and Operation

A number of controls and features in accordance with international codes and standards have been included in the Facility design to mitigate potential consequences resulting from a loss of containment. These passive and active protection measures include:

- designation of 12 Fire Zones which provide adequate separation distances in the Facility to minimize potential for incident escalation;
- flammable gas, fire and cryogenic liquid spill detection designed to alert facility operators so that appropriate emergency response can be taken. Detection systems also automatically activate a number of fire suppression systems.
- emergency shutdown systems designed to isolate sections of the equipment and limit the flow of flammable materials;
- emergency blowdown systems designed to rapidly depressurise flammable material to the flare systems;

- active firewater protection systems in process and utility areas to assist in escape and prevent escalation;
- a Facility emergency response capability available on a 24/7 basis that can be deployed to any emergency situation;
- strict control of potential ignition sources by the use of hazardous area classification, maximum separation between flammable inventories and flares and control of hot work.
- bunding and drainage systems to drain liquid spills away from the process area and contain them at a distance where they will not result in escalation;
- passive protection coatings on critical structures in areas where there is the potential for failure due to fire impingement or release of cryogenic liquids;
- maximization of natural ventilation in the process areas to minimize the potential for major explosions: and
- location of Operations and Administrative centre remote from plant.

2.1.4 Shutdown and Process Isolation

Fire Zones

Areas within the Facility are divided into fire zones that are grouped according to the nature and or level of risk. [Table 2-1](#) lists the 12 fire zones that are segregated by distance so that an incident (gas release, fire or explosion) in any fire zone can be reasonably expected to have a low impact on adjacent fire zones. For each fire zone, isolation of hydrocarbon inventory is provided by dedicated shutdown valves that can be initiated from the CCR.

Table 2-1 Identification of Fire Zones

Z1	Utilities
Z2	Operations Complex
Z3	Maintenance Workshop
Z4	Train 1
Z5	Train 2
Z6	Common Utilities Area
Z7	LPG BOG Area
Z8	Condensate / LNG BOG Area
Z9	Inlet Facility Area
Z10	Open Ground Flare
Z11	Process Area – miscellaneous
Z12	Product Offloading

Each fire zone is further divided into several active fire protection zones. Each zone contains its own fire and gas detection system and deluge systems. The active fire zones are separated by distance, barriers,

bunding and drainage to contain spills and prevent potential for pool fire spread.

Emergency Shutdown System

In the event of a process upset or an emergency condition, the Emergency Shutdown System (ESD) brings the entire facility or selected sections of the facility to a safe shutdown condition. The ESD System provides rapid isolation to minimise loss of containment and potential escalation of any release as rapidly as practicable.

The shutdown systems are hierarchical where higher level shutdowns automatically initiate lower levels.

The following levels of shutdown have been provided:

- **ESD1 – Fire Zone Shutdown** – isolates inventories, shuts down a complete fire zone and initiates sequential depressuring. Initiated automatically by detection systems or manual activation from CCR. *The highest level of shutdown.*
- **ESD2 – System or EDP Zone Shutdown** – shutdown of all equipment and hydrocarbon flows within an EDP zone. Initiates sequential depressuring within the flare system. Initiated automatically by confirmed fire or gas detection within process areas or manual activation from CCR.
- **SD – Equipment Shutdown** – shutdown of local equipment automatically due to process upset, local manual activation or by the CCR operator.

ESD for the tanker loading operations, initiated from the CCR or locally, stops the loading pumps, closes isolation valves and disconnects the loading arms. Shutdown of loading operations can also be initiated from the tanker.

All ESD valves are of fail-safe design and close upon loss of instrument air pressure or control signal. All ESD valves are fitted with fusible plugs so in the event of a fire in close proximity to the valve, the valve will close automatically without any control input.

The shutdown and depressuring controls are central to safe operation of the Facility and will be closely monitored in any processing, storage or loading area emergency.

Emergency Depressuring

The EDP System is designed to rapidly depressure specific sections of the plant via the flare system in accordance with API RP 521. Generally, the depressuring rate is set to reduce the pressure to 690kPag or 50% of the system design pressure, whichever is lower, within 15 minutes.

There are a number of depressuring zones within each fire zone. Depressurisation is performed in a staged manner as determined by the Operator, depending on the location of the incident with the most critical

EDP zones depressurised first to achieve the minimum overall blowdown time.

All EDP valves are fitted with fusible plugs to ensure that, in the event of a fire in close proximity to the valve, the valve will open automatically without any control input.

The EDP system operates in conjunction with the Emergency Shutdown System.

2.1.5 Active Fire Suppression Systems

The Facility firewater ring main can deliver 1000Kpa when required and comprises two jockey pumps, three diesel fresh water pumps and three electric seawater stand-by fire pumps. Pumps to maintain fire water availability will start automatically with the exception of the seawater pumps which can be started from the CCR or a local panel on the jetty.

The Firewater Tank (L790-T-001) has a capacity of 22,000m³, sufficient to provide fire water coverage for one LNG train fire for four hours or a condensate tank fire for 12 hours.

Fire hydrants are fitted to the firewater ringmain at a spacing of 60m in production processing areas and 80m in other areas. All hydrants are double 64mm British Instantaneous Couplings (BIC) outlets. Hydrants in the processing areas having an additional 125mm Storz connection for connecting to the fire appliance and deliver the full ring main pressure of 1000kpa. Other hydrants (outside the processing area) are pressure reduced to 700kpa for safe handline use.

International shore connections are located on the loading jetties to provide firewater to vessels when they are alongside.

[Table 2.2](#) lists the fire suppression capability available at Facility locations.

Table 2-2: Summary of ICHTHYS LNG Facility Fire Suppression Systems

Area	Fire Protection System Type	Actuation	Initiation
Inlet Facilities	Spray System and Oscillating Monitor	Automatic	Fire Detection
	Hydrants and Live Hose Reels	Manual	Local
LNG Train	Spray System and Oscillating Monitor	Automatic	Fire Detection
	Water curtain system (Incinerator)	Automatic	Gas Detection
	High-expansion foam system for LNG impoundment basin	Automatic	Spill Detection, Fire Detection
	Hydrants	Manual	Local

Area	Fire Protection System Type	Actuation	Initiation
LNG Storage Tanks	Spray system for top side facilities on full-containment tank	Automatic	Fire Detection
	Dry chemical extinguishing system PSV Tail Pipe	Automatic	Fire Detection
	High-expansion foam system for LNG impoundment basin	Automatic	Spill Detection, Fire Detection
	Hydrants	Manual	Local
LNG BOG	Spray system	Automatic	Fire Detection
	High-expansion foam system for LNG impoundment basin	Automatic	Spill Detection, Fire Detection
	Hydrants	Manual	Local
LPG Storage Tanks	Spray system for top side facilities on full-containment tank	Automatic	Fire Detection
	Hydrants	Manual	Local
LPG BOG	Spray System and Oscillating Monitor	Automatic	Fire Detection
	Hydrants	Manual	Local
Refrigerant Storage and Tankage Flares	Spray system for propane refrigerant storage tank	Automatic	Fire Detection
	Fixed monitor	Manual	Local
	Hydrants	Manual	Local
Condensate Tank	Spray system for Condensate Tank	Manual	Remote in CCR
	Low-expansion foam system for Rim-seal fire of condensate tank	Manual	Remote in CCR
	Hydrants	Manual	Local
Jetties	Remote-operated monitor	Manual	Local
	Water Curtain system	Manual	Remote in Jetty LIR
	High-expansion foam system for LNG impoundment basin	Automatic	Spill Detection, Fire Detection
	Condensate jetty -Low expansion foam (3% AFFF) applied through the jetty's fixed remotely operated monitors.	Manual	Local
	Hydrants	Manual	Local
Utilities	Fixed monitor	Manual	Local
	Hydrants	Manual	Local

Area	Fire Protection System Type	Actuation	Initiation
Gas Turbines	CO ₂ extinguishing system	Automatic	Fire Detection
Buildings	Portable fire extinguisher	Manual	Local
Transformer Yards	Wheeled Dry Powder Extinguisher	Manual	Local
Compressor (Lube Oil System)	Wheeled Dry Powder Extinguisher	Manual	Local

2.1.6 Emergency Response Infrastructure

Firefighting

A fire station is located in the Operations Complex. This houses the two fire appliances, foam and HAZMAT trailers and other equipment for emergency team use. The building is the assembly point for the emergency teams before deployment to the emergency scene.

Selected shift duty operators are specifically trained in emergency response functions and will respond to any emergency when activated. The emergency team will consist of 1 x Team Leader and 5 x Team members. Additional staff may be available to respond dependant on Facility staffing.

Fire Appliances

Two identical fire appliances are located at the fire station providing redundancy with the following capability:

- Dual cab, 2WD with seating for 6 persons
- High volume pump, 5,000 litres /min.
- Water tank of 1,000 litres with 60m high-pressure hosereel
- Foam tank 3,700 litres
- Foam proportioning, single point injection
- Roof-mounted remote foam monitor (60m throw at 1000kpa / 10 bar)
- Breathing Apparatus and essential firefighting equipment

Foam Trailers

Two foam trailers are available for deployment where additional foam capability is required.

Each foam trailer carries:

- 2 x 1000 litres of 3% low expansion foam
- Fixed oscillating firewater monitor
- Foam proportioning unit

HAZMAT Trailer

Contains equipment such as:

- Fully encapsulated splash suits
- HAZMAT boards
- Plugs / putty
- Hazardous material emergency response guide
- Binoculars
- Shovels
- Tarpaulins etc,

to assist with containment and clean-up and can be deployed to any hazardous material or oil spill.

Slip-on Firefighting Unit

A slip-on firefighting unit with an inbuilt tank, petrol driven pump and hose reel is available for the ERT to deploy to any vegetation fire within the Facility. It is designed to be winched on the back of a suitably rated 4WD trayback utility.

Medical Facilities

The medical centre is located within the gatehouse and is the main location for the assessment and stabilisation of injured or ill personnel. An ambulance is provided adjacent to the medical centre. A Medic will be on duty during the day shift, supported by first aid trained personnel that are available 24 hours per day. The ambulance will be used to retrieve injured personnel and transport them to Royal Darwin Hospital emergency department if required.

Medical Assistance during a Significant Multiple Casualty Incident

Emergency planning has included contingency arrangements for deployment of the NT St John Ambulance or other medical personnel to deal with a multiple casualty incident at the Facility. ([See Section 4.6.1](#)).

2.2 SAFETY MANAGEMENT SYSTEM

The Company’s HSE Safety Management System monitors safety and environmental performance across the Company. Activities at the ICHTHYS LNG Facility are closely monitored and evaluated to confirm they are meeting the appropriate HSE performance requirements.

2.3 ENVIRONMENTAL MANAGEMENT

The ICHTHYS LNG Facility emergency planning involves processes to prepare and respond to any unplanned event that has potential to threaten the environment. This includes oil pollution, hazardous material spillages and waste management incidents.

The ICHTHYS LNG response will focus on stabilizing the situation and initiating remediation to mitigate the potential for environmental harm in line with emergency planning arrangements.

Oil Spill emergencies with potential to impact on the marine environment will be managed as per arrangements in the Ichthys LNG Project Nearshore Operations Oil Pollution Emergency Plan -Northern Territory Waters [X060-AH-PLN-60003].

2.4 RISK MANAGEMENT

A key requirement of the INPEX Health Safety and Environmental Policies is the identification of hazards and the management of associated risks to levels that are as low as reasonably practicable (ALARP).

Processes and procedures are in place to identify and manage hazards in the workplace. Structured systematic risk assessment procedures will involve additional resources applied to reduce risk to tolerable and ALARP.

Processes and procedures are also in place to facilitate an effective and integrated risk based approach to change management. Any change at the ICHTHYS LNG Facility that has the potential to impact on design, engineering, technical or business process, organisation, procedure, or scope of activities will be subject to risk assessment and analysis prior to approval and implementation.

If necessary emergency response processes shall be amended to address the change.

2.4.1 Compliance with Legislation and Codes

The design construction and operations of the ICHTHYS LNG Facility complies with Commonwealth, State /Territory and local government requirements and based on applicable codes and standards.

As a Major Hazards Facility, the ICHTHYS LNG is subject to the regulations under the *NT Work Health and Safety (National Uniform Legislation) Act 2011*.

The Company has complied with regulatory requirements, industry and Company codes and standards and adopted leading industry practice to reduce risk levels to meet INPEX's internal risk assessment criteria.

A complete list of these compliance requirements are included in the Safety Case submitted to the Regulator.

2.4.2 Security Risks and their Potential Impacts

The design and safe operating procedures are based on maintaining restricted access and preventing any security threats that could impact on the facility. A Security Plan has been developed for the facility.

Security Threat and Vulnerability Assessments are completed and appropriate arrangements put in place and upgraded, when appropriate, during an elevated threat period.

The management of security-related events, such as unauthorised access and criminal activity are included in this ERP and identify the actions to be taken by the ICHTHYS LNG emergency response teams.

2.5 TELECOMMUNICATIONS

The following radio networks at the ICHTHYS LNG Facility can be used in an emergency.

The UHF Tetra digital trunked Radio System - used for day to and emergency communications. Includes functionality to have priority communication, communicate with all users simultaneously and can interface with the personnel location system to identify location of personnel. This network has multiple levels of redundancy.

VHF Marine Radio System for harbour operations and marine emergencies.

High Frequency Radio System which can be used as a back-up last resort communication with offshore facilities and Company offices.

All radio communications are recorded on an emergency voice recorder system.

A standalone satellite phone is located in the ICC.

2.6 DETAILS OF HAZARDOUS MATERIALS

[Table 2-3](#) lists Schedule 15 chemicals as defined in the WHS Regulations that will be stored or contained within processing operations.

Table 2-3: Major Inventories of Hazardous Materials Listed Under Schedule 15

Hazardous Substance	UN Number	Maximum quantity stored on site	Description
LNG Storage	1972	155,000t (330,000m ³)	The major inventory of LNG is stored in two x 165,000m ³ capacity atmospheric storage tanks at cryogenic temperature (approximately -160°C).
LPG Propane Storage	1978	50,000t (85,000m ³)	The major inventory of produced Propane inventory is stored in a single 85,000m ³ capacity atmospheric storage tanks at cryogenic temperature (approximately -41.6°C).

Hazardous Substance	UN Number	Maximum quantity stored on site	Description
LPG Butane Storage	1011	36,500t (60,000m ³)	The major inventory of butane inventory is stored in a single 60,000m ³ capacity atmospheric storage tanks at cryogenic temperature (approximately -5.2°C).
Condensate Storage	1268	80,000t (120,000m ³)	The major inventory of condensate is stored in two x 60,000m ³ capacity atmospheric storage tanks. There is also a 6,500m ³ condensate buffer tank used to temporarily hold produced condensate during offloading operations.
Refrigerant Storage	1978	960t (1,960m ³)	The propane refrigerant storage sphere is normally maintained at a nominal capacity of approximately 250t and is only filled during a LNG train shut down for major overhaul when the inventory in the propane refrigeration circuit is transferred to the storage sphere.
Inlet Separation	1971 (Methane)	250t	The inlet facilities contain approximately 150t natural gas and up to 250t if liquid slugs are present.
Process Trains	Various products	1,900t	Each LNG train contains approximately 1500t of flammable hydrocarbon liquids and 400t of hydrocarbon vapour, including natural gas, LPG, LNG and condensate.

Hazardous Substance	UN Number	Maximum quantity stored on site	Description
Propane Refrigeration Circuit	1978	700t	When an LNG train is shut down for major overhaul, propane from the propane refrigeration circuit is transferred to the propane refrigerant storage sphere. i.e. the quantity of propane quoted is either in the refrigeration circuit or storage sphere.
Mixed Refrigerant	Various products	250t	MR contains approximately 45% Methane, 32% ethane, 18% propane and 5% nitrogen.
Utilities	Isopentane 1265	20t	Utilities contain approximately 15t of isopentane and 5t of fuel gas.
Loading Jetties	Various products	70t	The piping to the loading jetties contains approximately 30t of LNG, 30t of LPG and 10t of condensate. These lines remain liquid filled at all times with continuous circulation of the LNG and LPG to maintain cryogenic temperatures in the piping systems.
Total (approx).		326,000t	Approximate maximum total quantity of hazardous hydrocarbons on site.

