ICHTHYS LNG FACILITY
EMERGENCY RESPONSE PLAN

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Revision	Date	Issue Reason	Prepared	Checked	Endorsed	Approved
6	21/07/2025	Issued for Use	Craig Jeffery (S&EM Advisor)	Mat Hyland (S&EM Team Lead)	Adrian Parody (Production Manager)	Dave Dann (Onshore General Manger)

This document has been approved and the audit history is recorded on the last page.

RECORD OF AMENDMENT

Revision	Section	Amendment
5	All	Removed reference of PTL and updated to OTL
5	1.6	Updating security supporting document references
5	2.0	Updated and inserted new map that shows the Shutdown Village
5	2.12	Inserted information around the Shutdown Village
5	2.1.9	Updated and included the Shutdown first aid room and medical availability and considerations for the OTL to factor in the event the medic is not available
5	2.4	Removed reference to the HF radio which is no longer available
5	2.6.2	Updated and corrected the non MAE naming & numbers
5	3.3	Updated the Security functions and organisational structure to align with the ILNG SMP
5	3.6.2	Added MP 15 installed at Shutdown Village Building C
5	Figure 3-2	Inserted new muster map
5	3.18	Updated the plan validation to included 1 x skills and 1 x level 1 exercise required per swing
5	4.9	Removed reference to the INPEX emergency contact details and added the link to the ILNG Emergency contact details
6	Distribution	Updated

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Revision	Section	Amendment
6	Table 1.1	NT Police identified as Control Authority for GEP leak as a HAZMAT event.
6	Fig 11	Redundant ECC 1800 number removed
6	3	ERP review period changed to annually in line with 0000-AH-PLN-60007 Section 9
6	Fig 3-1	ERT structure diagram amended to reflect onshore structure and Security Occupational First Aiders
6	Fig 3-2	Muster point locations map updated to remove MP 4 and 14
6	3.6.2	Reference to Muster Point 4 and 14 removed
6	3.7.1	Differentiation between site muster and building evacuation inserted
6	3.9	Reference to ERT mustering at Fire Station in instruction amended
6	3.10	Bladin Village POC added to emergency liaison list
6	3.15	Deleted reference to ERT annual skills maintenance – now a 3-year drills cycle
6	5.5.3	Reference to Appendix B amended to fatality management checklist appendix deleted – maintained in 0000-AH-PLN-6000 Management of Fatalities Plan
6	Appendix B	Removed – reference 0000-AH-PLN-6000
6	Appendix C	PAGA Templates added

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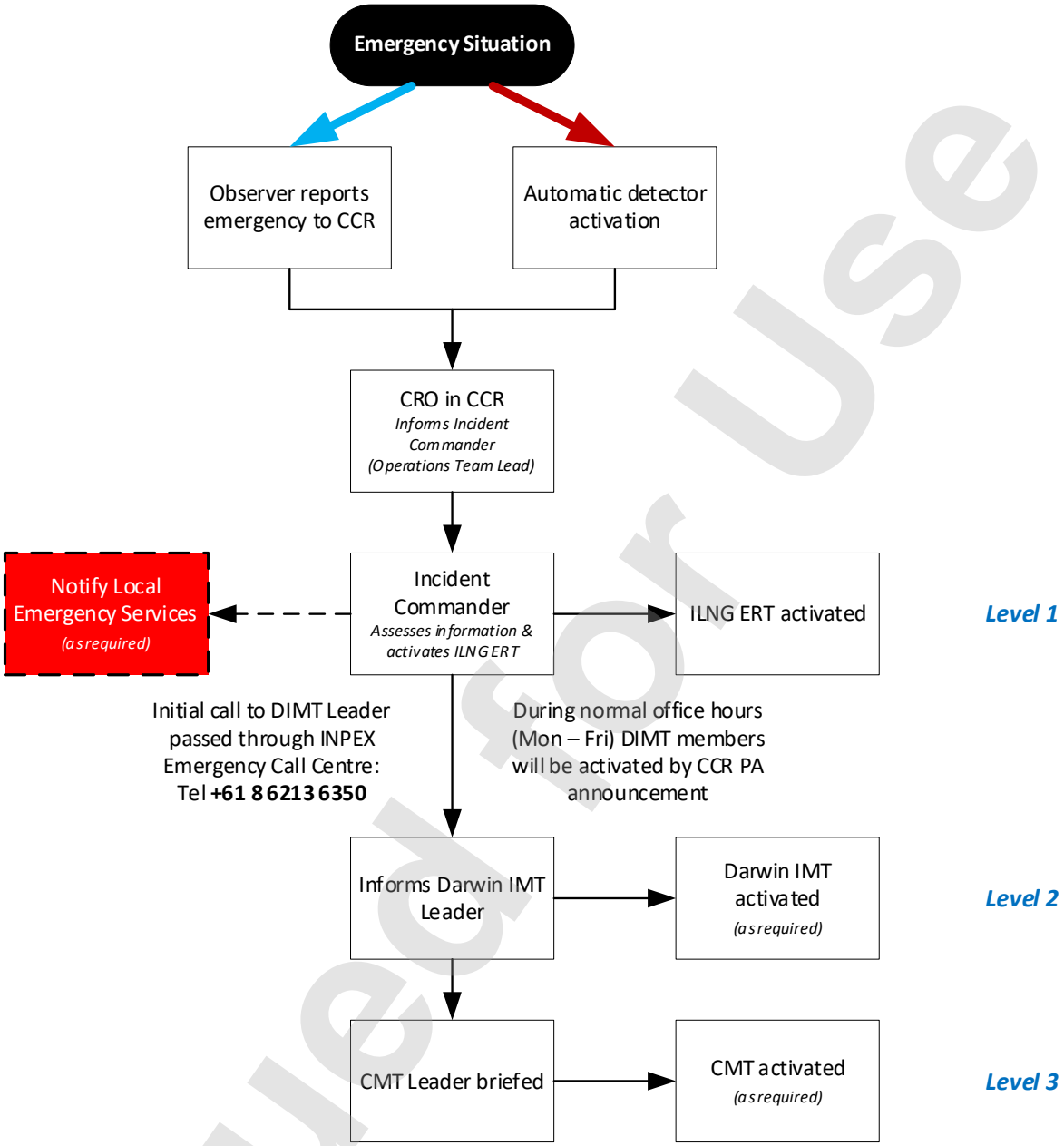

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1 INTRODUCTION

INPEX Operations Australia Pty Ltd is the operator 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 people, those who work with INPEX and the communities where INPEX operates. "Anzen Dai Ichi" or Safety Number One encapsulates INPEX's focus 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 an emergency at the ICHTHYS LNG Facility or an emergency situation in immediate adjoining areas that could impact operation of the facility or 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 approach to outline the integrated activities completed to deliver effective emergency response.

This ERP is divided into five parts:

1	Introduction	The framework under which this ERP is developed.
2	Prevention	Processes which seek to eliminate or reduce the impact of hazards, reduce susceptibility and increase the resilience of the ICHTHYS LNG Facility.
3	Preparedness	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.
4	Response	The activation of emergency preparedness arrangements, plans and processes to effectively manage an emergency situation at the ICHTHYS LNG Facility.
5	Recovery	Actions that assist the ICHTHYS LNG Facility affected by an emergency restore the physical infrastructure, emotional, social, economic and physical well-being and environmental values.

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This ERP outlines the facility's emergency management framework, supported by Incident Management Guides (IMGs) that detail actions to resolve potential emergency scenarios identified in risk planning. IMGs form part of this ERP.

1.1 ERP Objectives

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 emergency response process and key interfaces.
- Define the roles and responsibilities of personnel during an emergency at, or situation that threatens, the ICHTHYS LNG Facility.
- Detail information flows and communication mediums to be used during an emergency.
- Identify credible potential emergency scenarios that could occur.
- Detail the procedures that will be implemented to manage emergency events.
- Define processes to initiate Incident Management Team (IMT) support to assist in managing a significant emergency.
- Outline measures to maintain interoperability with emergency services and other support organisations.
- Establish a framework of assurance activities to maintain the ICHTHYS LNG emergency response capability in a state of readiness.

1.2 ERP Scope

This ERP contains emergency processes for the downstream component of the Ichthys operations which includes:

- The Gas Export Pipeline (GEP) that supplies feed gas to the ICHTHYS LNG Facility (*see **Section 1.2.1** below).*
- The portion of the NT Power Water Corporation (PWC) Gas pipeline within the facility - downstream from the connection point near Wickham Point Road.
- Operations Complex - located approximately 1.5km south of the LNG trains.
- LNG process trains, utilities and storage areas.
- Loading jetties.

ICHTHYS upstream components, including the Central Processing Facility (CPF), Floating Production Storage and Offloading (FPSO) Facility and their associated subsea infrastructure, have separate ERPs.

Emergencies occurring outside the confines of the facility are considered in this ERP where there is potential for an external emergency 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.

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1.2.1 GEP Responsibility

Operationally, ILNG Operations are responsible for the GEP from the Beach Valve to the facility's inlet connection (approximately 8km onshore).

Legislatively, ILNG Operations are responsible for the GEP up to the NT coastal waters boundary in the Timor Sea, approximately 80 Km (45nm) offshore from the GEP Beach Valve.