2.6.1 Other Hazardous Materials

A number of chemical substances, that are not classified as Schedule 15 chemicals, are present at the Facility include:

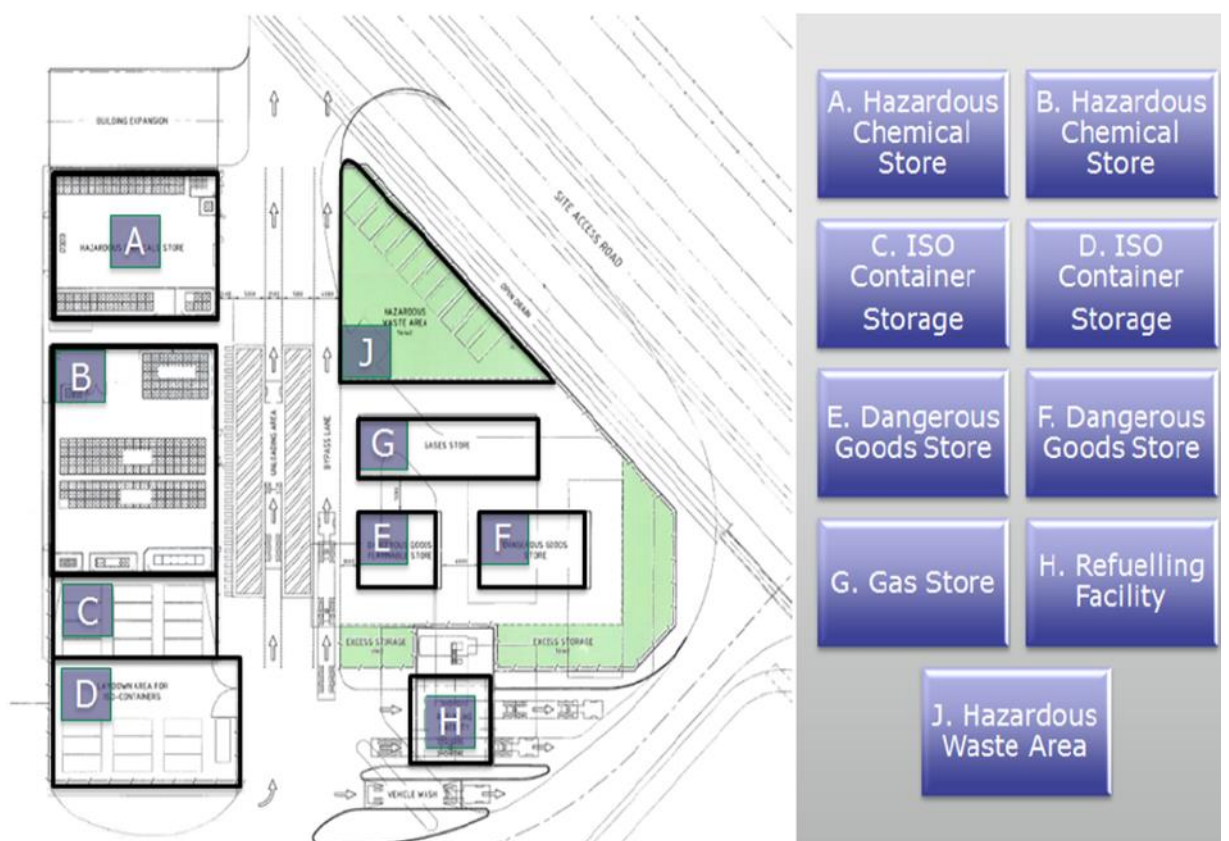
- heating medium (synthetic oil);
- diesel fuel (approximately 170t in the Utility Area, 20t in the Operations Complex and smaller quantities in the day tanks of the diesel driven firewater pumps, emergency diesel generators and emergency air compressor);

- lube oil;
- a-MDEA (activated Methyl Diethanolamine) [UN 0001];
- significant battery inventory;
- molecular sieve adsorbent;
- mercury removal absorbent;
- laboratory chemicals;
- cleaning products; and
- paints and thinners.

2.6.2 ILNG Hazardous Goods Storage Facility (HazChem Facility)

The ILNG HazChem Facility provides onsite storage for a range of chemicals in separate buildings, banded awnings and cabinets. Dangerous Goods classes 2-9 are held in a range of package sizes including small or large drums, cylinders, pallets and intermediate bulk containers.

The ILNG Warehouse has several dedicated buildings within the HazChem Facility for the storage of Dangerous Goods and Hazardous Chemicals as shown in the drawing below.



HazChem Storage Facility location and quantities below.

Building	Construction Type	Size	Dangerous Good Class	Product Description**	Storage Type
Building A	Air Conditioned enclosed room	850m2	Non Hazardous	190 x Pallets - Activated Carbon 130 x Pallets - Mercury Absorbent	Block Stacked 2 pallets high
Building B	Mechanically Ventilated enclosed room (Radioactive store within)	830m2	7	<i>No Radioactive stock identified</i>	Block Stacked 2 pallets high
				190 x Pallets - Molecular Sieve Material	
				23 x Pallets - Silica Gel 21 x Pallets - Activated Alumina	
Building C	Bunded Awning	250m2	TBA	8 x 20' ISO Tank - Ceramic Balls 3 x 20' ISO Tank - Heat Transfer Fluid	Ground level
Building D	Bunded Awning	250m2	TBA	9 x 20' ISO Tank - aMDEA	Ground Level
Building E	Concrete tilt up panel, roofed, separate bunds, individual Dangerous Goods cabinets	110m2	TBA	Mixed Dangerous Goods	4 x Dangerous Goods Cabinets
Building F	Concrete tilt up panel, roofed, separate bunds, individual Dangerous Goods cabinets	170m2	TBA	Mixed Dangerous Goods	6 x Dangerous Goods Cabinets
Building G (Gases Store)	Concrete tilt up panel, roofed	275m2	TBA	Various Gases i.e. Oxygen, Acetylene, Nitrogen, Calibrations Gases	Manpacks, Cylinder Cages
Building H (Refuel Facility)	Bunded Awning	260m2	3	40,000L Tank - Diesel	
Building J (Waste Storage Area)	Bunded Awning	360m2	<i>As required</i>		

**Content of the Buildings to be confirmed once Chemicals have been approved and allocated storage

2.6.3 Hazardous Chemical Manifest

A copy of the Hazardous Chemical Manifest, applicable once the quantities as prescribed in the NT Work Health and Safety (National Uniform Legislation) Regulations, Schedule 11 is exceeded, will be located at the security guardhouse.

2.7 HAZARDS AND THEIR POTENTIAL IMPACTS

The ICHTHYS LNG Facility Safety Case and Operations Hazard Register identifies the following events as credible threats that may require an emergency response.

2.7.1 Major Accident Events

A Major Accident Event (MAE)¹ at a major hazard facility is an occurrence that:

- results from an uncontrolled event at the major hazard facility involving, or potentially involving, Schedule 15 chemicals; and
- exposes a person to a serious risk to health or safety emanating from an immediate or imminent exposure to the occurrence.

An occurrence includes any of the following:

- escape, spillage or leakage

¹ WHS Regulations use the term 'Major Incident'. In this ERP the term Major Accident Event (MAE) is used.

- implosion, explosion or fire.

[Table 2.4](#) lists the Major Accident Events identified in the Facility's Safety Case that potentially could occur. Incident Management Guides (IMG) are in place for each of these potential MAE scenarios to guide the ICHTHYS LNG ERT with actions to be taken safely manage an emergency response resulting from these events. See [Section 4.7](#).

In the majority of these MAE events, a catastrophic loss of containment could potentially result in multiple fatalities due to fire or explosion if multiple workers were in the immediate area.

However, the ICHTHYS LNG Facility Safety Case has concluded that the potential for loss of containment is low, as is the potential for ignition. Also the relatively low plant occupancy further reduces the risk level.

Table 2-4: List of Major Accident Events identified at the ICHTHYS LNG Facility

MAE REF	Hazard	Emergency Situation Resulting (from Bow Tie Analysis)	ICHTHYS LNG IMG Number
01	Hydrocarbon Loss of Containment Onshore Pipelines (includes GEP and PWC Gas interconnect pipeline)	<ul style="list-style-type: none"> • Unignited HC vapour release • Flash fire • Jet fire • Vapour cloud explosion • Projectiles 	IMG 1 LoC Onshore Pipelines
02	Hydrocarbon Loss of Containment Inlet Facilities	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion • BLEVE 	IMG 2 LoC Inlet Facilities (Slug Catcher)
			IMG 2a LoC Inlet Facilities (Stabiliser Unit)
03	Hydrocarbon Loss of Containment Utilities and CCPP	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion 	IMG 3 LoC Combined Cycle Power Plant
04	Hydrocarbon Loss of Containment LNG Train	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion • BLEVE 	IMG 4 LoC Train 1 and 2
05	Hydrocarbon Loss of Containment LNG and LPG BOG	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion • BLEVE 	IMG 5 LoC LNG Boil-off Gas
			IMG 5a LoC LPG Boil-off Gas

MAE REF	Hazard	Emergency Situation Resulting (from Bow Tie Analysis)	ICHTHYS LNG IMG Number
06	Hydrocarbon Loss of Containment LNG and LPG Storage	<ul style="list-style-type: none"> • Fire on Full Containment tank Roof • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion • BLEVE 	IMG 6 LoC LNG Storage Tank
			IMG 6a LoC LPG Storage Tank
07	Hydrocarbon Loss of Containment Refrigerant Storage	<ul style="list-style-type: none"> • Fire on Full Containment tank Roof • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire • Vapour cloud explosion • BLEVE 	IMG 7 LoC Refrigerant Storage
08	Hydrocarbon Loss of Containment Condensate Storage	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Pool fire • Vapour cloud explosion • Floating Roof tank fire 	IMG 8 LoC Condensate Tank
09	Hydrocarbon Loss of Containment Product Export	<ul style="list-style-type: none"> • Unignited HC vapour release • Unignited HC liquid release • Flash fire • Pool fire • Vapour cloud explosion 	IMG 9 LoC Product Export
10	Hydrocarbon Loss of Containment Heating Medium	<ul style="list-style-type: none"> • Unignited HC liquid release • Pool fire 	IMG 10 LoC Heating Medium
11	Loss of Containment CCPP Steam	<ul style="list-style-type: none"> • Catastrophic Failure of HP steam pipework leading to a fatality • LP Steam / Feedwater Condensate burns 	IMG 11 LoC Combined Cycle Power Plant

MAE REF	Hazard	Emergency Situation Resulting (from Bow Tie Analysis)	ICHTHYS LNG IMG Number
		leading to a fatality	
12	Failure of Hydrocarbon Disposal Function (Flare)	<ul style="list-style-type: none"> • Unignited HC vapour release • Flash fire • Vapour cloud explosion 	IMG 12 Disposal Function Flare

2.7.2 Details of other Hazards (non-MAE Events)

ICHTHYS LNG hazard and risk planning has identified the following non-MAE scenarios. IMGs are in place for each of these potential emergency situations to guide the ICHTHYS LNG ERT with actions required to safely manage an emergency response to these events. See [Section 4.7](#).

Non MAE Scenario	ICHTHYS LNG IMG Number
LoC GEP Offshore	IMG 13
Generic Hydrocarbon LoC	IMG 14
Serious Injury	IMG 15
Multi Casualty Event	IMG 16
Hazardous Material Release Non-Hydrocarbon related	IMG 17
Building Fire	IMG 18
Export Tanker Emergency at Sea or in Darwin Port waters	IMG 19
Export Tanker Emergency (non-cargo related)	IMG 20
Vessel Collision	IMG 21
Export Tanker Fire Vapour Release or Explosion	IMG 22
Man Overboard Fall from Jetty	IMG 23
Bushfire	IMG 24
Radiation Incident	IMG 25
Extreme Weather Incident (Not captured in ERP)	IMG 26
Incident Adjacent to Facility	IMG 27
Rescue from Height	IMG 28
Rescue from Confined Space	IMG 29

Rescue Entrapment Incident	IMG 30
Missing Stranded Persons	IMG 31
Security Criminal Acts Sabotage	IMG 32
Security Unauthorised Maritime Arrivals	IMG 33
Security Unauthorised Entry to Facility	IMG 34
Security Bomb Threat Suspicious Package	IMG 35
Security Manage Psychologically Affected Person	IMG 36
Security Active Shooter	IMG 37

3 PREPAREDNESS

The following processes are established and activities completed to maintain the ICHTHYS LNG Facility’s capacity to effectively manage an emergency incident.

<p><i>ERP Development</i></p>	<p>Development of an Emergency Response Plan and supporting procedures that detail the actions, notifications and interface with stakeholders required during an emergency response at the Facility.</p>
<p><i>Emergency Plan Validation</i></p>	<p>Plan validation through regular exercises and drills to validate emergency planning and response processes to achieve the objectives of the ERP. Participation of contractors, emergency services and other key emergency response stakeholders is encouraged.</p>
<p><i>Emergency Preparedness Assurance</i></p>	<p>Assurance activities such as emergency equipment preparedness checks, audits and regular interactions with key emergency response stakeholders to maintain the Facility in a state of readiness for an emergency response.</p>
<p><i>Competence Management</i></p>	<p>Training and competence maintenance activities to enable emergency response personnel to complete their allocated emergency roles effectively and safely</p>
<p><i>Emergency Plan Analysis and Continual Improvement</i></p>	<p>Analysis of all emergency responses, training activities and exercises to identify any functions within the emergency plan that require to be amended. A focus on continual improvement.</p>
<p><i>Commitment to Regular Reviews of Emergency Plans</i></p>	<p>Regular scheduled reviews of the emergency response plans and processes in conjunction with key emergency response stakeholders so emergency processes remain current.</p>

3.1 COMMISSIONING THE EMERGENCY MANAGEMENT SYSTEM

During the ICHTHYS LNG Facility commissioning processes the emergency response equipment and control procedures are exposed to a rigorous testing and acceptance program to verify these safety critical functions operated effectively and integrated with the Facility’s process monitoring network.

Emergency response equipment checks are incorporated into routine facility management and maintenance processes. Corrective action is

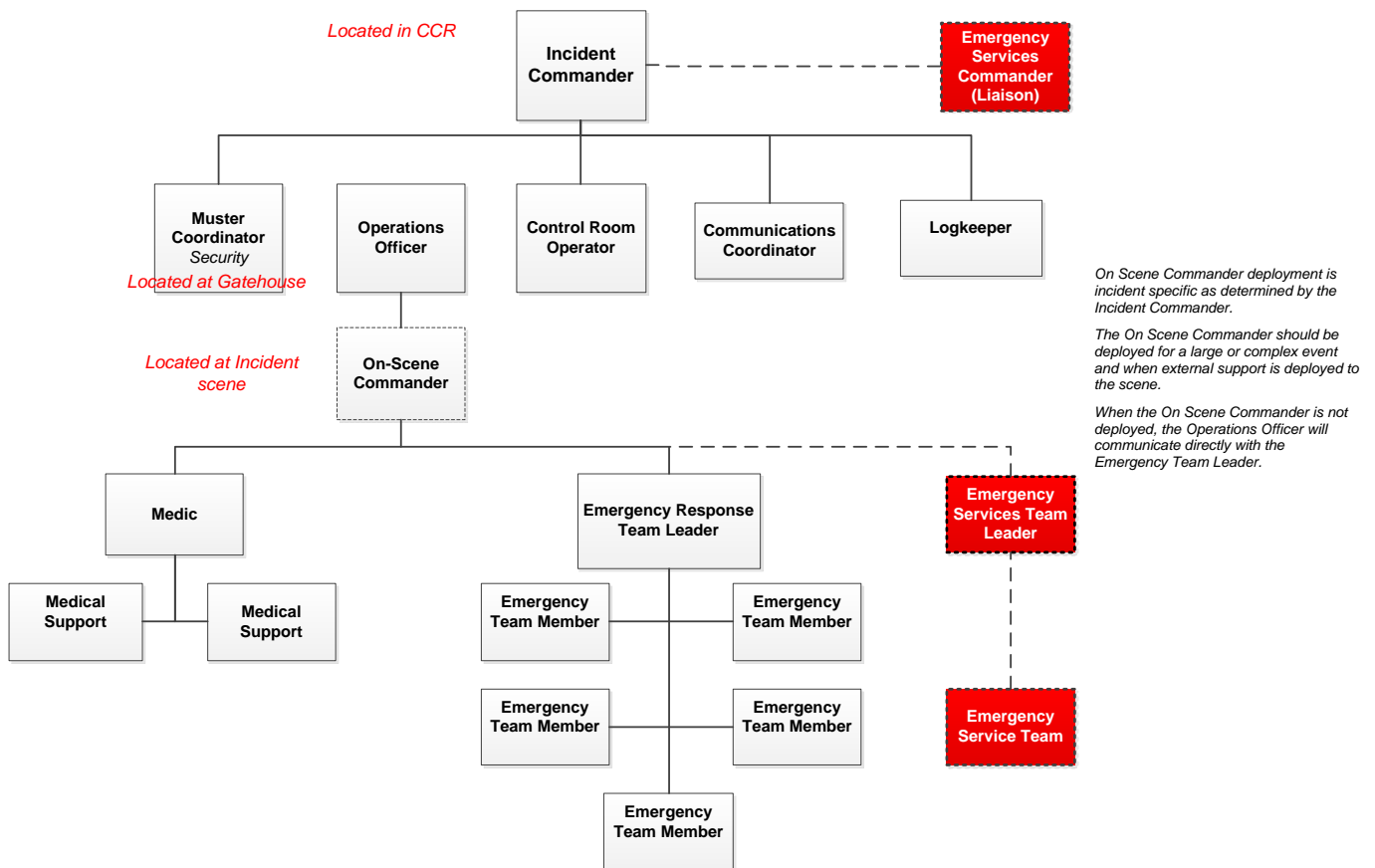
initiated immediately to rectify any faults identified in emergency equipment or safety critical elements.

3.2 EMERGENCY FUNCTIONS AND ORGANISATIONAL STRUCTURE

The ERT at the Facility is under the leadership of the Incident Commander (IC) who has the primary responsibility to safely deploy emergency responders to manage the tactical response to an incident. An illustration of the ICHTHYS LNG ERT structure is displayed in [Figure 3-1](#) and includes management positions that have been identified to complete the respective ERT roles.

The Incident Commander supported by team members in the CCR / ICC and a team deployed to the scene of the emergency that physically performs the emergency response tasks.

Figure 3-1: ICHTHYS LNG ERT Structure



Should the Incident Commander assess that the emergency will require additional operational management support outside the Facility including provision of additional support outside the Facility based resources, the IMT may be activated (Level 2).

This decision to activate the IMT will occur in consultation between the IC and IMT Leader.

The IMT will assist with the provision of additional resources, advice, logistical and technical support to resolve the emergency safely.

The Crisis Management Team (CMT) may be activated if an escalating emergency seriously threatens people, environment, assets or Company reputation. The CMT provides strategic level support to the incident response and assists to facilitate return of the affected asset to normal operations (Level 3).

A matrix to assist in the classification of the level of emergency is available in [Table 3.1](#).

3.3 SECURITY FUNCTIONS AND ORGANISATIONAL STRUCTURE

The Operations HSE Team Lead is responsible for the management of security threats at the ICHTHYS LNG facility in accordance with the Facility's Security Plan. A contracted security company provides the personnel to undertake the security management duties.

To meet port security requirements, a nominated INPEX position will complete the Port Facility Security Officer and the Port Security Officer role will be completed by a member of the duty security personnel.

The duty security personnel have the following duties:

- Administering site access control
- Performing vehicle inspections
- Performing site inductions
- Performing patrols
- Responding to security events

The duty security personnel actively monitor the following Facility systems.

- E-mustering system;
- Access control system;
- Personal locator system;
- CCTV system;
- Fence intrusion detection system;
- X-band radar;
- Public Address General Alarm;
- Emergency voice recording system;
- Remote radar and CCTV facility;

In an emergency situation the duty Security Team Lead will liaise with the ERT and provide support as required. This will include facilitating site access to emergency services or other external resources that are required to attend an emergency situation at the Facility.

3.4 EMERGENCY EVENT CLASSIFICATION AND ESCALATION GUIDANCE TABLE

INPEX Emergency Event Classification and Escalation Guidance Table

INPEX RESPONSE Severity Level	ERT		
	Must inform	IMT	
	Level 1	Level 2	CMT Level 3
People	<ul style="list-style-type: none"> Minor injury Lost Time Injury Non-Urgent Medevac 	<ul style="list-style-type: none"> Serious injury Multi casualty event 	<ul style="list-style-type: none"> Multiple serious injuries Fatality
Environment	<ul style="list-style-type: none"> Any loss of containment to land, air or water that can be resolved with local or first -strike resources. Single jurisdiction response 	<ul style="list-style-type: none"> Any loss of containment to land, air or water that is beyond Level 1 response. May require deployment of resources beyond the first strike response. Multiple jurisdiction response. 	<ul style="list-style-type: none"> Catastrophic failures or major releases. May require national and international response High degree of complexity, requires strategic leadership.
Assets	<ul style="list-style-type: none"> Minor fire (non-process area) Adjacent incident threatens facility Minor protest at Facility Attempt to gain unlawful entry 	<ul style="list-style-type: none"> Any fire in process, storage or loading area Local emergency services attendance Large demonstration at Facility Forced entry to Facility 	<ul style="list-style-type: none"> Major Fire Explosion Widespread damage to Facility Offshore Facility abandonment
Reputation	<ul style="list-style-type: none"> Immediate vicinity public concern 	<ul style="list-style-type: none"> Local media attention Extensive negative national media attention 	<ul style="list-style-type: none"> Likely to attract national or international public attention Potential for extensive negative international media attention Significant loss of confidence in INPEX operations
Sustainability	<ul style="list-style-type: none"> No or minimal production loss Breach of internal standards minor issues Potential for minor fines Industrial relations issues 	<ul style="list-style-type: none"> Potential for extended production loss Serious or potential significant breaches to operating licence conditions Potential significant litigation and fines 	<ul style="list-style-type: none"> Facility Shutdown Potential for: <ul style="list-style-type: none"> significant financial loss civil prosecutions and class actions heavy fines and threat to operating licence and future approvals criminal prosecution and potential jail sentences for Directors and Senior officers

Table 3-1: Levels of Emergency

3.4.1 Emergency Event Classification and Escalation table

The Emergency Event Classification and Escalation table is a tool that is used to assist a decision maker on whether an emergency event has escalated to the next level of activation or has the potential to escalate to the next level.

It is a guidance tool to aid personnel with deciding what the event level is, or has the potential to be should it not be clear, including notification actions to take.

3.5 ERT RESPONSIBILITIES

Checklists detailing the responsibilities for all ERT positions illustrated in [Fig 3-1](#) are located in [Appendix A](#).

ERT personnel within the CCR / ICC will be identifiable with tabard showing their emergency role.

All ERT members are required to attain competency and maintain currency appropriate to their emergency role.

3.6 FACILITY EMERGENCY CONTROL CENTRES

ERT

- The Incident Commander will operate from the ICC adjacent to the CCR in the Central Control Building. The Incident Commander will rely on information from the Facility's Integrated Control and Safety Systems when developing incident containment and control tactics to conduct emergency response operations safely.
- A number of smaller rooms in the CCB and can be used to coordinate incident response as required.

IMT

- When an emergency at the Facility is classified as a Level 2 emergency by the IMT Leader, the IMT will assemble in the Incident Management Centre (IMC) located in the Operations and Administration building. This room has equipment required for the IMT to support an incident response at the Facility.

Both emergency centres are located in the Operations Complex and removed from Facility processing and storage areas. They are constructed to withstand extreme weather events and powered by an uninterruptible power source.

3.7 EMERGENCY ALARM SYSTEMS

3.7.1 Operations Complex Building Alarms

Buildings in the Operations Complex are fitted with automatic addressable fire alarm detection systems that are standalone with a building emergency warning system to alert occupants. Each building has a Fire Indicator Panel (FIP) at the building entrance and individual building FIPs are connected to a master FIP (MFIP) located at the entrance of the Central Control Building.

The MFIP is connected to the F&G panel in the CCR and communicates only basic information on the building alarm activation so the CCR can alert emergency crews.

There are no fire alarm mimic panels installed at the Gatehouse and fire response crews (ERT or NTFRS) will initially attend the MFIP in the Central Control Building entrance to obtain information on the building fire alarm activation(s).

The Warehouse is protected by a sprinkler system including in-rack sprinklers. Automatically operated fire suppression systems are fitted in high reliability areas such as computer server, instrument rooms and telecom rooms and will initiate when early warning fire detection systems are activated. Fire extinguishers and hose reels are provided in all buildings in accordance with the Building Code of Australia requirements.

Activation of the detection system may shutdown building systems including HVAC systems. Flammable gas detectors are fitted to HVAC air intakes and will shut down to prevent flammable atmospheres entering the building.

Activation of the building's emergency PA/GA system by the building's detection system is independent of the site GA and separate from adjacent buildings.

3.7.2 Muster Procedures - Building Alarm activation Operations Complex

Should an alarm be activated within an Operations Complex building the systems emergency warning system will operate. When that alarm is activated personnel shall move safely to the building's designated muster point.

The electronic muster verification system is not intended to be used during musters from these local building alarms. Designated Building Wardens have been appointed to verify all personnel have vacated the building and assembled at the muster point.

Emergency Teams will be mobilised by the CCR when any building alarm activates to investigate and report situation back to the Emergency Commander who will determine actions to be taken.

Evacuation of the CCR shall be at the direction of the Incident Commander.

3.7.3 Building Wardens and Clearance Process

Building Wardens are assigned for all habitable buildings on the facility and muster points identified for personnel to assemble in the event of a building alarm. Building Warden procedures require them to check all areas of the building to confirm all occupants have evacuated and moved to assembly area.

If a person is injured or unable to be moved, the Building Warden will notify the Emergency Commander of their position by radio and the emergency team personnel will be despatched to assist.

After all areas are confirmed as cleared, the Building Wardens must notify the Emergency Commander by radio to confirm:

- The building is clear of personnel, the nature of the alarm and current status or;
- The nature of the emergency, areas not searched due to fire or inaccessibility and current status.

Building Wardens should not place themselves or others at risk to check, clear rooms or attempt to extinguish a fire. Their primary role is to raise the alarm, clear as many personnel as possible and notify the Incident Commander of the situation who will deploy trained emergency response personnel to the scene. Building wardens are to complete annual refresher training.

3.7.4 Detection and Activation

The Facility's emergency alarms can be activated by:

1. Automatic detection systems (including flammable gas and infrared flame detectors), thermal detection (high temperature), H₂S, CO₂, low temperature (cryogenic warning) and aspirated smoke detection in high reliability functional areas for early warning.

Any detection activation will be displayed on the Fire & Gas (F&G) panel in the CCR and will generate a General Alarm (GA) in the area where the alarm has detected abnormal operating conditions.

2. Manual initiation by persons activating Manual call points strategically located throughout the Facility close to high risk locations but no further than 100m in the plant and at exits from buildings.

A manual alarm will activate a GA in the area where the alarm was activated.

3. Manual operation from the CCR.

3.7.5 Emergency Awareness Warning

Detection of an emergency situation by any of the methods above will generate an audible warning from the Public Address and General Alarm System (PAGA) and local beacon visual alarms in high noise areas will operate. General actions to be completed on activation of the GA are detailed at [Section 3.7.5](#).

The PAGA is zoned on the same configuration as the Facility's fire zones. The PAGA is capable of delivering alarm tones, pre-recorded messages, emergency announcements and routine announcements to all zones or selected zones.

The PAGA will sound the emergency alarm in Operations Complex buildings for site wide emergencies. In addition, these buildings are fitted with standalone detection and emergency warning system for emergencies within that building. See [Section 3.8](#).

As a minimum, the PAGA will activate in the area where the abnormal operation was detected.

The PAGA is a completely dual redundant system to provide continuous functionality upon any system component failure. The PAGA also interfaces with the Facility digital radio network.

The PAGA operates in three modes.

<p>ALERT tone (<i>Individual fire zone alarm</i>)</p>	<p>An abnormal condition has been identified. A local alarm will operate.</p> <p>Local operators will determine alert and verify with CCR.</p> <p>All other personnel will make work area safe and proceed to the designated muster point. Wait for further instructions.</p>
<p>MUSTER tone (<i>Site wide alarm</i>)</p>	<p>Personnel will:</p> <ul style="list-style-type: none"> • Stop work, make work area safe and proceed to the designated muster point. • Vehicles are not to be used (unless approved by the Incident Commander). They are to be parked, unlocked with the keys in the ignition. • Personnel with emergency response and command and control responsibility will report to their allocated staging point e.g. CCB, Fire Station, Medical Centre once instructed by IC. • The E-Mustering system will automatically report on mustering status.
<p>ALL CLEAR tone</p>	<p>Personnel are safe to leave the muster point and return to their workplace or as instructed by the CCR.</p>

3.7.4 General Actions on Emergency Alarm

All personnel shall receive training on the actions required for each emergency alarm response as part of the Facility induction.

If a muster is required, all personnel shall:

- Stop all work.
- Shut down and isolate all equipment in their area of control; check the area is safe.
- Complete emergency procedures where detailed in Job Hazard Analysis

- Proceed immediately to the nearest muster point.
- Listen for any supplementary information on emergency. This may include information to avoid a particular location due to impacts of the emergency.
- Await further instructions when at the muster point.

Emergency communications will be available between each muster point and the CCR.

Once the emergency has resolved, an ALL CLEAR alarm will be sounded and personnel can return to their work area and revalidate all permits prior to re-commencing work.

3.7.5 Emergency Alarm Actions Checklists

EVENT		GENERAL ALARM CHECKLIST	
Critical Information		<i>Confirmed = activation of two detectors.</i>	
<ul style="list-style-type: none"> • GA will sound when either: <ul style="list-style-type: none"> ➢ The FGS detects a confirmed fire or Low Temperature Spill detector within a fire zone ➢ The FGS detects a single High Level Gas alarm ➢ The FGS detects a single High or Low Level Toxic Gas Alarm ➢ Operation of a Manual Alarm Call point ➢ Initiated from the CCR. • All personnel will muster • Emergency teams report to their allocated staging point once instructed by IC. 			
Response Phase	Action	Responsible	Status/Time
Immediate Response Actions	Confirm initiation event and location	CRO	<input type="checkbox"/>
	PA call as per alarm announcement templates	CRO	<input type="checkbox"/>
	Confirm automatic systems have initiated. Activate manually if required.	CRO	<input type="checkbox"/>
	Monitor FGS for escalation	CRO	<input type="checkbox"/>
	Assemble at ICC / Fire Station	ERT members	<input type="checkbox"/>
Response Phase	Action	Responsible	Status/Time
Establish Incident Command	Assume Incident Command. Brief ERT Leader	IC	<input type="checkbox"/>
Execute Protective Actions	Check process conditions for stability; Consider isolation/shutdown.	IC	<input type="checkbox"/>
	Consider deluge operation to assist with HC dissipation	IC	<input type="checkbox"/>
	Expand CCTV coverage adjacent to alarm activation area	CRO	<input type="checkbox"/>
	If emergency egress paths are compromised, make PA announcement advising alternative muster arrangements.	CRO	<input type="checkbox"/>
	If casualty rescue / treatment is a potential – Brief Medical Response Team.	IC	<input type="checkbox"/>
Establish Situational Awareness	Confirm operation of primary safety systems	CRO	<input type="checkbox"/>
	Verify status of muster; POB numbers? Missing? Casualties?	Muster Coordinator	<input type="checkbox"/>
	Check for active permits	IC	<input type="checkbox"/>
	Monitor CCTV and FGS	CRO	<input type="checkbox"/>
	Determine potential for escalation	IC	<input type="checkbox"/>
Incident Control Actions	Deploy ERT to investigate	IC	<input type="checkbox"/>
	Initiate actions to resolve GPA event	IC	<input type="checkbox"/>
	Brief the IMT Leader as required	IC	<input type="checkbox"/>
Recovery	Announce when emergency situation has been resolved, permits can be re-issued and normal operations can commence.	CRO	<input type="checkbox"/>

3.8 MUSTER ARRANGEMENTS

3.8.1 Muster Points

Muster points are located across the ICHTHYS LNG Facility to provide a safe area for personnel to shelter, account for missing personnel and await further instructions during an emergency. Each muster point is equipped with a security swipe card reader, first aid kit and telephone for emergency telecommunications with the CCR to enable coordination of emergency response.