Functionally, for emergency response purposes, if ILNG Operations identify a GEP emergency, they are responsible for initiation and control of the emergency response until it is agreed with Offshore Operations (CPF or FPSO) who is best placed to manage the ongoing response. If, due to the location of the emergency, it is agreed that Offshore Operations (CPF or FPSO) will conduct the ongoing GEP emergency response, control of the emergency will be handed over to Offshore Operations.

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, 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 impact 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 and have potential to threaten the safe operation of the ICHTHYS LNG Facility.

Hazard planning has identified potential emergency situations that could arise at the facility and detailed procedures have been developed to manage these events if they occur. See Facility Incident Management Guides in Section 4.6.

1.4 Response Priorities

Emergency 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:

***P*eople** – minimise 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.

***E*nvironment** – minimise immediate and long-term impact to the environment, environmentally significant and sensitive habitats and resources as a result of the emergency and response activities.

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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.

Reputation – defend and minimise 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.

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, Level 1, 2 or 3. A Level 1 incident is a lower magnitude situation while significant events that involve complex scenarios and high impact 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, the Incident Commander (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.

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Table 1-1: Emergency Classification Levels

Level 1 ***ERT activation***	A Level 1 emergency is an event that can be managed at a tactical level utilising ICHTHYS LNG Facility response resources. Generally, a Level 1 event is managed at the site level. The Darwin IMT Leader will be notified of any ILNG ERT activation.
Level 2 ***IMT activation***	A Level 2 emergency 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. All (or part) of the DIMT will be activated for a Level 2 emergency. The INPEX Crisis Management Team (CMT) Leader will be notified of any Level 2 emergency.
Level 3 ***CMT activation***	A Level 3 crisis is an event where a very high level of business strategic direction and decision making is required to respond to and recover. Level 3 crisis events, 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 for a Level 3 event. CMT activation can also occur where there is a developing threat or issue and can occur when there is a standalone event where the ERT and IMT are not activated.

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1.6 Supporting Documentation

The following references are used in support of this ERP:

Table 1-2: Supporting Documentation References

Reference	***Title***
0000-AH-STD-60051	Emergency and Crisis Management Standard
0000-AH-PLN-60007	INPEX Australia Incident and Crisis Management Preparedness Plan
0000-AH-PLN-70024	Darwin Incident Management Plan
0000-AN-PLN-60001	Human Resources Emergency and Crisis Management Support Plan
0000-AH-STD-60052	Medical Emergency Response Standard
C075-AH-LIS-10002	INPEX Australia Emergency Contact Directory
L060-AH-PRC-60005	Adverse Weather Procedure (Onshore)
L060-AH-PLN-60003	NT Extreme Weather (Cyclone) Management Plan
0000-AH-PLN-60004	INPEX Australia Crisis Management Plan
0000-AH-PRC-60005	Incident Reporting and Investigation Procedure
L290-AH-PHI-0005	Ichthys Onshore LNG Facilities – Plant Zoning Philosophy
L290-AH-SCA-10002	Ichthys LNG Facility Operations Safety Case
F070-AH-SCA-10000	GEP Safety Case (This includes processes for the PWC gas connection pipeline)
X060-AH-PLN-60003	Ichthys LNG Project Nearshore Operations Oil Pollution Emergency Plan -Northern Territory Waters
L060-AH-PLN-60049	Ichthys LNG Security Management Plan*
L060-AH-PLN-60048	Ichthys LNG Port Facility Security Plan*
L060-AH-REP-70013	INPEX Ichthys LNG Facility Security Risk Assessment *
0000-AH-PLN-60002	INPEX Australia Management of Fatalities Plan
Various	ICHTHYS LNG Incident Management Guides
External Regulations	NT Worksafe Guide for Major Hazard Facilities
L290-AH-PHI-0002	LNG/LPG Spill Control Philosophy

** Highly Confidential documents. Limited Access only.*

1.7 Location Map

The ICHTHYS LNG Facility is located on the eastern side Middle Arm peninsular in the vicinity of Bladin Point, with the loading jetties projecting into Darwin Port waters. Road access to the facility is only possible via Wickham Point Road. See location map Figure 1.2

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The facility is located within the Litchfield Council and abuts undeveloped crown land with no residential development in the vicinity. The NT Government land use classification for areas adjoining the facility are zoned CN (Conservation) or DV (Industrial Development).

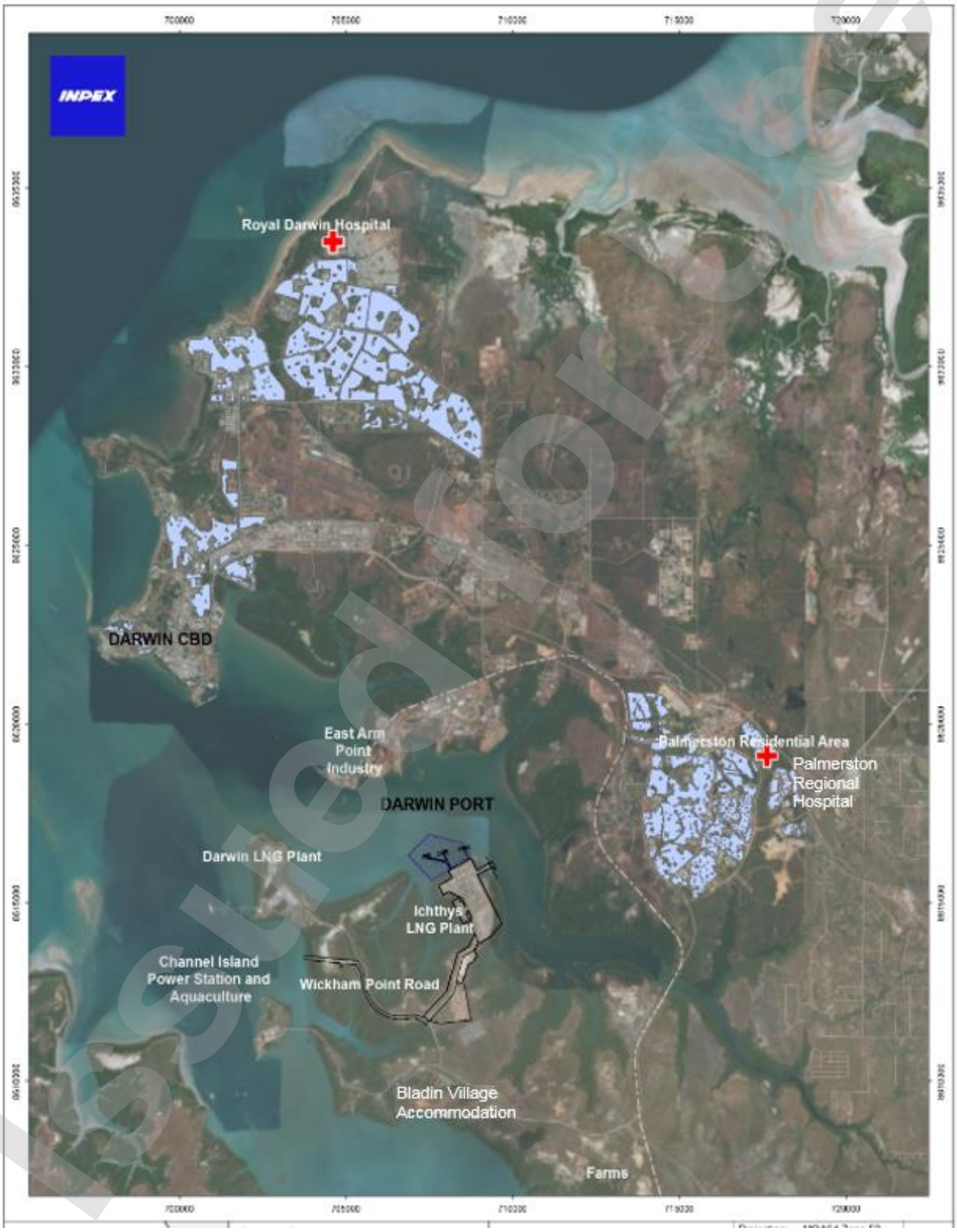

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Figure 1-2 Ichthys LNG Plant Location and Adjoining Land Use

- The nearest industry area is East Arm Point, 3km north of the facility.
- Darwin LNG Facility, also a Major Hazardous Facility, is 4.5km west of the facility which incorporates a BOC helium plant.
- Channel Island Power Station and Darwin Aquaculture Centre are 4km to the south-west of the facility.
- Bladin Village Accommodation is 4km south of the facility. The village could be considered a potential staging area for Emergency services.
- The closest residential settlements in a direct line to the ICHTHYS LNG Facility are Palmerston (5 km) and Darwin (approximately 8 km across the harbour).

1.8 Area Covered by the Emergency Plan

This ERP covers all areas inside the boundary fence of the Ichthys LNG Facility and consideration given to areas outside the facility perimeter where there is a potential for an emergency at the ICHTHYS LNG Facility to have an off-site impact.