All outdoor muster points on the facility are roofed and walled on three sides to provide protection from thermal radiation, blast overpressure and the weather, with the open side facing away from the process.

Life jackets and buoyancy work vests are available at the jetty area muster points.

The location of muster points are defined below and illustrated in [Figure 3-2](#).

3.8.2 Muster Point Locations

In the Plant Processing Area, two primary muster points have been designated:

- Muster Point 9 - South of the common utilities area (60); and
- Muster Point 3 - LNG storage tank area (50).

If these primary areas are unsafe, the CCR will advise Facility personnel to use on the following alternate muster points:

- Muster Point 4 -Propane BOG compressor area (20);
- Muster Point 1 - LNG jetty head (12); and
- Muster Point 2 - LPG and condensate jetty head (12).

Muster Points in Operations Complex:

- Muster Point 5 - inside the CCB (as emergency response centre) (23);
- Muster Point 6 - inside the operations office (50);
- Muster Point 7 - inside the warehouse (12);
- Muster Point 8 - inside the workshop (20);
- Muster Point 10 – inside the Canteen building
- Muster Point 11 – inside Security gatehouse (12).
- Muster Point 12 - inside fire station (as emergency response centre for fire fighter and emergency response team) (10); and
- Muster Point 13 - inside the laboratory
- Evacuation point is the carpark in front of the Security gatehouse.

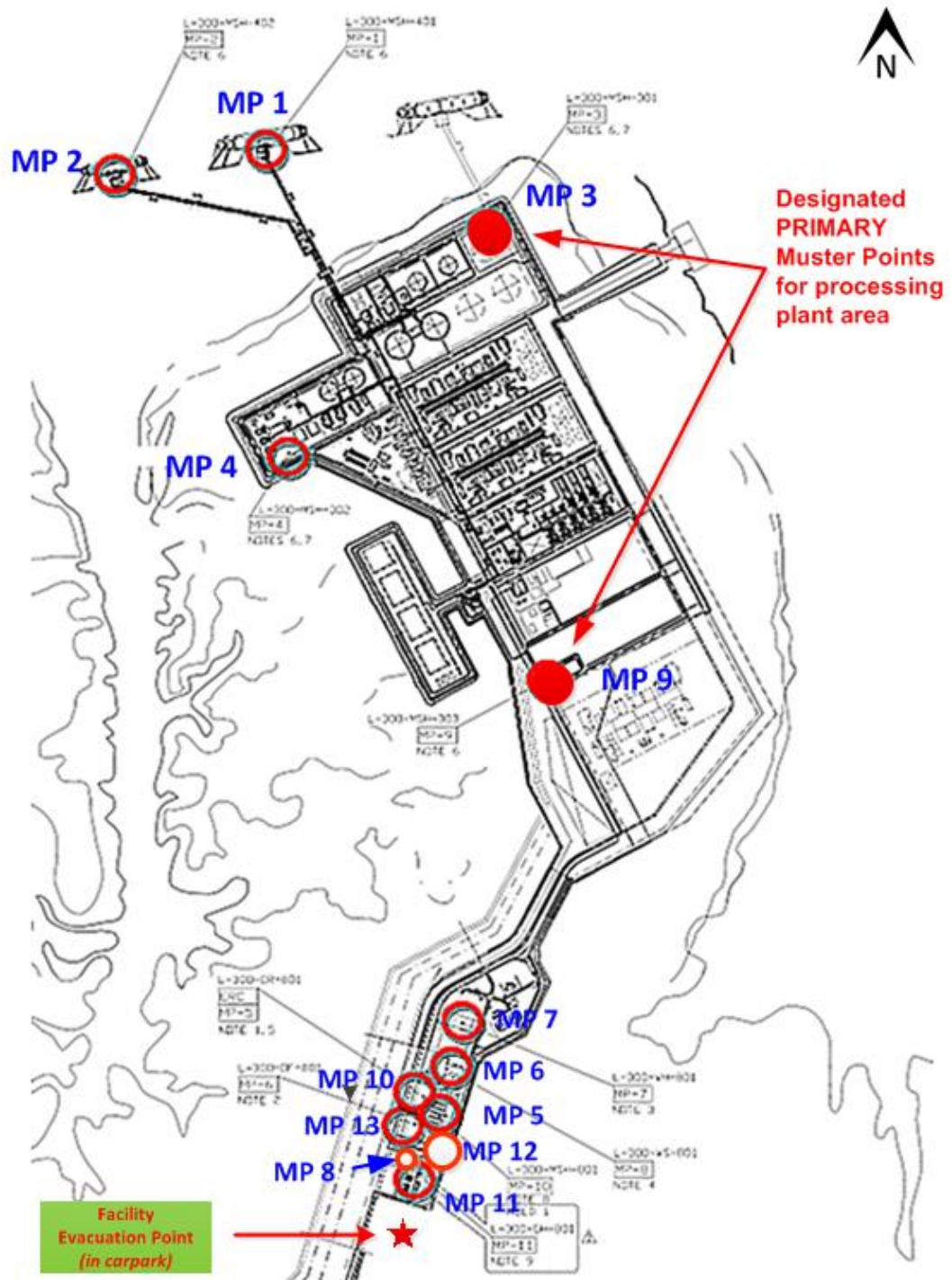
The size and facilities at each muster point is based on the maximum estimated number of personnel in the area. The numbers in the brackets

above indicates the number of mustered persons the muster point can accommodate.

Some of the muster points in the Operations Complex are established for personnel involved in the emergency response or incident coordination to record they have mustered and will deploy to areas to complete their emergency responsibilities.

If any muster point is compromised by the emergency, the CCR will direct personnel to an alternative muster point.

Figure 3-2: Facility Muster Points



3.8.3 Personnel Access Tracking

A Personal Locator System (PLS) enables tracking and location of personnel carrying radio (wireless) tag within designated locations of the ICHTHYS LNG Facility. This functionality is a key tool used during emergency response and/or personnel evacuation scenarios, to assist emergency response teams to quickly and safely locate personnel and improve rescue operations.

An E-Mustering system is used to monitor and report on mustering status of personnel during a muster scenario. The PLS and E-Mustering system provide a single, integrated user interface for display of events, status and alarms and for access to tag holder information.

The Muster Coordinator will monitor the e-Muster system and provide muster status to the Incident Commander in the ICC.

Search and rescue of any missing personnel may be initiated by the Incident Commander. The PLS may provide information on last recorded position of individuals.

3.8.4 Muster Procedures - Building Alarm Activation Operations Complex

When a fire detector in an Operations Complex building is activated the building's standalone emergency warning system will emit an '*evacuate building*' signal. All building occupants shall move safely to the building's designated muster point.

The electronic muster verification system (associated with GA activation) is not intended to be used during musters from these local building alarms. Designated Building Wardens have been appointed to verify all personnel have vacated the building and assembled at the muster point.

Emergency Teams will be mobilised by the CCR when any building alarm activates to investigate and report situation back to the Incident Commander who will determine actions to be taken.

Evacuation of the CCR/ICC shall be at the direction of the Incident Commander.

3.8.5 Building Wardens and Clearance Process

Building Wardens are assigned for all habitable buildings on the facility and muster points identified for personnel to assemble in the event of a building alarm. Building Warden procedures require them to check all areas of the building to confirm all occupants have evacuated and moved to building's designated muster area.

If a person is injured or unable to be moved, the Building Warden will notify the Incident Commander of their position by radio and the emergency team personnel will be despatched to assist.

After all areas are confirmed as cleared, the Building Warden must notify the Incident Commander by radio to confirm:

The building is clear of personnel, the nature of the alarm and current status or;

The nature of the emergency, areas not searched due to fire or inaccessibility and current status.

Building Wardens should not place themselves or others at risk to check, clear rooms or attempt to extinguish a fire. Their primary role is to raise the alarm, clear as many personnel as possible and notify the Incident Commander of the situation who will deploy trained emergency response personnel to the scene. Building wardens are to complete annual refresher training.

3.9 FACILITY EVACUATION PROCESSES

The evacuation point is the main carpark in front of the Security Gatehouse. The Incident Commander is the only person who can authorize activation of the Facility evacuation alarm.

Generally, due to the segregation between the designated muster areas and process areas, emergency evacuation would not normally be required. Personnel could be placed at increased risk by evacuating.

If while Facility personnel are at muster, the Incident Commander determines that the safe operation of the Facility has deteriorated to a point where the only means of providing personal safety is to evacuate the Facility in a planned and controlled manner, then an instruction to evacuate the Facility will be issued.

The method of evacuation will be staged to ensure movement away from the risk and will primarily be on foot from the plant, or via boat or ladder to sea from the jetty. An evacuation may require the ERT to escort personnel from muster points. Arrangements would be communicated by the CCR via the PAGA and Facility radio network.

A staged evacuation of processing area personnel to the Operations Complex could also be an option.

3.10 EMERGENCY PROCEDURES

Specific detailed procedures have been developed to provide the Facility's emergency responders guidance on the actions and tasks required to safely respond to emergency events that have been deemed as a credible occurrence at the Facility. See [Section 4.7 in](#) the Response Section of this ERP.

These procedures contain both MAE and non-MAE Events as classified in [Section 2.7.1](#) and [2.7.2](#).

These emergency procedures are also tested as part of the Facility's emergency drills and exercises to verify their currency.

3.11 EMERGENCY RESPONSE PERFORMANCE STANDARDS

The following emergency response standards have been established for the Facility.

<i>Emergency Response Function</i>	<i>Performance Standard</i>
All personnel to be assembled at Muster points	20 minutes from Muster Alarm activation
Muster status confirmed for site (<i>collated across all muster points</i>)	30 Minutes from Muster Alarm activation
ERT members assembled at Fire Station	10 minutes once instructed to mobilise to fire station
Medic deployment	10 minutes from request to deploy
Man Overboard assistance	Flotation device deployed within 90 seconds of local MOB observation.

3.12 TRAINING AND COMPETENCY REQUIREMENTS

All ERT personnel shall acquire and maintain competency in skills relevant to their allocated emergency response position. Training shall comply with the PMA08 Chemical Hydrocarbon Training Package (or equivalent).

Training will include (but not limited to) incident command, firefighting, rescue, first-aid in line with allocated ERT roles.

Competency maintenance records are maintained in MYCapability which can produce management reports to identify the currency of an individual’s competency. The Operations Training Team manages these processes.

3.13 PLANNING WITH EXTERNAL AGENCIES AND OTHER GROUPS

Facility emergency planning involves ongoing consultation and collaboration with the following groups, agencies or emergency services who may support the emergency response during any significant emergency at the Facility. Further information on the incident response arrangements in place with these agencies is contained in [Section 4.4](#).

The Production Manager is the primary contact for emergency service planning and liaison.

<i>Group / Agency / Emergency Service</i>	<i>Emergency Response Interface</i>
NT Police, Fire Emergency Services (NTPFES)	Incident Coordination during a significant emergency at the Facility.

Group / Agency / Emergency Service	Emergency Response Interface
Darwin Port	Marine emergencies within or impacting Darwin port waters.
NT St John Ambulance Service	Providing medical support for significant medical emergency at the Facility
Northern Territory Fire and Rescue Service (NTFRS)	Providing firefighting, rescue and hazardous material response support
ConocoPhillips	Adjacent facility that may provide emergency support.

A copy of the ERP has been circulated to the emergency service organisations and agencies that may be involved in an emergency response at the Facility and requested a copy of it. A hard copy of the plan is also available to the IMT for use during an emergency.

3.13.1 Agreements with External Parties

Where an opportunity is identified where INPEX and another Company, Organisation or entity can benefit from developing a set of non-binding guidance regarding how they can work together to support each other in the event of an emergency, a Memorandum of Understanding or formal Agreement may be established. This may include the sharing of resources.

MOU's or Agreements established will be captured in the Emergency & Crisis Management Process Overview (0000-AH-OVR-60002).

3.13.2 External Consultation

Feedback from agency consultation has been incorporated in this ERP so interface arrangements align with all agency emergency response plans and procedures. This includes feedback received following agencies participation in emergency preparedness drills/exercises and actual emergency incidents.

3.14 COMMUNITY COMMUNICATION DURING AN EMERGENCY

A range of communication methods are available to provide information to stakeholders and the community. Communication approaches have been developed in collaboration with Northern Territory Police, Fire and Emergency Services (NTPFES). The content of the emergency information will be tailored to suit the interests of the various stakeholder and community groups.

Where there is potential for off-site impact during an incident, the Incident Commander will consider the need to issue timely alerts to the adjacent community.

Wherever possible, information to be communicated to the local community will be developed in consultation with the Duty Manager, local authorities and emergency services.

Public alerts and warnings are classified according to the severity of the threat that the incident poses to adjacent communities. Three message severity types are available and aligned to the national community alerts issued for other emergency events such as bushfires. The lowest priority messages are referred to as 'Advice' and the highest threat category is 'Warning'. See [Table 3-2](#) below.

Table 3-2: Community Emergency Message Severity Categories

Message Severity	Priority Level	General meaning to Community
Advice	3 Low Threat	There is no immediate danger. General information to keep you up-to-date with developments.
Watch and Act	2	It is likely that you may be impacted by the emergency. You may be in danger and should start taking action to protect your life and your family.
Warning	1 High Threat	You will be impacted by the emergency. You are in danger and must take action immediately.

Preformatted messages containing the basic information to be communicated have been developed for each of these message severity types.

When a community emergency alert or warning is issued, the IMT Leader must be informed.

3.15 SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

All documentation, emergency procedures, specialist information and management plans that may need to be consulted during the management of an emergency are available in the CCR.

This includes specialist plans, procedures and Safety Data Sheets for all Schedule 15 and other hazardous substances used at the Facility. Information on these substances is contained within Company Chem Alert databases and also available at the 24/7 attended Security gatehouse for emergency services' use.

3.16 EXERCISES AND TESTING OF THE PLAN

3.16.1 Drills

Regularly practiced response to emergency alarms verifies that personnel are familiar with the actions they must take during an emergency.

3.16.2 Exercises

Exercises involve simulating emergency response actions to credible emergency scenarios. Exercises prepare personnel for the pressure, conditions, and decision-making they are likely to encounter in an actual emergency.

Selected exercise scenarios will also involve IMT and CMT personnel to validate the support processes in place for an emergency at the Facility.

Exercises shall be completed in accordance with the requirements in the Emergency and Crisis Management Standard. This includes reviewing the exercise outcomes and identifying recommendations for corrective actions to improve emergency response effectiveness.

3.16.3 Drill Frequency

A muster alarm test shall be carried out weekly.

A muster assembly drill will be carried out at least bi-annually at a random time and may be incorporated in an exercise or drill scenario. During a Muster personnel with emergency response duties shall muster prior to reporting to their designated emergency response assembly location, once authorised to do so by the Incident Commander, while all other personnel shall report to their respective muster points and remain there unless instructed otherwise.

A full site evacuation drill shall be conducted no less than once per year. Breathing Apparatus exercises should be conducted for each shift, no less than four times per year.

3.16.4 Exercise Frequency

A minimum of Level 1 exercise shall be conducted each month. Over a 24 month period, each defined event identified in this ERP shall be practiced by the ERT and each shift within every 18 months. Defined event drills may be incorporated in the exercise scenario used in the Facility Annual Exercise Plan which.

One major Level 2/3 exercise shall be conducted on an annual basis to validate the ICHTHYS LNG ERP and incorporate the Company IMT/CMT and external agencies as per Company Emergency and Crisis Management Standard.

Level 2/3 exercises are managed by the Security and Emergency Management Team.

3.16.5 Annual Exercise Plan

The GM Onshore shall ensure an annual plan of drills and exercises is prepared and published by 31st October each year in preparation for the following year. The Company Senior EM Advisor is to be included in the distribution list of this plan.

The Company Senior EM Advisor can provide assistance with emergency scenario development as required.

3.16.6 Exercise Requirements

The following principles are incorporated into the ICHTHYS LNG Facility emergency drill and exercise program.

Exercises shall be based on the defined events in the in this ERP. All MAE scenarios defined within the facility Safety Case are required to be exercised.

Exercises should incorporate credible association scenarios, including system failures that could occur both as a result of the initial incident and the escalation scenarios.

Planned exercises should not be limited to Facility initiated events such as system malfunction or accidents on the facilities. They shall include other identified emergency scenarios in the ERP and include security threats as appropriate.

Where possible, major exercises should include participation by local emergency response agencies, government organisations and stakeholders to facilitate interoperability, familiarisation, communication and liaison requirements.

Drill and exercise planners shall not expose personnel to any additional hazards when participating in simulated emergency situation exercises and environmental requirements are identified and complied with.

Records of all drills and exercises shall be maintained, including any notes, meeting minutes.

3.16.7 Post- Exercise Debriefs to Identify Continual Improvement

Debriefing meetings shall be chaired by the Production Team Lead and held following all exercises and drills. Personnel involved in the incident, senior personnel and relevant authorities where required should attend.

The focus of this session is to identify elements that worked well, and importantly those that require further analysis to achieve emergency effectiveness.

Copies of the emergency exercise reports, debriefing meeting minutes, Lessons Learned and actions shall be made available to personnel.

All relevant emergency procedures used for drills and exercises shall be discussed, as required, in debriefing meetings. Any required changes to

those procedures shall be made via the Management of Change procedure.

3.17 RECORD KEEPING

All drills, emergency exercises and training will be recorded. As part of the continual improvement focus, any emergency preparedness activity will involve a review to identify improvements in process, equipment or procedures.

These records will be retained in the approved Company database so management assurance reports can be produced as required to demonstrate Facility emergency preparedness.

3.18 MONITOR AND AUDIT

In accordance with the Company's Emergency and Crisis Management Standard, a comprehensive emergency preparedness audit is scheduled every two (2) years. The audit is designed to review the capability of local personnel, equipment, systems and processes to effectively manage emergency incidents at the ICHTHYS LNG Facility.

3.19 UPDATING OF THE ERP

This ERP shall be tested during exercises and actual emergencies and improvements identified in the debrief process shall be included. The plan shall be reviewed every 12 months, or when any of the following occur:

- major modifications or alterations occur at the facility;
- the type and quantities of hazardous materials on site change significantly;
- an incident (or near miss) indicates the need to do so;
- changes to surrounding land use impact the emergency plan;
- changes occur that will impact the execution of the plan, such as resources, safety systems, and personnel and contact numbers;
- health and safety issues are raised within the workplace consultation;
- legislation changes;
- there are advances in technology and equipment;
- organizational direction changes;
- changes arise in products and activities;
- consultation with support agencies and emergency services identifies changes to emergency support arrangements; or
- findings of audits, emergency reporting or communication changes which affect the ICHTHYS LNG Facility.

Emergency agencies that support ICHTHYS LNG Facility emergency response shall also be included in the ERP review process on matters where their agency has statutory responsibilities for particular hazard

types or their resources may be deployed to support an emergency response at the Facility.

The Onshore Production Manager is responsible for scheduling the ERP review. The Emergency Management and Security Specialist Operations will support the review process, incorporate plan modifications into training exercises and circulate the amended plan to support agencies and emergency services.

4 RESPONSE

4.1 REPORTING AN EMERGENCY

Any person at the Facility that observes an emergency incident is responsible for reporting the emergency. The first priority is personal safety and other persons in the vicinity of the emergency.

An emergency can be reported by radio, via the designated Emergency Number **8888**, activating a manual call point or activation of automated fire and gas detection. These systems are all monitored by the CCR.

4.2 ACTIVATION OF THIS EMERGENCY PLAN

The response procedures of this ERP will be activated by the CCR Operator when:

reports are received of any emergency situation on the Facility or at immediately adjacent locations, where consequences of the emergency could threaten the ICHTHYS LNG Facility; or

Facility process control systems detect abnormal conditions in any area of the ICHTHYS LNG Facility.

The CCR Operator will confirm emergency conditions by monitoring process controls and CCTV if available.

Specific guidance on the credible hazards and threats identified in the Facility risk assessment processes are included in the IMGs developed for the Facility ERT. See [Section 4.7](#).

4.3 FORMATION OF THE ERT

The Incident Commander will determine when the ERT is to be assembled and field emergency response crews deployed to the incident scene. The Incident Commander will operate from the ICC. The Incident Commander is supported by an Operations Officer, Control Room Operator, Communications Officer, Muster Coordinator and a Logkeeper. The Incident Commander can add further positions if necessary.

The Incident Commander will rely on information from the CCR control monitoring systems when developing incident containment and control tactics to conduct emergency operations safely. The Incident Commander will deploy emergency teams if it is safe to do so.

The Muster Coordinator (Security) will operate from the Gatehouse and provide the Communications Officer information on Muster status.

On activation of the ERT, the Emergency Response Team Leader (ERTL) will initially report to the CCR/ICC and receive a briefing from the Incident Commander. This will include the incident priorities and strategies and designation of a safe route to approach the emergency scene in the event of a loss of containment. The Emergency Response Team Leader will then establish a Forward Command Point, monitor site

safety and remain in constant communication with the Operations Officer and emergency teams.

Emergency Teams will undertake incident containment actions at the emergency scene when it is safe to do so.

In the event of a significant emergency, response crews from the NT emergency services may respond to the Facility to work with the ICHTHYS LNG ERT. See [Section 4.4](#).

Should an On-Scene Commander (OSC) be established, the ERTL will report to and receive instructions from the OSC. This allows the ERTL to remain task focused.

The Incident Commander will continually monitor incident progress against objectives and provide regular situation updates to the IMT.

4.3.1 On-Scene Commander

An On-Scene Commander is a position that will be implemented when the incident is large, complex due to multiple response teams needing to be deployed or external emergency services are required to assist with Emergency Response Operations.

The Incident Commander will determine if an On Scene Commander is required.

The On-Scene Commander, in these situations acts as the interface between the Operations Officer and the response team leaders.

On activation the On-Scene Commander will initially report to the CCR/ICC and receive a briefing from the Incident Commander. This will include the incident priorities and strategies and designation of a safe route to approach the emergency scene in the event of a loss of containment. The On-Scene Commander will then establish a Forward Command Point, staging area, monitor site safety and remain in constant communication with the Operations Officer and response team leaders.

4.4 MULTI-AGENCY INCIDENT MANAGEMENT ARRANGEMENTS

When a significant emergency occurs, emergency services and other agencies with statutory responsibilities may become involved in management of the emergency at the Facility.

4.4.1 Notifications

The following emergency notification thresholds have been agreed with emergency service agencies during emergency planning.

<i>Agency / Emergency Service</i>	<i>Notified when the following occurs</i>	<i>Method of notification</i>
NT Police	Facility security	Phone call to 000

	threat/ fatality on site	
NTRFRS	Emergency such as Rescue, HAZMAT, Fire requiring external assistance	Phone call to 000
St John Ambulance	Medical emergency requiring mass casualty evacuation	Phone call to 000
Darwin Port Operations	Spill to the harbour environment	Phone call to 8922 0710

4.4.2 Emergency Service Attendance at Facility

When emergency service personnel or resources are mobilised to the Facility they are to be escorted to the emergency scene.

An emergency services staging point within the Facility is located at the fire station.

Prior to deployment, all external response personnel will be given a briefing which will include hazards present, safe working practices and incident response priorities.

4.4.3 Operational Control

Response to significant emergency events will most likely involve assistance from external organisations including NT emergency services. Assistance from DLNG (ConocoPhillips) in accordance with the statement of intent protocol may also occur.

The ICHTHYS LNG Incident Commander will authorise any request for external support. Emergency service agencies with statutory responsibilities may decide to mobilise resources to the Facility based on notifications they receive from the ICHTHYS LNG Facility.

During an incident requiring the deployment of an external agency's emergency response crews to the Facility, the following general principles will apply:

- A safe working environment will be afforded to all personnel.
- A unified incident management structure will be implemented. This will involve one person performing the incident control function, the Incident Controller.
- The Incident Control function will either be performed by the ICHTHYS LNG Incident Commander, or, the senior representative mobilised to the Facility from the agency that has statutory responsibility for that hazard.
- Any transfer of Incident Control function will be completed in a

consultative manner as a result of:

- INPEX requesting the emergency services agency to undertake the Incident Control function.
- The emergency service agency has determined that it is necessary for the agency to assume the Incident Control function so emergency operations can be completed safely in accordance with their statutory responsibilities.
- All emergency response actions at the Facility will be coordinated and approved by the Incident Controller. A single integrated tactical plan will be developed so all emergency response operations are aligned. These integrated actions will be communicated through the respective incident command structures.
- Emergency service agency response crews will be commanded by their own Team Leader.
- To support the unified incident management structure, the organisation who is undertaking the Incident Control function will also provide the On-Scene Management function to monitor scene safety and direct emergency teams.
- When the On-Scene management function is to be completed by an emergency service agency representative, the INPEX On-Scene Commander will be alongside to provide guidance on inherent hazards and facility systems to maintain safe working operations.
- All welfare needs will be supplied by INPEX.
- External response teams will be escorted to the Forward Control Point for deployment tasking and provided with site radios for emergency communications.
- INPEX will provide other personnel as requested to liaise with external agency coordination groups.
- External crews will be involved in a site debrief before they are released and the agency will be invited to participate in the post incident review.

Figure 3.1 illustrates the unified incident management structure that will be implemented when local emergency service crews are deployed to ICHTHYS LNG to supplement the Facility's emergency response.

4.4.4 Unified Incident Management Processes

The unified incident management arrangements that are implemented at any significant emergency situation at the ICHTHYS LNG Facility when an agency(s) mobilises personnel to control an emergency situation have been agreed by all agencies.

The concepts are aligned to the principles of the Australasian Inter-Service Incident Management System (AIIMS) which is used by many emergency service agencies. Central to this integration is the development of a common plan articulating the objectives and strategies to manage the emergency situation.

Consistent with AIIMS principles, the ICHTHYS LNG Facility Unified Incident Management arrangements:

- are flexible, adaptable and scalable to the incident;
- establishes a Unity of Control so all response elements are integrated;
- uses jointly developed Management by Objectives to integrate incident management actions across organisations;
- are based on functional management with roles, responsibilities and lines of communications clearly defined; and
- embraces Span of Control so personnel can effectively manage their allocated responsibilities when incident complexity increases
- can deliver effective command, control and coordination across the emergency situation.

4.5 MEDICAL EMERGENCIES

The Facility Medic will manage medical emergencies at the Facility in accordance with the Company Emergency Medical Response Standard.

The paramedic (or if absent, the Occupational First Aiders) shall assume the role of Medic. The Medic prepares to treat casualties in the Facility Medical Centre or if the situation demands, at the incident scene.

When necessary the Medic may call on a team of Medic Assistants and Stretcher Bearers via the On-Scene Coordinator. The Medic has the following responsibilities:

Administer medical treatment

Conduct safe removal of casualties from the danger zone and maintains basic life support

Liaise with off-site medical personnel as appropriate

Determine if there is a need for external assistance

Prepare casualties for transportation to hospital

Maintain familiarity with medical equipment available on site

[Section 4.5.1](#) details the arrangements for the deployment of the Facility's ambulance.

4.5.1 Multiple Casualty Incident

An incident is classified as a Multiple Casualty Incident (MCI) when 5 or more personnel require medical evacuation or referral. Emergency planning has included contingency arrangements for deployment of NT St John Ambulance or other medical personnel to deal with a multiple casualty incident.

If an emergency involves multiple casualties, arrangements will need to be implemented to manage the assessment, treatment, evacuation and welfare needs of the injured persons and integration of external medical responders to assist in the management of an emergency.

This includes the establishment of a triage area, casualty clearing post and appropriate means to complete the medical evacuations from the Facility to medical care. The vehicle parking area inside the Fire Station has been designated as the casualty clearing post. The triage area will be established close to the incident site in a safe location removed from any potential hazards.

4.5.2 ICHTHYS LNG Ambulance Mobilisation Arrangements

An ambulance is located adjacent to the medical centre and is available for deployment to an emergency within the Facility. If the Facility is at muster, the Incident Commander must provide approval for the movement of the ambulance to the emergency scene.

The ambulance can be used to transport an injured person to the Facility medical centre for treatment.

If Facility medical personnel determine that an injured / unwell person requires transfer to an offsite healthcare facility, the preferred transport will be by an NT St John Ambulance. The CCR shall contact St John Ambulance on 000 and obtain an ETA for an ambulance to attend the ICHTHYS LNG Facility.

In the unlikely event that the facility ambulance is used to transport a casualty to an offsite medical facility, no warning devices on the ambulance are to be used and the person driving the ambulance shall obey all road rules. The speed limit cannot be exceeded under any circumstances.

It should be noted that under the NT traffic regulations the Facility Ambulance is not a registered emergency vehicle and ICHTHYS LNG employees are not recognised as 'emergency workers'.

Any time the ambulance is deployed from the Facility, the Production Team Leader may consider suspending or postponing high risk activities.

4.5.3 Fatality

Only a qualified medical practitioner can officially declare a person to be deceased. When reporting a fatality, it must be reported that the person is showing no vital signs. The report should be made by as secure communication medium as possible, not by open radio.

In all cases, the Police will require attendance at the scene of a fatality to conduct a coronial investigation. The deceased should not be moved if possible, however the Police may give permission to move the deceased should circumstances warrant this. In addition, NT Worksafe is likely to attend the scene to initiate their incident investigation process. The Company's internal investigation procedure will be run in parallel.

The scene of the incident where the fatality occurred must not be disturbed except where there is a risk of fire, vapour cloud, chemical hazard or possibility of the deceased's body being damaged or destroyed.

The area shall be secured with appropriate equipment such as bunting, screens, coverings, etc to not only protect the integrity of the area but also to respect the deceased and screen from general view. Where there is a need to move the deceased or alter the scene to make the area safe, photographs, drawings and documentation must be taken to assist the Police and NT Worksafe with their investigations.

All radio communications associate with information relating to deceased persons will be done over a secure radio channel.

In the event of a fatality at the Facility, a checklist of actions to be completed is available at [Appendix C](#). (Refer INPEX Australia Management of Fatalities Plan [0000-AH-PLN-60002])

4.6 GAS EXPORT PIPELINE EMERGENCY

Should an emergency event be identified by Onshore Operations, the Onshore IC will take control and commence responding to the emergency. This will be done in consultation with the Central Processing Facility OIM.

The Onshore IC will remain in control of the emergency response until such time as the likely location of the event is identified. At this time, the most appropriate entity, Onshore / Offshore Operations, once mutually agreed, will take or resume control of the response. This agreement will be recorded in the CCR log and will also determine the IMT that will be activated.

The Onshore IC has the authority to instruct the Offshore OIM to shut in the Gas Export Pipeline.

4.7 ICHTHYS LNG MARINE EMERGENCY RESPONSE PHILOSOPHY

The following vessels will be visiting or providing services at the ICHTHYS loading jetties:

- LNG, LPG and Condensate tankers will be loaded with Facility processed product for export.
- Tugboats will support the safe movement of tankers to and from the jetty and through Darwin port waters.

No Company maintained workboats are in place but contractor's service vessels will operate in the jetty area to complete maintenance activities as required.

The marine emergency procedures in this Plan embrace the following guiding principles:

Darwin Port

The ICHTHYS LNG jetty is within Port of Darwin waters. The Darwin Port (DP) has an emergency response plan in place and the DP Harbour Master (or Control Tower) shall be notified of any marine incident or emergency while vessels are within port waters.

Vessel Master Emergency Responsibilities

Vessel Masters are responsible for the safety of the vessel and all personnel on-board. Every vessel has an emergency response plan for incidents on-board. The Master of the Vessel is responsible for emergency response actions to be completed on-board the vessel.

ICHTHYS LNG will provide assistance to support the vessel's response actions to protect safety of personnel, facility assets and maintain Company interests and reputation.

Control of Vessel related Emergencies

When an incident involving a vessel occurs on either of the ICHTHYS LNG loading jetties (including any vessel loading infrastructure connected to the jetty), the ICHTHYS LNG Incident Commander is in overall control of the event and works collaboratively with the vessel Master. The vessel Master shall remain in control of the vessel's crew in any emergency situation.