See Figure 1-3

Locations a potential off-site impact could occur include:

- Areas where the underground GEP traverses the peninsular between the beach crossing, beach valve, pipeline easement to the ICHTHYS LNG Facility and extending to the NT coastal waters boundary (approximately 45 nautical miles offshore 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 and waters adjacent to the jetty area frequented by recreational fishers. Commercial fishing vessels are sometimes moored in Lightning Creek.
- Locations immediately adjacent to the perimeter of the facility.
- Neighbouring premises including the Darwin LNG Facility (incorporating BOC Helium plant), Channel Island Power Station and Darwin Aquaculture Centre.

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Figure 1-3 Area covered by ERP

Potential offsite impacts have been considered in the emergency planning and development of this ERP and stakeholders consulted. In particular, the development of timely communication processes to alert affected stakeholders of any actual or imminent situation where there is a possibility of an off-site impact.

1.9 Personnel Covered by the Emergency Response Plan

The ICHTHYS LNG Facility will operate 24 hours per day, 365 days per year. **All** INPEX employees, contractors and visitors to the facility are covered by this plan.

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Visitors to the facility (persons that have not completed a site induction) will be escorted at all times while they are in the facility, including assembly at muster points.

If at any time during induction processes, any individual is 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. Shutdown periods and specific simultaneous operations (SIMOPS) plans and or addendums are likely to be in place, so personnel safety is not compromised. SIMOPS Plans will define the interfaces with any applicable contractor ERPs.

Any contractor emergency response arrangements in place during SIMOPS will align with the facility's emergency response processes.

1.10 Consultation in Emergency Planning

This ERP and supporting emergency procedures (Incident Management Guides) are developed and maintained in consultation with:

- Personnel involved in the day-to-day management of the ICHTHYS LNG Facility.
- External agencies including local emergency services and other organisations that could support an ICHTHYS LNG Facility emergency response.
- Neighbouring premises that could be impacted by an emergency at the ICHTHYS LNG Facility.

1.11 Assumptions Included in Emergency Planning

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

- 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.
- The plant is manned and controlled 24/7 with competent emergency response personnel available to respond at all times.
- A Corporate incident management framework is established and supports the ICHTHYS LNG emergency response when required. The Darwin IMT (D-IMT) will be the primary support for the facility's ERT.
- Emergency service agencies will be involved in facility emergency planning and will be notified of an emergency on the facility where there is potential for escalation beyond ILNG response capability. Emergency Services may respond to the facility as they determine to meet agency statutory responsibilities.

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- During extreme events, the transfer of incident control to an emergency service agency that has statutory responsibility for that hazard is possible.
- Mobile response equipment is available across the facility to be deployed to manage hazardous / emergency situations.
- There are uninterruptable power supplies incorporated in the plant design to support safety critical equipment for up to 5 hours.
- Back-up telecommunications, alarms and mustering systems are available in the event of a failure of the primary system.
- A framework of emergency preparedness assurance activities is 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.

1.12 Emergency Response Philosophy

The facility's emergency response philosophy guides all response actions to an emergency situation. This philosophy is aligned to emergency planning arrangements of emergency services and other agencies that have statutory hazard management arrangements that may be required to support the Ichthys LNG facility emergency response.

Notification requirements to emergency services and support agencies has been included to reinforce this alignment.

This philosophy is incorporated in the actions in the supporting Incident Management and Guides.

Table 1-3: Major Accident Events & Response Actions Summary

Event	Emergency Actions	External Support
Hydrocarbon Loss of Containment	Emergency actions for loss of hydrocarbon containment emergencies will be: ➢ Emergency shutdown of production ➢ Activation of emergency alarm ➢ All personnel will proceed to the 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 determined safe to do so.	NTFRS notified when an emergency is declared by the CCR and external support is potentially required
Fire / Explosion	**Process, Storage or Loading Area** ILNG ERT will respond as directed by Incident Commander.	NTFRS notified of any fire or explosion in process, storage or loading area

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	Building Fire (including Local Equipment Room/Local Instrument Room) ILNG ERT will respond to any building fire and assist building wardens with recovery of occupants. If safe to do so, ERT can commence defensive firefighting to stop fire spreading. Internal fire attacks are not to be undertaken, unless the fire is in its incipient stage and can easily be extinguished without risk to the responder. NTFRS resources will be required for significant building fires.	NTFRS notified of any building fire that requires evacuation of personnel
	Vessel Fire at Jetty The vessel Master is responsible for emergency response actions performed on-board the vessel. When an incident involving a vessel occurs on either of the loading jetties (including any vessel loading infrastructure connected to the jetty), the ILNG Incident Commander is in overall control of the event and works collaboratively with the vessel Master. Any incident confined to the vessel e.g. engine room fire, shall be under the vessel Master's control. ILNG ERT will protect jetty infrastructure and loading facilities if safe to do so. INPEX ERT shall not be deployed on board any vessel. The NTFRS is the lead agency and will work with Darwin Port, Vessel Master and ILNG Incident Commander. NTFRS appliances are likely to require access to jetty area.	NTFRS and Darwin Port notified of any fire on vessel berthed at loading jetty.
	Vessel Fire in Darwin Port Waters (off INPEX berth) Darwin Port will be the lead agency and collaborate with NTFRS, Department of Transport Marine Safety Branch, vessel Master and ILNG as the facility operator. Darwin Port Harbour Master may decide that the vessel will need to be moved for the safety of the port. These lead agencies will consult with Vessel Master in their emergency response actions. ILNG Incident Commander should monitor any potential Company reputational issues and brief D-IMT Leader.	Vessel Master will notify Darwin Port Control
Building Fire Alarm Activation	All building fire alarm activations will be communicated and monitored by the CCR. The ERT will be activated for all building fire alarm activations to investigate. If any sign of fire, NTFRS to be notified.	NTFRS notified of any building alarm activation where fire activity is evident
Medical	Any emergency that is likely to result in personnel at ILNG requiring emergency medical transport to offsite healthcare facility is to be communicated to NT St Johns. ILNG medical personnel will provide first aid and stabilize patient for St Johns transport.	NT St Johns Ambulance to be notified where injured person(s) are likely to require emergency transport from site to a community healthcare facility

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	Contingency plans are in place for emergencies that result in multiple persons requiring treatment.	
Hazardous Material Release	ILNG ERT will perform rescue of affected persons in release area (if safe to do so), initiate measures to contain the spread and undertake decontamination processes in accordance with the Safety Data Sheet. For significant releases, fire and emergency services are to be notified and assistance requested.	NTFRS to be notified of any hazardous material release that results in local area evacuation
Confined Space Emergencies	Permit processes for confined space entry require an approved rescue plan. ILNG ERT will recover persons when alarm is initiated. Where a contractor's scope of work involves a significant confined space entry, the contractor will be required to maintain an immediately available confined space rescue capability. ILNG ERT will support contractor's specialist response.	NTFRS notified when an emergency is declared by the CCR and external support is required to rescue persons from a designated confined space
Recovery of Incapacitated Personnel at Height	ILNG ERT will render first-aid to incapacitated personnel at height and prepare them for recovery transfer. This includes use of a pre-assembled remote recovery kit that can be utilised to recover suspended personnel. A suitably accredited work cage fitted to an elevated work platform or crane can be used to perform the recovery transfer. Any recovery that cannot be completed with these resources will require attendance of local emergency services. Where a contractor's scope of work involves personnel working at height component, the contractor will be required to maintain an immediately available rescue from height capability. ILNG ERT will support contractor's specialist response.	NTFRS notified when an emergency is declared by the CCR and external support is required for complex or technical rope rescue
Fall from Jetty	ILNG will initiate response to recover any person who falls from jetty. This includes communicating with any nearby tugs or support vessels to search and recover. Recovery may ultimately be performed by Darwin Port or Water Police if no vessel in vicinity.	Water Police and Darwin Port Control to be notified of any person falling from ILNG jetty
Oil Spill	**Marine** 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. Darwin Port shall be advised of any oil spill event within port waters.	Darwin Port to be notified of any spill entering Darwin Port

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	Response to a significant oil spill is likely to involve INPEX and other resources as per Ichthys Nearshore Operation Oil Pollution Emergency Plan. INPEX has a standing agreement in place for Bhagwan Marine to provide for the deployment of spill containment boom on behalf of ILNG. Vessel Masters have a responsibility to maintain and deploy spill containment measures in line with their Ship Oil Pollution Emergency Plan.	
	GEP NT Police will be the Control Authority spill from the GEP pipeline inside NT waters as a HAZMAT event, supported by resources in accordance with National Plan arrangements.	
Security Breaches	NT Police shall be notified of any criminal acts on the facility. Any breach of an active waterside or landside restricted zones are to be communicated to Darwin Port.	Notify NT Police of any serious breach of security at facility and Darwin Port for waterside events.

1.13 Management of Risk

The responsibility for maintaining ICTCHTYS LNG Facility emergency preparedness capability and implementing a timely, effective response to **all** emergencies rests with the Emergency Command *(lead by the Incident Commander)* and the response organisation *(lead by On-Scene Commander/ERT Leader).*

Emergency response activities can generate significant risk to personnel, the environment, assets and INPEX reputation. Inherent in the Incident Commander's role is implementing actions to manage incident priorities and making decisions on an informed level of risk.

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. A risk-based offensive response to protect personnel, the environment or assets under threat may be taken if the risk is assessed as acceptable.

1.14 Deviation from Emergency Response Defined Events

These Ichthys LNG Facility emergency response procedures provide direction and guidance for actions to be carried out in any of the documented credible scenarios.

The ICHTHYS LNG Facility Emergency Response personnel shall not be limited by these procedures. The Incident Commander can implement other actions they determine which enhance safety and security of all personnel, protection of the environment or the integrity of the installation.

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2 PREVENTION

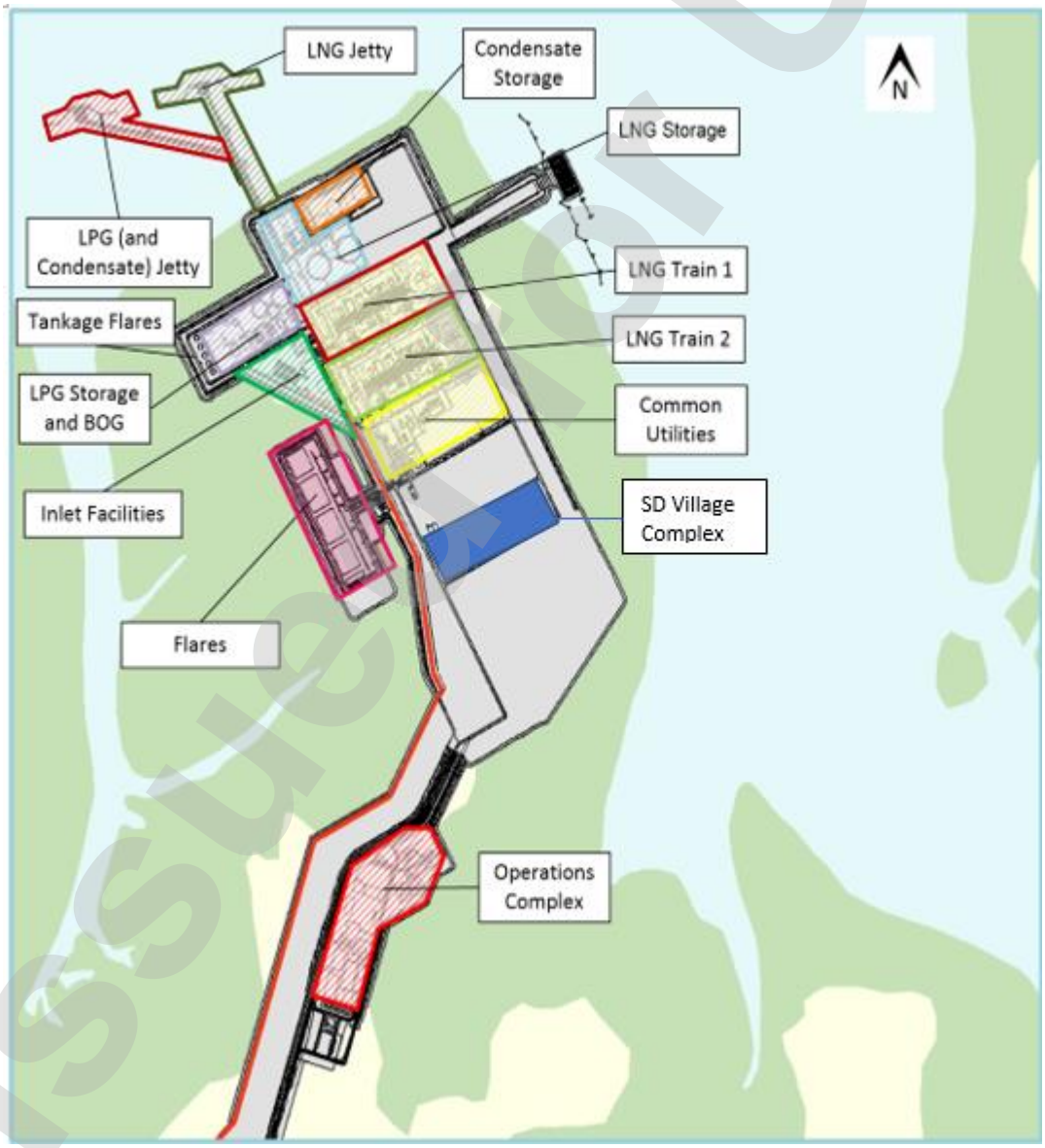
2.1 Facility Description

The ICHTHYS LNG Facility has three principle areas:

1. The LNG processing plant area where the two LNG trains, storage tanks and site utilities including power generation are located.
2. Jetty – adjacent to the LNG processing area- 2 jetties - LNG jetty and LPG/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



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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 ICHTHYS offshore facilities in the Browse Basin off the Western Australia coast. Remote activated GEP isolation valves are provided at the shore crossing beach valve on the western side of Middle Arm peninsular, approximately 8km from the facility, and at the facility inlet connection. The onshore component of the GEP is underground and surfaces at the inlet connection inside the ICHTHYS LNG Facility.

The inlet gas pipeline incorporates a pig receiver to enable pipeline cleaning and inspection, 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, CO_2 and H_2S. Dehydration to remove water vapour.
- 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^{0}C and is a cryogenic hazard.
- Following liquefaction, the LNG is stored 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 is collected, compressed and utilised either as fuel gas or recycled to the liquefaction system.

Relief, Flare and Vents System

Relief, flare and vent systems collect and safely discharge 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
- Tankage flare system - to handle LNG/LPG tank boil off and vapour return from ships

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- 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 16.9m 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 from the Combined Cycle Power Plant (CCPP). 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.

Maintenance staff are available 24/7 to safely implement any emergency power isolations required during emergency response operations.

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 provided by Uninterruptible Power Supply (UPS) systems to maintain continuity of supply to safety critical equipment including process control systems, facility communications and security systems.

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 network. Sufficient supplies on site for 4 days demand plus maximum firewater demand.
Fire water	Supplied from potable water system.

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Wastewater	Wastewater is collected and treated on site. Any water discharged to the environment meets legislative requirements.
	Rainwater discharge from areas exposed to possible hydrocarbon or chemical contamination are contained and effluent can be isolated and treated in order to prevent discharge of contaminants to the environment.

Product Storage

LNG

The LNG product is stored in 2 x 165,000m^3 LNG storage tanks maintaining LNG at cryogenic temperature (-160°C) just above atmospheric pressure. 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 85,000m^3 with propane stored at -41.6°C and the tank is 31.9m high and 67m diameter. The butane tank has a capacity 60,000m^3 (29.8m high by 59m diameter). Butane is stored at -5.2°C.

Condensate

Condensate is stored in 2 x 60,000m^3 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 6,500m^3 is used.

The condensate storage tanks, and the condensate buffer tank are all bunded. Bund capacity is 110% of the total volume of the largest tank.

Jetty Area

Offloading

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

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There is one-way access for the safe passage of export tankers at all stages of the tide from the East Arm Channel to the product loading jetties. Tugs will be available to assist tankers while approaching or departing from berths. One standby tug is available during loading operations and alongside within 30 mins of Loading Master's activation.

A designated waterside restricted zone is in place around the loading jetty to deter unauthorized vessel access.

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 jetty supply lines contain export hydrocarbon at all times. At all times, the waters immediately surrounding the ILNG jetties are gazetted as Closed Waters for safety purposes.

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

LNG Loading

Submerged LNG pumps (three per tank, with a nominal combined pump capacity of 12,000m^3/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 captures 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 45m^3 is provided to collect any LNG spills from the loading arms. A deluge system is provided on the pump manifold for fire protection.

Activation of low temperature detectors in the bund automatically shut downloading and initiate high expansion foam protection.

LPG Loading

Propane and butane loading are performed simultaneously via separate loading lines and arms. LPG is pumped from the storage tanks to the loading arms on the jetty via submerged pumps (two duty pumps with a nominal combined pump capacity of 2,500m^3/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.

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A containment bund is provided to contain an LPG spill from the loading arms. The bund slopes away to the rear of the loading arms and has 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.

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Condensate Loading

Condensate is pumped from the storage tanks via the loading line to the loading arms. Two pumps operate simultaneously with a third on standby. The two pumps combined have a nominal capacity of approximately 5,000m^3/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 and has 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 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 Shutdown Village Complex

The Shutdown Village (SDV) complex is in the process of being de-commissioned with office facilities re-locating. Limited internal access to Building C as a Muster Point is temporarily maintained.

The complex (excluding the Super dome noted below) has its own fire alarm and detection systems.

The complex also has its own fire water ring main system being serviced by 2 x water tanks.

Note: Opposite from the SD Village is the Super dome structure used as unmanned building for storing critical spares.

2.1.3 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
- Medical Centre
- Central Control Building (CCB)
- Radio Communication Building
- Laboratory
- Fire Station
- Warehouse; (see Hazardous Good storage)
- Workshops
- Canteen and training area
- Operations and Administration Building
- Hazardous Materials Store.

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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 (FGS)and associated systems necessary for operational control of the onshore plant, storage and loading facilities.

The CCR is continuously manned 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.

The Incident Commander (responsible for managing the facility emergency response) will be located in the CCR during an emergency. Display boards to record emergency incident response information are located at the rear of the CCR near the incident command console. 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'. The CCB also contains a back-up security control room.