Any incident occurring on or confined to the vessel e.g. engine room fire, shall be under the vessel Master's control, with assistance provided by ICHTHYS LNG's emergency response teams.

ICHTHYS LNG Facility emergency response crews shall not be deployed on board any vessel. Their primary role is to protect jetty infrastructure and loading facilities.

Fire

If a fire occurs on a vessel at the berth, the Northern Territory Fire and Rescue Service (NTFRS) is the lead agency.

When the vessel is off the berth within Darwin port waters, the DP will be the lead agency in collaboration with the NTFRS, Department of Transport Marine Safety Branch, the vessel Master and ICHTHYS LNG as the Facility operator.

The Darwin Port Harbour Master may decide that the vessel has to be moved for the safety of the port.

These lead agencies will consult with vessel Master in their emergency response actions.

Fire Precautions during LNG loading

An integrated system of fire precautions is in place during LNG, LPG and Condensate loading. These include emergency shutdown systems (activated on the vessel or by controls on the jetty), emergency release systems where couplings connecting the loading arms to the vessel can be remotely released, vapour recovery processes, gas detection systems to monitor for leakage, deluge system and hydrants on jetty area. In addition a 500 metre exclusion zone is established around the export tankers. No bunkering will occur at the ICHTHYS LNG jetty.

Marine Spill

The DP is the jurisdictional authority with responsibility for the control of all oil spills within the Port of Darwin and shall be advised of any oil spill event within the Port of Darwin.

INPEX is the designated control agency for first strike response to oil spills emanating from the ICHTHYS LNG facility and loading facilities. This includes access to the cooperative arrangements for response to oil spills by the Australian oil and associated industries under the AMOSC Plan.

An Oil Pollution Emergency Plan is in place for the ICHTHYS LNG Facility - Ichthys LNG Project Nearshore Operations Oil Pollution Emergency Plan - Northern Territory Waters [X060-AH-PLN-60003].

Vessel Masters have a responsibility to maintain and deploy spill containment measures in line with their Ship Oil Pollution Emergency Plan.

The NT Department of Transport (NT DOT) is the jurisdictional authority for the control of any oil spill from the GEP pipeline outside Darwin Port waters (inside NT waters). INPEX will be the control agency and will be supported by resources in accordance with National Plan arrangements.

Standby Tugs

A standby tug with full fire-fighting capability will be readily available for emergency deployment when export tankers are located at the ICHTHYS LNG jetty.

Workboats

The ICHTHYS LNG Facility will not have any Company workboats in place. There will be times when contractor's vessels will be in the jetty area to complete maintenance of jetty infrastructure. These contractor arranged vessels will have their own emergency response plan.

In the event of emergency involving these service vessels, the ICHTHYS LNG emergency response teams will provide support to the vessel Master.

4.8 INCIDENT MANAGEMENT GUIDES

The following Incident Management Guides (IMGs) have been developed to provide the ERT information on the procedures to be implemented in the event of an emergency.

The IMG's form part of this ERP, however each has its own document number so that they remain a dynamic document, able to be updated as and when required and approved by the General Manager Onshore Operations.

ICHTHYS LNG IMG #	IMG Title
MAE Events	
1.	Loss of Containment Onshore Pipelines (MAE 1)
2.	Loss of Containment Inlet Facilities (MAE 2) [Slug Catcher]
2a	Loss of Containment Inlet Facilities (MAE 2) [Stabiliser Unit]
3.	Loss of Containment Utilities and CCPP (MAE 3)
4.	Loss of Containment LNG Train (MAE 4)
5.	Loss of Containment LNG BOG (MAE 5)
5a	Loss of Containment LPG BOG (MAE 5)
6.	Loss of Containment LNG Storage (MAE 6)
6a	Loss of Containment LPG Storage (MAE 6)
7.	Loss of Containment Refrigerant Storage (MAE 7)
8.	Loss of Containment Condensate Storage (MAE 8)
9.	Loss of Containment Product Export (MAE 9)
10.	Loss of Containment Heating Medium (MAE 10)
11.	Loss of Containment CCPP Steam (MAE 11)
12.	Failure of Hydrocarbon Disposal Function (Flare) (MAE 12)
Non-MAE Events	
13.	Loss of Containment GEP Pipeline - Offshore
14.	Generic Loss of Hydrocarbon Containment in non-MAE release Scenario
15.	Serious Injury / Illness
16.	Multi Casualty Event
17.	Hazardous Material Spillage (non-Hydrocarbon related)
18.	Building Fire

ICHTHYS LNG IMG #	IMG Title
19.	Export Tanker Emergency during Transit at Sea or in Darwin Harbour
20.	Export Tanker Emergency at Jetty (non-Cargo related)
21.	Vessel Collision / Allision
22.	Vessel Fire / Explosion / Vapour Release (Fire on Vessel)
23.	MOB Fall from Jetty
24.	Bushfire
25.	Radiation Incident
26.	Extreme Weather (Not captured in ERP)
27.	Incident Adjacent to Facility
28.	Rescue from Height
29.	Confined Space Rescue
30.	Rescue / Entrapment
31.	Missing / Stranded Persons
32.	Security – Criminal Acts
33.	Security – Unauthorised Maritime Arrival
34.	Security – Unauthorised Access / Trespass
35.	Security – Bomb Threat / Suspicious Package
36.	Security – Manage Psychologically Affected Person
37.	Security – Active Shooter

4.9 COMMUNICATION PRINCIPLES

Communications are kept brief and;

Communication must be factual – no speculation or rumours.

The Incident Commander will authorize all external emergency communications until such time as this task is handed over to the IMT once activated;

Communications shall be timely in accordance with Company approved notifications e.g. Incident Commander notifies the IMT Leader for all incidents that have the potential to escalate to a Level 2 incident;

Where an emergency is upgraded to a Level 2 incident, the Incident Commander is to maintain regular communications with the IMT Leader, complete the initial notification form and include regular situation reports (SITREPs). The Event Notification Email template can be accessed via this link [[0000-AH-TPL-60005](#)].

4.10 INCIDENT NOTIFICATIONS

Notifications shall be made to the following as per Company protocols or as per agreed arrangements defined during ERP planning.

Emergency Services for formal notification of the event

Internal Company notifications

Regulators

Neighbouring facilities or vessels

4.11 EMERGENCY CONTACT NUMBERS

Internal and external contact numbers to be used during an emergency are contained in the INPEX Australia Emergency Contacts Directory (C075-AH-LIS-10002), additionally; the electronic incident management system (EMQnet) also contains an emergency contacts directory.

This information is checked every six months to verify details are correct.

The review and updating ICHTHYS LNG Facility specific contact information will be completed by the ERP Maintainer

4.12 TERMINATION OF AN EMERGENCY

Emergency events will be terminated once the response objectives have been achieved and there is no likelihood that the emergency situation will re-occur.

While an emergency may have been terminated, it is highly likely that actions and repairs as designated by the ERT or IMT will still be continuing when the incident response has been terminated.

5 RECOVERY

Recovery processes assist the Facility restore the physical infrastructure, emotional, social, economic and physical well-being of personnel and environmental values following an emergency. Some recovery actions may continue well after the emergency phase has concluded.

Recovery actions ideally should commence as early as possible and can be carried out concurrently with response functions. Recovery actions are included in the response checklists and will also be managed as part of the Level 2 and 3 response functions for significant emergencies.

The Facility's Business Continuity processes will provide further detail on the restoration of business critical functions and processes.

The following issues should be considered in recovery planning when the incident is nearing or under control:

5.1 DAMAGE ASSESSMENT

Access to an emergency site will be tightly controlled and restricted as there will be uncontrolled hazards and impact areas may be subject to an investigation and the physical site cannot be disturbed.

As soon as it is safe to do so, the Incident Commander will provide escorted access to designated Facility personnel to inspect the areas and make an assessment of damage to plant and infrastructure required to return the area to normal operations.

5.2 PHYSICAL AND EMOTIONAL WELL BEING OF EMERGENCY RESPONDERS

Emergency responders suffering any injury in their emergency response duties shall be treated as soon as possible and appropriate accident reporting processes followed.

The welfare of emergency responders should be considered during all stages of the emergency. Situations involving serious injuries will pose additional stress on the emergency responders and may require ongoing support for their emotional wellbeing.

5.3 CLEAN-UP

Clean-up of emergency areas should commence when it is safe to do so. An assessment of the materials being removed shall be completed to verify that the arrangements are in accordance with Company waste management practices.

The potential for repatriation of the incident area may need to be considered following specialist environmental advice.

5.4 POST-INCIDENT INVESTIGATION

Any incident will require some form of post-emergency review. The Event Reporting & Investigation Procedure [000-AH-PRC-60005] shall be consulted.

Review of minor emergency situations can be completed during normal 'hot' debrief of operations and outcomes completed by the Emergency Response Team Leader.

More significant emergency events will require formal review to identify lessons learned to improve emergency preparedness and response. Emergency Services and support organisations involved in the emergency response should be invited to contribute to the review.

The ERP shall be updated as necessary following the post-emergency review.

Following a major emergency at the Facility, Regulators and other agencies with statutory responsibilities may also be conducting an investigation of the circumstances of the emergency and will need to be provided escorted access to the scene.

5.5 RECORD KEEPING

All incident records will need to be collated and stored in line with Company document record processes. The Log Keeper will collect all information used in the CCR to manage the emergency response.

Records contained in Personal incident diaries shall also be stored with the incident records with a copy retained by the individual.

5.6 EMERGENCY SERVICES LIAISON

In incidents where the emergency services have attended an incident at the Facility, they may require certain actions to be completed following their departure. A point of contact at the Facility will be appointed for the emergency services to liaise with.

6 ABBREVIATIONS/ACRONYMS/DEFINITIONS

Acronym	Definition
ACS	Access Control System
AIIMS	Australasian Inter-services Incident Management System
ALARP	As Low as Reasonably Practicable
a-MDEA	activated Methyl Diethanolamine
BLEVE	Boiling Liquid Expanding Vapour Explosion
BIC	British Instantaneous Coupling
BOG	Boil Off Gas
CBD	Central Business District
CCB	Central Control Building (<i>this building contains the CCR</i>)
CCPP	Combined Cycle Power Point
CCR	Central Control Room
CCTV	Closed Circuit TV
CMT	Crisis Management Team
Company	INPEX Australia
CRO	Control Room Operator
DP	Darwin Port
EDP	Emergency depressuring
EM	Emergency Management
Emergency	An unplanned or uncontrolled situation that harms or has the potential to harm people, the environment, assets, Company reputation or Company sustainability and is unable, through the implementation of Company standard operating procedures, to be contained or controlled. A report of an emergency situation will see the response elements of the Facility's ERP activated.

Acronym	Definition
EDP	Emergency Depressuring
ER	Emergency Response
ERP	Emergency Response Plan – a plan which provides procedural guidance to control, coordinate and respond to an emergency/incident
ERT	Emergency Response Team
ERTL	Emergency Response Team Leader
ESD	Emergency Shutdown
F&G	Fire and Gas System (panel)
FIP	Fire Indicator Panel (<i>Operations Complex buildings</i>)
GEP	Gas Export Pipeline
GA	General Alarm
HC	Hydrocarbon
HSE	Health Safety Environment
ICC	Incident Control Centre (where the Incident Commander will be located adjacent to the CCR)
ICSS	Integrated Control and Safety System
ICHTHYS LNG	Ichthys Liquefied Natural Gas
IMT	Incident Management Team – personnel comprised of the Leader, and those appointed to be responsible for the functions of Operations, Planning, Logistics and Log Keeper.
IMC	Incident Management Centre (<i>where the Darwin IMT assembles</i>)
IMG	Incident Management Guide
Incident	Events, accidentally or deliberately caused which require a response.
Incident Commander	The individual responsible for the management of all incident operations. The Incident

Acronym	Definition
(IC)	Commander is allocated for the tactical response, resolution and recovery to an incident or emergency. The emergency services (<i>when in attendance</i>) may use the term Incident Controller (AIIMS terminology). For the purposes of this ERP – the titles Incident Commander / Controller define the same role.
INPEX	INPEX (Corporate) Tokyo
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LoC	Loss of Containment
m	metres
mm	millimetres
MAE	Major Accident Event
MFIP	Master Fire Indicator Panel (<i>located in entrance to Central Control Building</i>)
MHF	Major Hazards Facility
MR	Mixed Refrigerant
nm	nautical mile
NT	Northern Territory
NT DoT	NT Department of Transport
NTFRS	Northern Territory Fire & Rescue Service
OO	Operations Officer
OSC	On Scene Commander (as determined by IC)
NTPFES	Northern Territory Police, Fire and Emergency Services
PAGA	Public Address General Alarm
PCS	Process Control System

Acronym	Definition
PEARS	People, Environment, Asset, Reputation and Sustainability
PLS	Personal Locator System
POB	Persons on Board
PPE	Personnel Protective Equipment
PWC	Power and Water Corporation (NT Utility provider)
SCE	Safety Critical Element
SIMOPS	Simultaneous Operations
SITREP	Situation Report – A report describing the current situation. May also be referred to as an update.
UPS	Uninterruptable Power Supply

7 APPENDICES

APPENDIX A ERT CHECKLISTS

[Incident Commander](#)

[Operations Officer](#)

[Control Room Operator](#)

[Communications Logistics Coordinator](#)

[On-Scene Commander](#)

[Medic](#)

[Medical Support](#)

[Logkeeper](#)

[Muster Coordinator](#)

[Emergency Response Team Leader](#)

[Emergency Response Team Member](#)

ICHTHYS LNG		INCIDENT COMMANDER	
<u>Key Responsibilities</u>			
<ul style="list-style-type: none"> • Maintains the safety of all ICHTHYS LNG personnel and initiates actions to protect the environment and the ICHTHYS LNG asset; • Provides leadership, assesses the incident situation including potential for escalation, determines protection priorities, implement tactical plans and directs ICHTHYS LNG ERT. • Establishes and maintains regular communication with the IMT and emergency services as required. 			
Reports to	IMT		
Management Position	Production Team Leader		
Response Phase	Action	Status/Time	
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>	
	Proceed to the CCR. Receive briefing from Control Room Operator	<input type="checkbox"/>	
	Confirm automatic systems have activated (if appropriate)	<input type="checkbox"/>	
	Consider whether routine operations need to be suspended.	<input type="checkbox"/>	
	Determine if ERT is to be activated	<input type="checkbox"/>	
	Consider requesting assistance from emergency services – Life threatening situations 000	<input type="checkbox"/>	
	Verify incident records are being maintained.	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	Confirm activation of GPA, if necessary	<input type="checkbox"/>	
	Manual activation of additional protective systems (if required)	<input type="checkbox"/>	
	Determine isolation zone for the incident	<input type="checkbox"/>	
	Evacuate personnel from isolation zone	<input type="checkbox"/>	
	Determine if vehicles can be driven. Safe access route.	<input type="checkbox"/>	
	If injured persons, deploy Medic	<input type="checkbox"/>	
	Determine if On-Scene Commander is required. Identify person to fulfil the OSC role.	<input type="checkbox"/>	
<i>Establish Situational Awareness</i>	Confirm location, extent of emergency	<input type="checkbox"/>	
	Identify any damaged systems	<input type="checkbox"/>	
	Review open permits	<input type="checkbox"/>	
	Review detailed plan for the incident area (IMG or others) if available	<input type="checkbox"/>	
	Identify risks, assess incident escalation potential	<input type="checkbox"/>	
	Consider potential for offsite impact. Relay this information to responding emergency services.	<input type="checkbox"/>	
	Establish protection priorities	<input type="checkbox"/>	