Operations and Administration Building

The IMT (activated for any Level 2 emergency at the facility) assembles in the IMT Room located in the Operations Office. See Section 3.4.

2.1.4 Prevention Features in Facility Design and Operation

A range of controls and features in accordance with international codes and standards have been included in the facility design to mitigate potential loss of containment consequences. 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 initiated. Detection systems also automatically activate fire suppression systems.
- emergency shutdown systems designed to isolate sections of the equipment and limit the flow of flammable liquids/gases.
- emergency blowdown systems designed to rapidly depressurise hydrocarbons to the flare systems.
- active firewater protection systems in process and utility areas to assist in cooling and prevent escalation.
- a facility emergency response capability available 24/7 that can be deployed to any emergency situation.

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- strict control of potential ignition sources by the use of hazardous area classification, hot work permits, separation between flammable inventories and flares.
- bunding and drainage systems to drain liquid spills away from the process area and contain them to mitigate 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.
- Maximum use of natural ventilation in process areas to reduce explosion potential.
- location of operations and administrative functions remote from plant.

2.1.5 Shutdown and Process Isolation

Fire Zones Philosophy

There are 12 fire zones identified within the facility that are grouped according to the nature of activities/level of risk completed in the area (L290-AH-PHI-0005). As a basis of design for mitigation, Fire zones are segregated by distance (minimum 15m) so that a gas release, fire or explosion in any fire zone will have a reduced impact on adjacent fire zones. For each fire zone, isolation of hydrocarbon inventory is provided by dedicated shutdown valves initiated from the CCR (ESD-1).

The zones are:

- Inlet facilities area
- LNG train 1 area
- LNG train 2 area
- LNG tank area (each tank separately)
- LNG boil-off gas area
- LPG boil-off gas area
- LNG loading jetty head
- LPG tank area (each tank separately)
- LPG and condensate loading jetty head
- Condensate tank area (each tank separately)
- Refrigerant storage
- Common utilities (including combined cycle power plant but excluding flare area).

Each fire zone is further divided into active fire protection (AFP) zones. The AFP zones are defined by distance and barriers, including bunding and drainage to contain spills and prevent potential for pool fire spread, so that effects of fire are confined within a single AFP zone. Each AFP zone contains its own fire and gas detection system and deluge systems.

ILNG utilises HIMA (Safety Instrumented System) to manage Fire and Gas detection on site to support response and mitigation to address the areas

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identified in the Fire Zone philosophy. The FGS is located in the CCR and provides a macro to granular view of the ILNG.

Emergency Shutdown System

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

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 de-pressuring. 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 de-pressuring 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, and closes isolation valves. 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 de-pressuring controls are central to safe operation of the facility and will be closely monitored in any processing, storage or loading area emergency.

Emergency Depressurization

The Emergency Depressurization (EDP) System is designed to rapidly de-pressure specific sections of the plant via the flare system in accordance with API RP 521. Generally, the de-pressuring 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 de-pressuring 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.

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2.1.6 Active Fire Suppression Systems

The facility firewater ring main comprises two jockey pumps and three diesel fresh water pumps. Combined, the system can deliver 1200 Kpa at 1789m3/hour (29,800 litres/min)

Pumps to maintain fire water availability will start automatically.

The Firewater Tank (L790-T-001) has a capacity of 22,000m3, sufficient to provide fire water coverage for one LNG train fire for the design specification of continuous fire water supply for four hours or a condensate tank rim seal fire for 12 hours. In addition, the service water tank (L-710-T-001) provides 100% backup storage capacity for the firewater system.

Fire hydrants are fitted to the firewater ring main 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 2.1 lists the fire suppression capability available at facility locations.

Table 2-1: Summary of ICHTHYS LNG Facility Fire Suppression Systems

Location	Fire Protection System Type	Actuation	Initiation
Inlet Facilities	Spray System and Oscillating Monitor	Automatic	Fire Detection
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
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

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Location	Fire Protection System Type	Actuation	Initiation
LNG BOG	Spray system	Automatic	Fire Detection
	High-expansion foam system for LNG impoundment basin	Automatic	Spill Detection, Fire Detection
LPG Storage Tanks	Spray system for top side facilities on full-containment tank	Automatic	Fire Detection
LPG BOG	Spray System and Oscillating Monitor	Automatic	Fire Detection
Refrigerant Storage and Tankage Flares	Spray system for propane refrigerant storage tank	Automatic	Fire Detection
	Fixed monitor	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
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
Utilities	Fixed monitor	Manual	Local
Gas Turbines	CO_2 extinguishing system	Automatic	Fire Detection
Buildings	Portable fire extinguisher	Manual	Local

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Location	Fire Protection System Type	Actuation	Initiation
Transformer Yards	50 kg Wheeled Dry Powder Extinguisher	Manual	Local
Compressor (Lube Oil System)			
Impoundment Ponds			

2.1.7 Fixed Foam Systems

Table 2-2 lists the capacity of the facility's fixed high and low expansion foam systems.

Table 2-2: Fixed Foam Systems Capability

Fixed Hi-Expansion Foam Systems						
Location	**Tag no.**	**Foam type**	**Impoundment pond surface area**	**Foam tank size**	**Foam volume to meet performance standard***	**Estimated time to reach 1m foam depth**
LNG BOG	790-Y-005	Expandol	20 m^2	360L	250L	<15 seconds
LNG Jetty	790-Y-004	Expandol	16 m^2	360L	250L	<15 seconds
LNG Tank	790-Y-003	Expandol	24 m^2	360L	250L	15 seconds
Train 1	791-Y-001	Expandol	107 m^2	360L	250L	60 seconds
Train 2	792-Y-001	Expandol	107 m^2	360L	250L	60 seconds
Note * (Minimum foam volume needed to discharge for 30 minutes when proportioning @ 3.25% and flow of 250LPM)						

Fixed Low Expansion Foam Systems							
Location	**Tag no.**	**Foam type**	**System**	**Arrangement**	**Average foam/water solution flow rate**	**Foam tank size**	**Foam volume required to meet performance standard^**
Condensate tanks	L-790-Y-051	Tridol S3C6	Rim seal foam system for tank 1,	*Tank 1* 8x foam pourers	1800 LPM	2000L	1300L

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			tank 2 and tank 3	*Tank 2* 8x foam pourers	1800 LPM		
				Tank 3 3x foam pourers	750 LPM		
Condensate /LPG jetty	L-790-Y-052	Tridol S3C6	Foam monitor	2x foam/water monitors	6400 LPM	8000L	5000L
Note ^ (Minimum foam volume needed to discharge for 20 minutes when proportioning @ 3.5%)							

2.1.8 Emergency Response Infrastructure

Firefighting

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

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 hose-reel
- Foam tank 3,700 litres (Non PFAS/PFOS)
- Foam proportioning, single point injection
- Roof-mounted remote foam monitor (60m throw at 1000kpa / 10 bar)
- Breathing Apparatus, gas monitoring 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 (Non PFAS/PFOS)
- Fixed oscillating firewater monitor
- Foam proportioning unit

HAZMAT Trailer

- Fully encapsulated splash suits

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- 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.
- Other materials as updated from time to time

Emergency Response Vehicle

- Command and control platform
- Tow HAZMAT trailer

2.1.9 Medical Facilities & Medic Availability

The medical centre is located within the gatehouse and is the main location for the assessment and stabilisation of injured or ill personnel.

A first aid room (FAR) is fitted out and available at the Shutdown Village, Building B and may be manned with medical personnel during a shut or campaign where additional medical support is required.

Ambulance

A site ambulance is located at the Gatehouse and is to be used to retrieve injured personnel and transport them to the site medical centre for assessment and treatment. Transport of injured /sick personnel from site should always be conducted by the appointed NT Ambulances services.

The ILNG ambulance may be used for off-site transport to offsite medical care at the discretion of the OTL. If so, lights and sirens shall not be used and the authorised driver shall adhere to local speed limits. No speeding, even for medical emergencies.

Medic Availability

A Medic is on duty 24/7. Medics are supported by Occupational First-Aid trained personnel also available 24/7, provided from within ERT and the Security guard force. .

In the event a site medic is unavailable, the duty OTL shall at their discretion determine if site activities should be limited until the medic is re-established.

Activities for the OTL to consider limiting in the absence or active deployment of the medic include:

- HV switching
- BA/Gas work
- Confined Space Entry
- Any breaking of containment or activity with an increased risk of LoC & subsequent MAE event

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- At height scaffold or rope access with a complex rescue (suspension trauma risk)
- Critical lifts
- Unusual / first time activities that have a higher degree of uncertainty

Security Occupational First Aider (OFA)

Security Officers maintain OFA qualifications with a primary and secondary team member rostered on each shift to provide support to the Medic if required.

The primary responsibility of the Security OFA is driving the site ambulance on behalf of the Medic.

At any time at least one OFA is to be on hand at the gatehouse facility to support the Medic. In the event circumstances prevent this, the Security Team Leader will advise the Medic.

Further OTL considerations:

- Stage of work underway – is the lowest risk option to stop the activity or complete the scope if cannot be left in an unsafe condition?
- Where high risk activities continue, determine available personnel on site with Occupational First Aid training and advise them of the medic status and prepare and agree a dedicated medical response in the absence of the normal medical response.

2.2 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].

2.3 Risk Management

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.

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2.3.1 Compliance with Legislation and Codes

The design construction and operations of the ICHTHYS LNG Facility complies with Commonwealth, 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 is 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, in the event of an elevated threat.

The management of security-related events, such as unauthorised access and criminal activity are addressed in the ICHTHYS Port Facility Security Plan.

2.4 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 day 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.

All radio communications, General Alarm, security intercom and selected CCR emergency telephones are recorded on an emergency voice recorder system.

A standalone satellite phone is available in the CCR and is routinely tested for use during an emergency if required.

2.5 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

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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).
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	3,800t *(1,900t per train)*	Each LNG train contains approximately 1500t of flammable hydrocarbon liquids and 400t of hydrocarbon vapour, including natural gas, LPG, LNG and condensate.

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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.)		**327,550t**	Approximate maximum total quantity of hazardous hydrocarbons on site.

2.5.1 Other Hazardous Materials

A range of chemical substances that are not classified as Schedule 15 chemicals are present at the facility, including:

- 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)
- significant battery inventory
- molecular sieve adsorbent
- mercury removal absorbent
- laboratory chemicals

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- cleaning products
- paints and thinners
- Corrosives stored in 1000L IBC's
- Sodium Hydroxide – WWTP, Demineralisation Plant, CCPP
- Sulphuric Acid (98%) - CCPP
- Ferric Chloride – WWTP
- Ammonium Hydroxide (19%) - CCPP
- Tri-Sodium Phosphate (5%) - CCPP
- Biocide – CCPP, Cooling Medium Dosing
- Corrosion Inhibitor – CCPP, Cooling Medium Dosing
- Sodium Metabisulphite (30%) - Demineralisation Plant
- Hydrochloric Acid (32%) 20L Pails - Demineralisation Plant

2.5.2 ILNG Hazardous Goods Storage Facility

The ILNG Hazchem Facility provides onsite storage for a range of chemicals in separate buildings, bunded 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.

2.5.3 Hazardous Chemical Manifest

A manifest is maintained of all hazardous chemicals present (compliant with the manifest requirement volume), including type, quantities and storage location. This information is available 24/7 at the Security Gatehouse.

Safety data sheets (SDS) for chemicals used and stored on site is available via the ChemAlert database.

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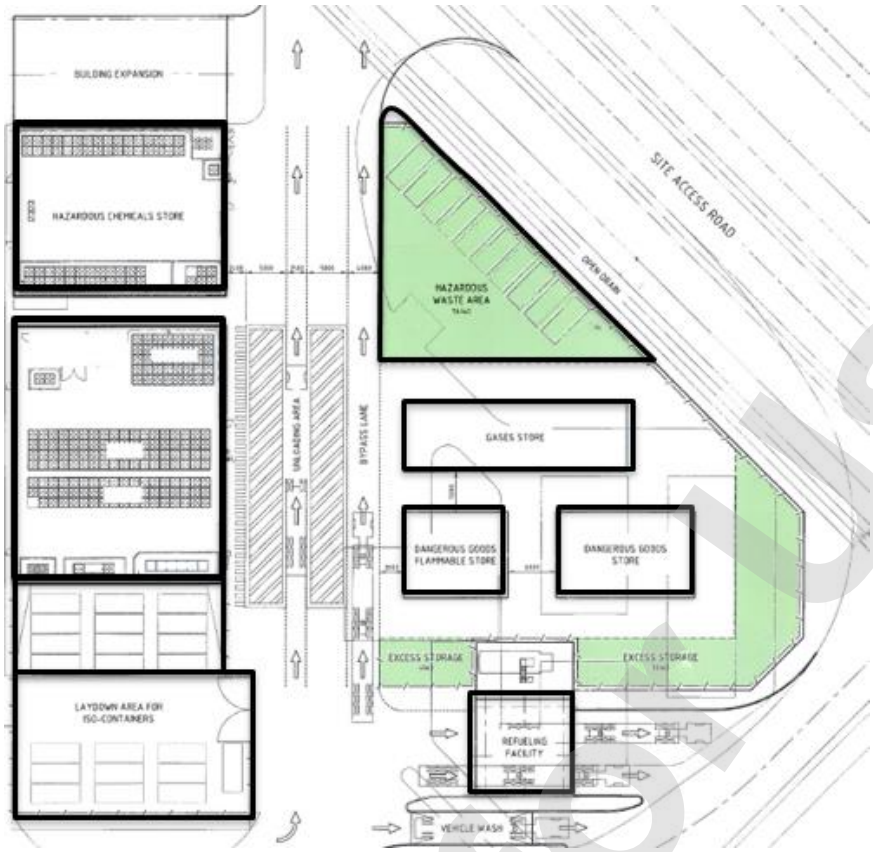

2.6 Hazards and their Potential Impacts

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

2.6.1 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.

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 4.6.

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

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

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

MAE REF	Hazard	Emergency Situation Resulting (from Safety Case Bow Tie Analysis)	ICHTHYS LNG IMG Number
01	Hydrocarbon Loss of Containment Onshore Pipelines (GEP & PWC)	• Unignited HC vapour release • Flash fire • Jet fire • Vapour cloud explosion • Projectiles	***IMG 1& 1A*** LoC Onshore Pipelines (GEP & PWC)
02	Hydrocarbon Loss of Containment Inlet Facilities	• 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) ***IMG 2b*** LoC Inlet Facilities (Pig Receiver)
03	Hydrocarbon Loss of Containment Utilities and CCPP	• 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	• 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		• Unignited HC vapour release • Unignited HC liquid release • Flash fire • Jet fire • Pool fire	***IMG 5*** LoC LNG Boil-off Gas

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MAE REF	Hazard	Emergency Situation Resulting (from Safety Case Bow Tie Analysis)	ICHTHYS LNG IMG Number
	Hydrocarbon Loss of Containment LNG and LPG BOG	• Vapour cloud explosion • BLEVE	***IMG 5a*** LoC LPG Boil-off Gas
06	Hydrocarbon Loss of Containment LNG and LPG Storage	• 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	• 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	• 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	• 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	• Unignited HC liquid release • Pool fire	***IMG 10*** LoC Heating Medium
11	Loss of Containment CCPP Steam	• Catastrophic Failure of HP steam pipework leading to a fatality • LP Steam / Feedwater burns leading to a fatality	***IMG 11*** LoC Combined Cycle Power Plant

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MAE REF	Hazard	Emergency Situation Resulting (from Safety Case Bow Tie Analysis)	ICHTHYS LNG IMG Number
12	Failure of Hydrocarbon Disposal Function (Flare)	• Unignited HC vapour release • Flash fire • Vapour cloud explosion	***IMG 12*** Disposal Function Flare

2.6.2 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 4.6.

Table 2-5: Non-MAE Events

Non-MAE Scenario	**ICHTHYS LNG IMG Number**
LoC Gas Export Pipeline (Upstream of Beach Valve)	IMG 13
Serious Injury/Illness	IMG 15
Multi Casualty Event	IMG 16
Hazardous Material Release Non-Hydrocarbon related	IMG 17
Building Fire	IMG 18
Spare	IMG 19
Export Tanker Emergency at Jetty (non-cargo related)	IMG 20
Export Tanker Spill at Jetty	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
Biosecurity	IMG 26
Incident Adjacent to Facility	IMG 27
Rescue from Height, Confined Space and Entrapment	IMG 28
Missing Stranded Persons	IMG 29

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Non-MAE Scenario	ICHTHYS LNG IMG Number
Security Criminal Acts/Sabotage	IMG 30
Security Maritime Security Incident	IMG 31
Security Unauthorised Access/Trespass	IMG 32
Security Bomb Threat & Suspicious Packages	IMG 33
Security Active Shooter	IMG 34
Security Manage Remote Piloted Aircraft Systems (RPAS) Intrusion	IMG 35 (new yet to be developed)

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3 PREPAREDNESS

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

ERP Validation	Conducting regular exercises to validate emergency planning. Participation of contractors, emergency services and other key emergency response stakeholders is encouraged.
Emergency Preparedness Assurance	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.
Competency Management	Emergency response personnel complete specialised training and competence maintenance activities to enable them to complete their allocated emergency roles effectively and safely.
Emergency Plan Analysis and Continual Improvement	Analysis of all emergency response events, training activities and exercises to identify any aspects within the emergency plan that require to be amended. A focus on continual improvement.
Emergency Plan Review	Regular scheduled reviews, at least annually, of the emergency response plans and processes in conjunction with key emergency response stakeholders so emergency processes remain current.
Emergency Plan Accountabilities	The Operations Production Superintendents are accountable for ensuring the implementation of this plan, including communicating with the Operations domain all updates, revisions and changes. The Operations Production Superintendent may delegate aspects of this plan to the Production Team Leads for implementation.