	Confirm muster status (if muster was initiated)	<input type="checkbox"/>
<i>Incident Control</i>	Develop initial Incident Plan	<input type="checkbox"/>
	Brief On-Scene Commander / Emergency Response Team Leader	<input type="checkbox"/>
	Activate additional incident plans if required	<input type="checkbox"/>
	Assess effectiveness of emergency response and initiate changes where necessary	<input type="checkbox"/>
	Conduct timeouts with CCR team as necessary	<input type="checkbox"/>
	Monitor response operations for safety	<input type="checkbox"/>
	Provide situation reports to IMT Leader, stakeholders and emergency services as required	<input type="checkbox"/>
	Make arrangements for emergency services vehicle access if required	<input type="checkbox"/>
	PA announcements on emergency situation	<input type="checkbox"/>
	Determine Incident under control when appropriate. Stand down PA announcement.	<input type="checkbox"/>
<i>Recovery Phase</i>	Identify and oversee implementation of recovery activities	<input type="checkbox"/>
	Determine when it is safe to access emergency area. Identify any restrictions	<input type="checkbox"/>
	Consider emotional wellbeing of ICHTHYS LNG personnel (Peer support)	<input type="checkbox"/>
	Initiate Facility incident debrief	<input type="checkbox"/>

ICHTHYS LNG		OPERATIONS OFFICER
<p><u>Key Responsibilities</u></p> <ul style="list-style-type: none"> • Second in charge of emergency response • Directs and coordinates all actions of the Emergency Response Team • Assist in developing incident tactical objectives and strategies 		
Reports to	Emergency Commander	
Management Position	Area Team Leader	
Response Phase	Action	Status/Time
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>
	Proceed to CCR. Obtain briefing from Incident Commander	<input type="checkbox"/>
	Assist Incident Commander with initial incident assessment	<input type="checkbox"/>
	Mobilise ERT. Communicates with ERT Leader. Verifies all Emergency Team members have responded. (<i>Discuss with Incident Commander if On-Scene Commander role is required</i>)	<input type="checkbox"/>
	Maintain personal log.	<input type="checkbox"/>
<i>Execute Protective Actions</i>	Determine safe access route for ERT	<input type="checkbox"/>
	Brief ERT on emergency and likely hazards	<input type="checkbox"/>
	Establish scene control of isolation areas	<input type="checkbox"/>
<i>Establish Situational Awareness</i>	Obtain information from F&G operator on systems activated	<input type="checkbox"/>
	Confirm protective systems are operating and providing protection	<input type="checkbox"/>
<i>Incident Control</i>	Assist in developing incident plan and tactical objectives	<input type="checkbox"/>
	Maintain communication with Emergency Response Team Leader (<i>On-Scene Commander if appointed</i>)	<input type="checkbox"/>
	Provide information to Emergency Response Team Leader urgently when unsafe conditions are detected.	<input type="checkbox"/>
	Identify additional resources to control emergency	<input type="checkbox"/>
	Provide regular scene situation updates to Incident Commander	<input type="checkbox"/>
	Reviews effectiveness of incident response and recommend potential changes of incident tactics to the Incident Commander.	<input type="checkbox"/>
<i>Recovery Phase</i>	Implement isolation zones as identified by the Incident Commander	<input type="checkbox"/>
	Verify emergency resources have been replenished.	<input type="checkbox"/>
	Monitor and evaluates emotional wellbeing of emergency team personnel (Peer Support)	<input type="checkbox"/>
	Conduct debrief of emergency team response	<input type="checkbox"/>

ICHTHYS LNG		CONTROL ROOM OPERATOR	
<u>Key Responsibilities</u>			
<ul style="list-style-type: none"> • Initiate emergency alarm and response processes • Monitor control panel and takes any action deemed necessary to safeguard personnel, plant and equipment. 			
Reports to	Incident Commander		
Management Position	Duty CRO		
Response Phase	Action	Status/Time	
<i>Immediate Response Actions</i>	Confirm incident report, location and details	<input type="checkbox"/>	
	Confirm activation of GPA (if required)	<input type="checkbox"/>	
	Notify Incident Commander of emergency situation	<input type="checkbox"/>	
	Confirm automatic systems have activated	<input type="checkbox"/>	
	If necessary, make initial PA announcement	<input type="checkbox"/>	
	Monitor status of adjacent systems	<input type="checkbox"/>	
	Maintain personal log	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	If escape routes / must points are unsafe, make PA announcement to communicate alternative arrangements.	<input type="checkbox"/>	
	Verify all escalation controls have been activated	<input type="checkbox"/>	
	Activate adjacent systems if necessary to contain escalation	<input type="checkbox"/>	
	Provide information to Incident Commander / Operations Officer on unsafe areas.	<input type="checkbox"/>	
	If medical emergency / injured persons is reported – mobilise Medic	<input type="checkbox"/>	
	Consider wind direction for plume and thermal impact	<input type="checkbox"/>	
<i>Establish Situational Awareness</i>	Maintain CCTV coverage of incident area	<input type="checkbox"/>	
	Consult appropriate plans / procedures to identify cause and effect	<input type="checkbox"/>	
	Monitor depressurisation and inventory levels	<input type="checkbox"/>	
	Identify any safety critical systems that may be compromised	<input type="checkbox"/>	
	Review open permits	<input type="checkbox"/>	
	Identify potential risks, assess potential and communicated to Incident Commander / Operations Officer	<input type="checkbox"/>	
<i>Incident Control</i>	Provide input into development of incident tactical plans as required	<input type="checkbox"/>	
	Provide regular status updates on ICHTHYS LNG process systems	<input type="checkbox"/>	
<i>Recovery Phase</i>	When Incident Commander declares incident safe, make PA call to allow personnel to return (include any isolations if necessary)	<input type="checkbox"/>	
	Reinstates systems when incident is resolved	<input type="checkbox"/>	
	Participate in post incident debrief	<input type="checkbox"/>	

ICHTHYS LNG		COMMUNICATIONS OFFICER	
<u>Key Responsibilities</u>			
<ul style="list-style-type: none"> • Monitor all site radio communications. • Monitors and reports on communications with internal/external support areas as required. • Transmit external communications when authorised by Incident Commander. • Maintain communications log. 			
Reports to	Incident Commander		
Management Position	Ops Tech Production (issuing Authority)		
Response Phase	Action	Status /Time	
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>	
	Proceed to CCR. Obtain briefing from Incident Commander.	<input type="checkbox"/>	
	Establish communications log. Collect actions already completed by Control Room Operator.	<input type="checkbox"/>	
	Maintain personal log	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	Monitors site radio for situation reports or emergency messages	<input type="checkbox"/>	
	Conveys response requests as appropriate	<input type="checkbox"/>	
<i>Establish Situational Awareness</i>	Establishes radio contact with key response personnel at scene	<input type="checkbox"/>	
	Assesses vulnerability of communication mediums to emergency impact	<input type="checkbox"/>	
<i>Incident Control</i>	Assists Log Keeper with updating boards and chronological log.	<input type="checkbox"/>	
	Transmit external communications when authorized by Incident Commander	<input type="checkbox"/>	
<i>Recovery Phase</i>	Collect all incident information and passes to Logkeeper	<input type="checkbox"/>	
	Assist with reinstatement of communications and logistics to normal operations	<input type="checkbox"/>	
	Participate in post incident debrief	<input type="checkbox"/>	

ICHTHYS LNG		MEDIC
<u>Key Responsibilities</u>		
<ul style="list-style-type: none"> • Undertake medical assessment duties; • Liaise with medical support personnel as appropriate; • Determine if there is a need for external medical assistance; • Prepare casualties for medical transport if required; and • Supervise medical support team 		
Reports to	Operations Officer (<i>On-Scene Commander if appointed</i>)	
Management Position	ICHTHYS LNG Medic	
Response Phase	Action	Status /Time
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>
	Proceed to CCR. Obtain briefing from Incident Commander.	<input type="checkbox"/>
	Identify if any injured persons	<input type="checkbox"/>
	Maintain personal log	<input type="checkbox"/>
<i>Execute Protective Actions</i>	Identify potential hazards at incident scene	<input type="checkbox"/>
	With Operations Officer and CRO determine safe access path to incident scene	<input type="checkbox"/>
	Deploy to incident scene to assess and render medical assistance	<input type="checkbox"/>
<i>Establish Situational Awareness</i>	Complete triage of injured persons	<input type="checkbox"/>
	Determine extent of medical support required (stretcher bearers etc)	<input type="checkbox"/>
	Assess potential for external medical assistance. Pre-warn hospitals (<i>particularly for multi casualty events</i>)	<input type="checkbox"/>
<i>Incident Control</i>	Establish casualty clearing area if required	<input type="checkbox"/>
	Provide regular updates to Operations Officer on injured persons' status	<input type="checkbox"/>
	Liaise with medical support as required for specialist medical support	<input type="checkbox"/>
	If external medical support is required, make arrangements for site access and escort	<input type="checkbox"/>
	Prepare injured persons for medical transport if required	<input type="checkbox"/>
<i>Recovery Phase</i>	Treat injured persons as required	<input type="checkbox"/>
	Replenish medical stock used	<input type="checkbox"/>
	Monitor emotional wellbeing of personnel	<input type="checkbox"/>
	Participate in post incident debrief	<input type="checkbox"/>

ICHTHYS LNG		MEDICAL SUPPORT	
<u>Key Responsibilities</u>			
<ul style="list-style-type: none"> • Assist the Medic treat and care for injured persons • Trained first-aiders 			
Reports to	Medic		
Management Position	Operations Tech Inlec / Operations Tech Production		
Response Phase	Action	Status /Time	
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>	
	When deployed, assemble in the medical centre (or as directed) and receive a briefing from the Medic.	<input type="checkbox"/>	
	Prepare equipment for deployment	<input type="checkbox"/>	
	Conduct safety checks	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	Wear appropriate PPE	<input type="checkbox"/>	
	When deployed to scene, report to Emergency Response Team Leader who will provide hazard briefing and identify tasks	<input type="checkbox"/>	
	Monitor own safety and other team members continuously	<input type="checkbox"/>	
<i>Incident Control</i>	Assist Medic in treatment of injured persons	<input type="checkbox"/>	
	Perform Medic responsibilities if Medic is injured or missing	<input type="checkbox"/>	
<i>Recovery Phase</i>	Replenish medical supplies	<input type="checkbox"/>	
	Assist Medic in other duties as required	<input type="checkbox"/>	
	Monitor team members emotional wellbeing (Peer Support)	<input type="checkbox"/>	
	Participate in post incident debrief	<input type="checkbox"/>	

ICHTHYS LNG		LOGKEEPER
<u>Key Responsibilities</u>		
<ul style="list-style-type: none"> Maintain a chronological record of events during the emergency 		
Reports to	Incident Commander	
Management Position	Operations Tech Productions (Issuing Authority)	
Response Phase	Action	Status /Time
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>
	Proceed to CCR. Obtain briefing from Incident Commander.	<input type="checkbox"/>
	Commence information collection	<input type="checkbox"/>
	Maintain personal log	<input type="checkbox"/>
<i>Establish Situational Awareness</i>	Commence establishing chronological record of events	<input type="checkbox"/>
	Record weather information e.g. wind speed and direction (current and forecast)	<input type="checkbox"/>
	Collect information on casualty status, logistics movements and emergency team resources	<input type="checkbox"/>
	Sketch a plan of the incident location	<input type="checkbox"/>
<i>Incident Control</i>	Obtain information from Incident Commander timeouts	<input type="checkbox"/>
	Visually display the Incident Commander's plan and priorities and other key incident information	<input type="checkbox"/>
	Prompt the Incident Commander for regular public address announcements	<input type="checkbox"/>
	Record time when Incident Commander declares incident safe (resolved)	<input type="checkbox"/>
<i>Recovery Phase</i>	Collect all incident information for inclusion into incident records	<input type="checkbox"/>
	Participate in post incident debrief	<input type="checkbox"/>

ICHTHYS LNG		MUSTER COORDINATOR	
<u>Key Responsibilities</u>			
<ul style="list-style-type: none"> • Confirm the muster status of the ICHTHYS LNG (including the ERT); • Operates form the Gatehouse 			
Reports to	Incident Commander		
Management Position	Security		
Response Phase	Action	Status /Time	
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>	
	On sounding of GPA contacts the CCR. Obtains briefing from Incident Commander.	<input type="checkbox"/>	
	Obtain Facility POB list	<input type="checkbox"/>	
	Verify e-muster system is operational. If not initiate, manual system to obtain muster status.	<input type="checkbox"/>	
	Maintain personal log	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	Identify hazardous areas that may impede with mustering	<input type="checkbox"/>	
	Liaise with CRO to make PA announcement to alert personnel of hazard and advise alternative muster points / path	<input type="checkbox"/>	
<i>Establish Situational Awareness</i>	Monitor muster progress on CCTV	<input type="checkbox"/>	
	Monitor muster number on e-muster system	<input type="checkbox"/>	
	Compile muster information and report muster status to Incident Commander /Operations Officer	<input type="checkbox"/>	
	Communicate with muster points as required	<input type="checkbox"/>	
	If ICHTHYS LNG evacuation / abandonment, take muster records	<input type="checkbox"/>	
<i>Recovery Phase</i>	Assist with safe return of personnel when muster has been released	<input type="checkbox"/>	
	Undertake other duties as assigned to assist recovery processes	<input type="checkbox"/>	
	Pass incident information to Logkeeper	<input type="checkbox"/>	
	Participate in post incident debrief	<input type="checkbox"/>	

ICHTHYS LNG	ON-SCENE COMMANDER	
<p><i>This position may not be filled in all circumstances. The Incident Commander will determine. The On-Scene Commander should be deployed for a large or complex event and when external support is deployed to the scene.</i></p> <p><i>If not, the responsibilities are also included in Emergency Response Team Leader's responsibilities.</i></p> <p>Key Responsibilities</p> <ul style="list-style-type: none"> • Monitors incident site and responder safety, identifies hazards and minimises risks to affected personnel; • Commands and coordinates all operations at the incident site; • Liaises with field commanders of external agencies deployed to the scene • Supervises the Emergency Response Team Leader(s). 		
Reports to	Operations Officer	
Management Position	Area Team Leader	
Response Phase	Action	Status /Time
Immediate Response Actions	Muster	<input type="checkbox"/>
	If designated by the Incident Commander, report to the CCR for briefing	<input type="checkbox"/>
	Identify critical protection priorities and potential hazards	<input type="checkbox"/>
	Maintain personal log	<input type="checkbox"/>
Execute Protective Actions	With Operations Officer and CRO identify safe access path to incident scene	<input type="checkbox"/>
	Deploy ERT when authorised by Incident Commander	<input type="checkbox"/>
	Verify isolations and depressurization are at appropriate levels	<input type="checkbox"/>
	Define potential hazards to crew members	<input type="checkbox"/>
	Activate any additional equipment such as portable monitors, gas monitoring to protect from exposure	<input type="checkbox"/>
	Establish scene control remove non-essential personnel	<input type="checkbox"/>
Establish Situational Awareness	Identify potential safety critical systems that may be compromised	<input type="checkbox"/>
	Establish Forward Command Point and communications with Operations Officer	<input type="checkbox"/>
	Review scene for hazards and potential escalation factors	<input type="checkbox"/>
	Determine source of emergency that needs to be contained.	<input type="checkbox"/>
	Determine tactical priorities	<input type="checkbox"/>
	Identify any potential for environmental impact	<input type="checkbox"/>
Incident Control	Brief ERT Leader and members	<input type="checkbox"/>
	Maintain radio contact with emergency team at all times	<input type="checkbox"/>
	Monitor scene safety and implement controls to reduce scene hazards	<input type="checkbox"/>
	Provide regular situation report back to Operations Officer	<input type="checkbox"/>

	Identify additional resources to control incident	<input type="checkbox"/>
	When external emergency response support is deployed to scene, arrange for security access and escort	<input type="checkbox"/>
	Liaise with emergency service Team Leader and monitor their safety	<input type="checkbox"/>
	Provide external teams with a liaison operative if required to maintain situation hazard awareness	<input type="checkbox"/>
	Advise when scene is under control or safe.	<input type="checkbox"/>
Recovery Phase	Identify any systems isolations or access restrictions that will need to remain.	<input type="checkbox"/>
	Assist with damage assessment	<input type="checkbox"/>
	Assist with scene investigation (if initiated)	<input type="checkbox"/>
	Replenish emergency team equipment and consumables	<input type="checkbox"/>
	Monitor emotional wellbeing of emergency team.	<input type="checkbox"/>
	Participate in post incident debrief	<input type="checkbox"/>