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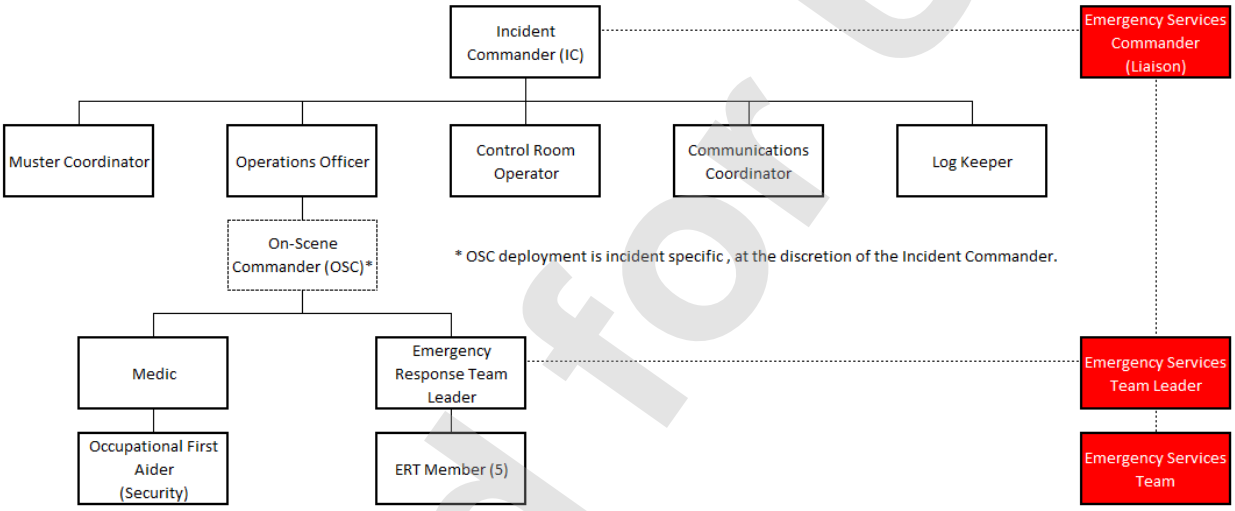
3.1 ERT functions and structure

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. The ICHTHYS LNG ERT structure is displayed in Figure 3-1.

The IC is supported by team members in the CCR and an emergency team deployed to the scene that physically performs the emergency response tasks. For complex incidents and where external agencies are being deployed in support, the IC may stand up an On Scene Commander (OSC)

The IC must inform the IMT leader of any incident that impacts or has the potential to impact the facility and/or INPEX as identified in Table 3-1.

Figure 3-1: ICHTHYS LNG ERT Structure Diagram



Should the IC assess that the emergency will require additional operational management support, including provision of additional support outside the facility-based resources, the Darwin Incident Management Team (D-IMT) may be activated *(Level 2)*.

The decision to activate the D-IMT will occur following consultation between the IC and D-IMT Leader.

The D-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 requires strategic level support. (Level 3). A matrix to assist in the classification of the level of emergency is available in Table 3.1.

3.2 ERT Roles and Responsibilities

Checklists detailing the responsibilities for all ERT positions illustrated in Figure 3-1 are located in Appendix A.

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ERT personnel within the CCR 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. (See Section 3.13)

3.3 Security Functions and Organisational Structure

The Operations Superintendent is responsible for the management of security threats at the ICHTHYS LNG facility in accordance with the facility's Security Plan. The Corporate S & EM and HSE elements will provide the required technical support and structures to address and manage these risks in support of the Operations Superintendent.

A Port Facility Security Officer (Operations Superintendent) is in place in accordance with the Ichthys LNG Facility Maritime Security Plan-L060-AH-PLN-60048

Contracted security company personnel undertake the day-to-day security management duties. Duty security personnel have the following duties:

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

The duty security personnel monitor and operate the following facility systems.

- E-mustering system
- Access control system
- Video Assessment System / long-range camera (Ben's Hill)
- Fence Intrusion Detection System (FIDS)
- Pipeline Intrusion Detection System (PIDS)
- Public Address General Alarm
- Long-Range Acoustic device (LRAD) and High-Intensity Searchlights on jetty, if directed

In an emergency situation, the duty Security Team Leader will provide support as required.

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Table 3.-1: Emergency Event Classification and Escalation Guidance Table

INPEX RESPONSE	Emergency Response Team		
	Must Inform	Incident Management Team	
		Must Inform	Crisis Management Team
Severity Level	Level 1	Level 2	Level 3
People	• Minor Injury • Lost Time Injury • Non-Urgent medevac	• Serious injury • Multi casualty event	• Multiple serious injuries • Fatality
Environment	• Any loss of containment to land, air or water that can be resolved with local or first strike resources • Single jurisdiction response	• 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 • Multi jurisdiction response	• Catastrophic failure or major releases • May require national and international response • High degree of complexity, requires strategic leadership
Assets	• Minor fire (non-process area) • Adjacent incident threatens facility • Minor protest at facility • Attempt to gain unlawful entry	• Any fire in process, storage or loading area • Local emergency services attendance • Large demonstration at facility • Forces entry to facility	• Major fire and/or explosion • Widespread damage to facility • Offshore facility abandonment
Reputation	• Immediate vicinity public concern	• Local media attention • Extensive negative national media attention	• Likely to attract national or international public attention • Potential for extensive negative international media attention • Significant loss of confidence in INPEX Operations
Severity	• No or minimal production loss • Breach of internal standards minor issues • Potential for minor fines • Industrial relations issues	• Potential for extended production loss • Serious or potential significant breaches to operating licence conditions • Potential significant litigation and fines	• Facility Shutdown Potential for: ➢ Significant financial loss ➢ Civil prosecutions and class actions ➢ Heavy fines and threat to operating licence and future approvals • Criminal prosecution and potential prison sentences for Directors and Senior Personnel

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3.4 Facility Emergency Control Centres

ERT

- The IC will operate from the Central Control Room (CCR) in the Central Control Building (CCB).
- A number of smaller break-out rooms in the CCB can be used to coordinate incident response as required.

IMT

- When the D-IMT leader classifies a facility emergency as a Level 2 incident, the D-IMT will assemble in the IMT Room (*Damabalia Room*) in the Operations building. This room has equipment required for the IMT to support an incident response at the facility.
- The Operations building facility allows for break-out and the expansion of the IMT in the event of a sustained event or expansion of manning to include external agency representatives.

Both emergency centres are located in the Operations Complex and removed from the facility processing and storage areas. These buildings are constructed to withstand extreme weather events (up to Category 4 cyclones) and powered by an uninterruptible power source.

3.5 Site Emergency Alarm Systems

3.5.1 Detection and Activation – Process, Storage, Utilities and Jetty Areas

The facility's emergency alarms can be activated by:

1. Automatic detection systems (including flammable gas and infrared flame detectors), thermal detection (high temperature), H_2S, CO_2, low temperature (cryogenic warning) and aspirated smoke detection in high reliability functional areas for early warning.
2. 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.
3. Manual initiation by persons activating manual call points that are located throughout the facility. A manual alarm will activate a GA in the area where the alarm was activated.
4. Manual operation from the CCR.

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3.5.2 Site Emergency Alarm Action

On automatic activation of the general alarm, the CRO will identify the initiation event and location. The specific response will be guided by the relevant Incident Management Guide (IMG). ERT Role Checklists (Appendix A) describe specific responsibilities by appointment.

3.5.3 Site-wide 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 also operate. General actions to be completed on activation of the GA are detailed in Section 3.5.4.

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

The PAGA is a completely dual redundant system to provide continuous functionality upon any system component failure. The PAGA also interfaces with the facility's digital radio network so PAGA announcements are also transmitted across the radio network.

The PAGA operates in three modes, ALERT, MUSTER and ALL CLEAR.

Templates for PAGA site and local area emergency announcements is detailed in Appendix C.

3.5.4 General Actions on Emergency Alarm

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

Table 3-2: Emergency Alarms

ALERT tone (Individual fire zone alarm)	An abnormal condition has been identified. A local alarm will operate. Local operators will investigate alert and verify with CCR. All other personnel will make work area safe and proceed to the designated muster point. Wait for further instructions.
MUSTER tone (Site-wide alarm)	Personnel will: • Stop work, make work area safe and proceed to the nearest designated muster point, taking personal water bottle.

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	• On route to muster, listen for any supplementary information on emergency. This may include information to avoid a particular location due to impacts of the emergency. • Swipe reader and positively confirm registration at muster point. Await further instructions from local Muster Warden. . • Vehicles are not to be used *(unless approved by the Incident Commander)*. They are to be parked, unlocked with keys left in the ignition. Vehicles required for emergency response will display magnetic signage. • 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.
ALL CLEAR tone	Personnel are safe to leave the muster point and return to their workplace or as instructed by the CCR. All permits are to be revalidated prior to re-commencing work.

The PAGA will sound the emergency alarm in Operations Complex buildings for site-wide emergencies. In addition, Operations Complex buildings are fitted with standalone detection and emergency warning system for an emergency that occurs within that building. See Section 3.7.

3.6 Site Muster Arrangements

3.6.1 Muster Points

Muster points are located across the ICHTHYS LNG Facility to provide a safe area for personnel to shelter and await further instructions during an emergency. Each muster point is equipped with a E-muster card reader (ACS) and telephone to communicate with the CCR.

The size and facilities at each muster point accommodate the maximum estimated number of personnel in the area.

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. Life jackets are available at the jetty area muster points.