ICHTHYS LNG		EMERGENCY RESPONSE TEAM LEADER	
<p><u>Key Responsibilities</u></p> <p>Monitor Emergency Team members during incident and maintain their safety. Lead and directs the Emergency Response Team using the following principles:</p> <ul style="list-style-type: none"> • Undertake Rescue Operations (when it is safe to do so) • Protect adjacent areas to reduce incident spread • Contain incident to origin point • Establish control of incident and render operations safe • Protect undamaged equipment from subsequent heat, smoke, water or hydrocarbon product damage • Initiate recovery measures and prevent incident reoccurrence. 			
Reports to	Operations Officer (<i>On-Scene Commander if established</i>)		
Management Position	Operations Technician Production		
Response Phase	Action	Status /Time	
<i>Immediate Response Actions</i>	Muster	<input type="checkbox"/>	
	Proceed to CCR for face to face briefing from Incident Commander.	<input type="checkbox"/>	
	Identify critical protection priorities and potential hazards	<input type="checkbox"/>	
	Verify all emergency team members have responded	<input type="checkbox"/>	
	Maintain personal log.	<input type="checkbox"/>	
<i>Execute Protective Actions</i>	With Operations Officer and CRO identify safe access path to incident scene	<input type="checkbox"/>	
	Deploy ERT when authorised by Incident Commander	<input type="checkbox"/>	
	Verify isolations and depressurization are at appropriate levels	<input type="checkbox"/>	
	Define potential hazards to crew members	<input type="checkbox"/>	
	Activate any additional equipment such as portable monitors, gas monitoring to protect from exposure	<input type="checkbox"/>	
	Establish scene control remove non-essential personnel	<input type="checkbox"/>	
<i>Establish Situational Awareness</i>	Identify potential safety critical systems that may be compromised	<input type="checkbox"/>	
	Establish Forward Command Point and communications with Operations Officer	<input type="checkbox"/>	
	Review scene for hazards and potential escalation factors	<input type="checkbox"/>	
	Determine source of emergency that needs to be contained.	<input type="checkbox"/>	
	Determine tactical priorities	<input type="checkbox"/>	
	Identify any potential for environmental impact	<input type="checkbox"/>	
<i>Incident Control</i>	Brief ERT members	<input type="checkbox"/>	
	Maintain radio contact with emergency team at all times	<input type="checkbox"/>	

	Monitor scene safety and implement controls to reduce scene hazards	<input type="checkbox"/>
	Provide regular situation report back to Operations Officer (<i>On-Scene Commander if established</i>)	<input type="checkbox"/>
	Identify additional resources to control incident	<input type="checkbox"/>
	Advise when scene is under control or safe.	<input type="checkbox"/>
Recovery Phase	Identify any systems isolations or access restrictions that will need to remain.	<input type="checkbox"/>
	Assist with damage assessment	<input type="checkbox"/>
	Assist with scene investigation (if initiated)	<input type="checkbox"/>
	Replenish emergency team equipment and consumables	<input type="checkbox"/>
	Monitor emotional wellbeing of emergency team	<input type="checkbox"/>
	Participate in post incident debrief	<input type="checkbox"/>

ICHTHYS LNG		EMERGENCY RESPONSE TEAM MEMBER	
Critical Information			
Follow directions given by the Emergency Response Team Leader Conduct all emergency activities in as safe a manner as possible			
Reports to	Emergency Response Team Leader		
Management Position	Ops Technician Production and Inlecs		
Response Phase	Action	Status /Time	
Immediate Response Actions	Muster	<input type="checkbox"/>	
	Report to Fire Station, don PPE and perform safety equipment checks	<input type="checkbox"/>	
	Complete radio communications check with CCR	<input type="checkbox"/>	
	Await instructions to deploy including safe approach route	<input type="checkbox"/>	
Execute Protective Actions	Proceed to incident scene on nominated safe approach route	<input type="checkbox"/>	
	Assess hazards, use monitoring equipment and appropriate PPE	<input type="checkbox"/>	
	Await briefing from Emergency Response Team Leader	<input type="checkbox"/>	
	Activate any local equipment that will aid in incident containment	<input type="checkbox"/>	
	Establish isolations as directed	<input type="checkbox"/>	
Establish Situational Awareness	Identify potential hazards at scene	<input type="checkbox"/>	
	Attempt to identify source of emergency if it is safe to do so.	<input type="checkbox"/>	
	Communicate any new or emerging hazards	<input type="checkbox"/>	
Incident Control	Respond as directed by the Emergency Response Team Leader	<input type="checkbox"/>	
	Continually monitor other team members	<input type="checkbox"/>	
	Conduct all emergency actions in accordance with procedures	<input type="checkbox"/>	
	Maintain communication with Emergency Response Team Leader	<input type="checkbox"/>	
	Withdraw when requested to maintain safety	<input type="checkbox"/>	
Recovery Phase	Replenish emergency response equipment and consumables	<input type="checkbox"/>	
	Monitor emotional wellbeing of emergency team members	<input type="checkbox"/>	
	Participate in post incident debrief.	<input type="checkbox"/>	

APPENDIX B EMERGENCY PA ANNOUNCEMENTS

General Alarm Announcement

ATTENTION ALL PERSONNEL..... ATTENTION ALL PERSONNEL.
The General Alarm has sounded due to <insert alarm description>.
Equipment must be made safe and all hot work must cease immediately.
All emergency teams report to their team assembly points.
REPEAT ANNOUNCEMENT

Toxic Gas Alarm Announcement

ATTENTION ALL PERSONNEL..... ATTENTION ALL PERSONNEL.
A Toxic Gas Alarm has sounded in the <insert alarm description and area>.
All personnel in the vicinity of this area should proceed to your team muster point.
The alarm is being investigated and I will provide an update shortly.
REPEAT ANNOUNCEMENT

All Clear Announcement

ATTENTION ALL PERSONNEL.....ATTENTION ALL PERSONNEL
The facility has returned to normal status. Suspended work permits will now be re-issued.
REPEAT ANNOUNCEMENT

Prepare to Evacuate Facility Announcement

Preferably delivered by the Incident Commander

ATTENTION ALL PERSONNEL.....ATTENTION ALL PERSONNEL

This is the Incident Commander

Prepare to evacuate the facility. All personnel are to proceed to the Evacuation Assembly Point at XXX.

Switch radios to emergency Channel xx and maintain communication with the CCR.

REPEAT ANNOUNCEMENT

APPENDIX C FATALITY MANAGEMENT CHECKLIST

This checklist is contained in 1. INPEX Australia Management of Fatalities Plan [0000-AH-PLN-60002]

Onsite Management of Fatality Response Check List			
Senior INPEX Manager/Management - OIM	Status		
	Yes	No	N/A
If necessary initiate a site muster and suspend work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inspect scene with Medic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inform crew of the situation. Direct crew not to mention any details until the deceased Next Of Kin has been advised. Consider, shutting down general access external communications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secure the fatality scene as per the following: <ul style="list-style-type: none"> • Restrict access and establish a cordon (this can be achieved with reflective tape or similar) • Instruct persons not to disturb any evidence that may be used by Police forensic teams • Establish and maintain a log of entry to the scene • Establish one route for persons entering and leaving the scene • Appoint a person to act as a sentry to: <ul style="list-style-type: none"> • Record the names of persons entering the scene • Date and time that person entered and departed the scene • Purpose for why that person entered the scene • Details of anything left or taken from the scene • Direct CCTV at the scene (if available) • If applicable take photographs or video • Isolate witnesses and instruct them to write a statement 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notify Police and provide them with a summary of what has occurred <ul style="list-style-type: none"> • Telephone WA Police: 131 444 or alternative for off-shore +61 8 93510699 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify any witnesses to the events and advise them to write statements. (Note-Section 5.4) Identify, Isolate, Interview & Evidence principles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Onsite Management of Fatality Response Check List			
Senior INPEX Manager/Management - OIM	Status		
	Yes	No	N/A
If there is suspicion surrounding the fatality or on the advice of Police/Authority, consider restricting any suspected personnel to their accommodation in line with (Refer- Section 5.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Company Event Reporting and Investigation Procedure (0000-AH-PRC-60005) and the Event Reporting and Investigation Standard (0000-AH-STD-60050) for an Actual C or higher if appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the individual or personnel involved Aboriginal and Torres Strait Islander (ATSI)? If so, contact INPEX Senior Aboriginal Affairs Advisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Log all key events, calls and any direction given by Police	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Due to possible time delay, confirmed with Police if the deceased can be removed and preserved appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agree on transport arrangements to facility with Police including their expected time to be at the Departure location. (Off-Shore requirement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In consultation with Police organise the transportation of the deceased to onshore location i.e. Broome / Darwin (Off-Shore requirement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aeromedical support notified of event and put on stand by for body retrieval (Off-Shore requirement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notify the INPEX IMT Leader (on duty) via INPEX Call Centre <ul style="list-style-type: none"> • Within Australia - 1800 305 789 • Outside Australia - +61 8 6213 6350 • Mobile (Redundancy) - +61 439 694 175 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assist the INPEX Perth Office in managing any internal or external communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notify NOPSEMA / Worksafe (as per regulatory reporting requirements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• NOPSEMA: 08 6461 7090	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Worksafe WA: 1800 678 198	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Worksafe NT: 1800 019 115	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Onsite Management of Fatality Response Check List			
Senior INPEX Manager/Management - OIM	Status		
	Yes	No	N/A
Confirm that the Regulator will attend the scene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transport arrangements for Regulator and or Police have been organised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transport arrangements for Regulator and or Police are confirmed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel Exemptions for Regulator and or Police have been granted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX D RECEIVING THREAT CHECKLIST

FACILITY THREAT CHECKLIST			
Date		Time	__ am / pm
EXACT WORDS OF CALLER			
1. When is the threat going to be carried out?			
2. Is there an explosive device and where is the device right now?			
3. What kind of device is it?			
4. When did you place the device?			
5. What does the device look like?			
6. Where did you place the device?			
7. What will cause the device to go off?			
8. What will cause you to attack the facility?			
9. Why did decide to attack the facility?			
10. What is your name?			
11. Where are you calling from?			

Complete details on next page immediately after hanging up.

IMMEDIATELY AFTER THE CALL:			
Recall as much information as you can. This information requires opinions, perception and judgement. Please give your first impression.			
Caller was:	<input type="checkbox"/> Male	<input type="checkbox"/> Adult	<input type="checkbox"/> Female
	<input type="checkbox"/> Child	<input type="checkbox"/> Adult	<input type="checkbox"/> Child
Estimated age:	<input type="checkbox"/> Pre Teens	<input type="checkbox"/> Teenager	<input type="checkbox"/> 0 - 40
	<input type="checkbox"/> Over 50		
Caller's speech:	<input type="checkbox"/> Accent	<input type="checkbox"/> Pronounced	<input type="checkbox"/> Slight
	<input type="checkbox"/> Local	<input type="checkbox"/> Australian	<input type="checkbox"/> Asian
	<input type="checkbox"/> European	<input type="checkbox"/> Other	
Caller's voice:	<input type="checkbox"/> Calm	<input type="checkbox"/> Loud	<input type="checkbox"/> Stutter
	<input type="checkbox"/> Disguised	<input type="checkbox"/> Angry	<input type="checkbox"/> Normal
	<input type="checkbox"/> Familiar	<input type="checkbox"/> Slow	<input type="checkbox"/> Distinct
	<input type="checkbox"/> Soft	<input type="checkbox"/> Slurred	<input type="checkbox"/> Excited
	<input type="checkbox"/> Clear	<input type="checkbox"/> Muffled	<input type="checkbox"/> Emotional
	<input type="checkbox"/> Taped	<input type="checkbox"/> Impediment	
If familiar, who did it sound like?			
Background noises:	<input type="checkbox"/> None	<input type="checkbox"/> Clear	<input type="checkbox"/> Aeroplane
	<input type="checkbox"/> Street Noise	<input type="checkbox"/> Voices	<input type="checkbox"/> Static
	<input type="checkbox"/> House Noise	<input type="checkbox"/> PA System	<input type="checkbox"/> Motors
	<input type="checkbox"/> Other	<input type="checkbox"/> Music	<input type="checkbox"/> Machinery
	<input type="checkbox"/> Taped	<input type="checkbox"/> Radio	<input type="checkbox"/> Animals
	<input type="checkbox"/> Long Distance	<input type="checkbox"/> Threat	<input type="checkbox"/> Well Spoken
	<input type="checkbox"/> Abusive	<input type="checkbox"/> Irrational	<input type="checkbox"/> Message Read
ACTION TAKEN:		Date	/ /
Time Call received	am / pm	Time call completed	am / pm
Threat received by			
Name		Work No.	
Position		Ext	
Address		Postcode	
Report to	Police:	Security & Emergency Management Team:	
	Time:	Time:	
	Report No:	Report No:	
	Officer Name:	Name:	

APPENDIX E INCIDENT MANAGEMENT GUIDES

IMG's will be included with hardcopy version of "Issued for Use" ERP.

ICHTHYS LNG IMG #	IMG Title	IMG Document Number
1.	Loss of Containment Onshore Pipelines (MAE 1)	L060-AH-GLN-60002
2.	Loss of Containment Inlet Facilities (MAE 2) [Slug Catcher]	L060-AH-GLN-60003
2a	Loss of Containment Inlet Facilities (MAE 2) [Stabiliser Unit]	L060-AH-GLN-60004
3.	Loss of Containment Utilities and CCPP (MAE 3)	L060-AH-GLN-60005
4.	Loss of Containment LNG Train (MAE 4)	L060-AH-GLN-60006
5.	Loss of Containment LNG BOG (MAE 5)	L060-AH-GLN-60007
5a	Loss of Containment LPG BOG (MAE 5)	L060-AH-GLN-60008
6.	Loss of Containment LNG Storage (MAE 6)	L060-AH-GLN-60009
6a	Loss of Containment LPG Storage (MAE 6)	L060-AH-GLN-60010
7.	Loss of Containment Refrigerant Storage (MAE 7)	L060-AH-GLN-60037
8.	Loss of Containment Condensate Storage (MAE 8)	L060-AH-GLN-60011
9.	Loss of Containment Product Export (MAE 9)	L060-AH-GLN-60012
10.	Loss of Containment Heating Medium (MAE 10)	L060-AH-GLN-60013
11.	Loss of Containment CCPP Steam (MAE 11)	L060-AH-GLN-60014
12.	Failure of Hydrocarbon Disposal Function (Flare) (MAE 12)	L060-AH-GLN-60015
13.	Loss of Containment GEP Pipeline - Offshore	L060-AH-GLN-60016
14.	Generic Loss of Hydrocarbon Containment in non-MAE release Scenario	L060-AH-GLN-60017
15.	Serious Injury / Illness	L060-AH-GLN-60018

ICHTHYS LNG IMG #	IMG Title	IMG Document Number
16.	Multi Casualty Event	L060-AH-GLN-60019
17.	Hazardous Material Spillage (non-Hydrocarbon related)	L060-AH-GLN-60020
18.	Building Fire	L060-AH-GLN-60021
19.	Export Tanker Emergency during Transit at Sea or in Darwin Harbour	L060-AH-GLN-60022
20.	Export Tanker Emergency at Jetty (non-Cargo related)	L060-AH-GLN-60023
21.	Vessel Collision / Allision	L060-AH-GLN-60024
22.	Vessel Fire / Explosion / Vapour Release (Fire on Vessel)	L060-AH-GLN-60025
23.	MOB Fall from Jetty	L060-AH-GLN-60026
24.	Bushfire	L060-AH-GLN-60027
25.	Radiation Incident	L060-AH-GLN-60028
26.	Extreme Weather (Not captured in ERP)	L060-AH-GLN-60029
27.	Incident Adjacent to Facility	L060-AH-GLN-60030
28.	Rescue from Height	L060-AH-GLN-60031
29.	Confined Space Rescue	L060-AH-GLN-60032
30.	Rescue / Entrapment	L060-AH-GLN-60033
31.	Missing / Stranded Persons	L060-AH-GLN-60034
32.	Security – Criminal Acts	L060-AH-GLN-60035
33.	Security – Unauthorised Maritime Arrival	L060-AH-GLN-60036
34.	Security – Unauthorised Access / Trespass	L060-AH-GLN-6038
35.	Security –Bomb Threat / Suspicious Package	L060-AH-GLN-6039
36.	Security – Manage Psychologically Affected Person	L060-AH-GLN-6040
37.	Security – Active Shooter	L060-AH-GLN-6041

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