The Incident Commander will consider the need to move personnel from designated muster points to an alternate location as appropriate. Whilst at Muster the most senior person can take the lead to request, from the Incident Commander, to move personnel to alternate location for the purposes of providing additional safety and/or welfare amenity.

The location of muster points are defined below and illustrated in Figure 3-2.

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3.6.2 Muster Point Locations

Plant Processing Area[2]

- Muster Point 1 - LNG jetty head; and
- Muster Point 2 - LPG and condensate jetty head
- Muster Point 3 - LNG storage tank area
- Muster Point 9 - south of the common utilities area
- Muster point 15 - Shutdown Village, Building C

Muster Points in Operations Complex

- Muster Point 5 - inside the CCB
- Muster Point 6 - inside the operations office
- Muster Point 7 - inside the warehouse
- Muster Point 8 - inside the workshop
- Muster Point 10 – inside the Canteen building
- Muster Point 11 – inside Security gatehouse
- Muster Point 12 - inside fire station (for emergency team use)
- Muster Point 13 - inside the laboratory

In the event of SIMOPS, additional Muster Points maybe established which will be detailed as a separate instruction and communicated across the Ichthys LNG Facility.

3.6.3 Tanker Alongside during Muster

Where a muster occurs while a tanker is alongside, the CCR will inform the vessel Master. All INPEX personnel (including agents) will remain on the vessel and provide names of facility personnel on the ship so they can be removed from the facility's e-muster system.

The vessel Master is responsible for the safety of all personnel on the vessel.

In the unlikely event, the vessel Master orders personnel to evacuate the vessel, all ship personnel and INPEX personnel onboard will muster at the closest safe muster point.

Figure 3-2: Facility Muster Points

[2] Note Muster Points 4 and 14 have been de-commissioned.

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3.6.4 Facility Evacuation Processes

If the IC 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.

An evacuation may require the ERT to escort personnel from muster points. The method of evacuation will be staged to ensure movement away from the risk and will primarily be on foot. Arrangements will be communicated by the CCR via the PAGA and facility radio network.

If required, all site personnel can assemble inside the boundary fence adjacent to the site entry turnstile at the Security gatehouse. Generally, due to the segregation between the designated muster areas and process areas, emergency evacuation of the site is considered unlikely. The IC and the IMT will consider options for evacuation based on the inherent safety priorities at the time of the incident. A staged evacuation of processing area personnel to the Operations Complex – Bento messing facility and training centres is considered the most plausible and likely outcome.

A desktop discussion exercise scenario to review processes for facility evacuation (or withdrawal to Operations Complex area) is included in the facility Level 2 exercise program.

3.7 Individual Operations Complex Building Alarms – Detection and Warning

Buildings in the Operations Complex are fitted with automatic addressable fire alarm detection systems that are standalone *(independent of the site GA and separate from adjacent buildings).* Each building's standalone alarm is connected to an emergency warning system within the building to alert occupants.

Activation of the detection system may shut down 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.

Each Operations Complex building has a Fire Indicator Panel (FIP) at the building entrance. Individual building FIPs are connected to a master FIP (MFIP) located in the entrance of the Central Control Building.

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

There are no fire alarm mimic panels at the Gatehouse and the ERT (or NTFRS if mobilised) 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.

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Standalone building HVAC systems are tested in accordance with AS 1851.

3.7.1 Individual Operations Complex Building Alarm Activation – Emergency Evacuation Procedures

Should an alarm be activated within an Operations Complex building, the building's independent internal emergency warning system will operate. When that alarm is activated, an automated verbal direction to evacuate the building will also be activated. Personnel shall move safely to the building's designated emergency assembly point.

The internal electronic muster verification system is not intended to be used during these local building alarm events.

Designated Building Wardens have been appointed for each Operations Complex building to verify that all personnel vacate the building and assemble at the building's nominated emergency assembly point.

ERT 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 shall be at the direction of the IC.

Individual building evacuation drills are completed annually in accordance with AS3745-2010.

3.7.2 Building Wardens and Clearance Process

Building Wardens will check all areas of the building to confirm all occupants have evacuated and moved to the assembly area.

If a person is injured or unable to be moved, the Building Warden will notify the IC of their position and the ERT will be despatched to assist.

After all areas are confirmed as cleared, the Building Wardens must notify the IC 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 or attempt to extinguish a fire. Their primary role is to raise the alarm, ensure personnel move to the building's designated building assembly point and notify the IC of the situation who will deploy emergency response personnel to the scene. Building wardens complete annual refresher training in accordance with AS3745-2010.

3.8 Emergency Procedures

Specific detailed procedures to provide the facility's emergency responders guidance on actions required to safely respond to credible emergency events identified during emergency planning. See Section 4.6 in the Response Section of this ERP.

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These procedures contain both MAE and non-MAE Events as classified in Section 2.6.1 and 2.6.2.

Emergency procedures are also tested as part of the facility's emergency drills and exercises to verify their effectiveness.

3.9 Emergency Response Performance Standards

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

Emergency Response Function	***Performance Standard***
All personnel to be assembled at Muster points	30 minutes from Muster Alarm activation
Muster status confirmed for site (collated across all muster points)	40 Minutes from Muster Alarm activation
ERT members assembled at Fire Station	10 minutes from Muster Activation
Medic deployment	10 minutes from request to deploy

3.10 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 Operations Production Superintendent is the primary contact for emergency service planning and liaison.

Group / Agency / Emergency Service	Emergency Response Interface
NT Police, Fire Emergency Services (NTPFES)	Incident Coordination during a significant emergency at the Facility.
Bladin Village	Potential staging point for external response agencies
Darwin Port	Marine emergencies within or impacting Darwin port waters.

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Group / Agency / Emergency Service	Emergency Response Interface
NT St John Ambulance Service	Providing medical support for significant medical emergency at the Facility or transport for injured/illness personnel from site
Northern Territory Fire and Rescue Service (NTFRS)	Providing firefighting, rescue and hazardous material response support
Santos	Adjacent facility that may provide emergency support. – where required

When requested, a copy of the ERP is made available to the emergency service organisations and agencies that may be involved in supporting an emergency response at the facility. A hard copy of the plan is also available in the CCR and the IMT room for use during an emergency.

3.11 Community Communication during an Emergency

Where there is potential for an off-site impact during an incident, the Incident Commander in consultation with the IMT Lead will need to advise Northern Territory Police, Fire and Emergency Services (NTPFES) in order to issue timely alerts to the adjacent community.

NTPFES have access to a multi-platform community warning system to provide timely release of emergency information to people in locations that may be impacted. The Incident Commander/IMT Lead (or delegate) will liaise with NTPFES to ensure the potential impact is understood and, in all cases, the geographic area for the impacted defined.

NTPFES 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 3-3 below.

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Table 3-3: 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 community 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 safety.
Emergency Warning	**1** ***High Threat***	You will be impacted by the emergency. You are in danger and must take action immediately.

External Affairs and Joint Venture are responsible for all other delivery of timely effective communication and interfaces with internal & external stakeholders during an emergency or crisis event. INPEX Australia Crisis Management Plan [0000-A0-PLN-60004] further details roles and responsibilities to support INPEX's incident and crisis management communication arrangements.

3.12 Facility Emergency Response Assurance

An emergency assurance framework is in place to maintain the facility's preparedness and capability to effectively manage credible potential emergency scenarios. Assurance activities are completed at facility level with specialist support from the HSE S&EM team.

The assurance framework is based on three pillars:

- Competent emergency responders
- Emergency plans and processes are effective
- Fit for purpose emergency response equipment

3.12.1 S&EM Assurance Support

As part of the ongoing emergency response advice and support HSE S&EM Team provides to operational facilities, an S&EM Team Lead will undertake an ER assurance visit and inspection at least once per quarter.

During each visit the S&EM Team Lead will:

- Observe the ERT complete a challenging emergency exercise and provide feedback, coach/mentor as required to enhance ER capability and confidence of personnel.
- Review effectiveness of skills management activities and Level 1 exercises being completed and adjust for any new hazards.
- Monitor facility review of IMGs and provide support as required.
- Inspect serviceability of emergency response equipment to verify it remains in a fit for response condition.

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- Undertake additional assurance support as requested by the Operations Production Superintendent.

S&EM visit schedule will maximise opportunities to review different shifts.

At the completion of each inspection visit, the S&EM Team Lead will have a close-out session with the Operations Production Superintendent to discuss inspection findings. A subsequent report will confirm findings and agreed improvement actions.

3.13 ERT Training and Competency Requirements

All ERT members shall undertake the following.

3.13.1 ERT Training

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 (PMASS00022 Incident Response Team Member).

Training will include (but not limited to) incident command, firefighting, rescue andfirst-aid in line with allocated ERT roles. ERT Competency requirements are listed in the Incident and Crisis Preparedness Plan – Appendix B

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.

Specified competencies that require re-certification have been identified.

3.13.2 ER Skills Maintenance Program

ERT skill proficiency is maintained by ERT personnel completing a skills maintenance program.

ER personnel shall undertake training and drill activities to retain proficiency in equipment and emergency processes used in their emergency role.

One (1) ER skills maintenance activity per swing will be completed as per the annual program.

Activities will have specified training outcomes and where possible performance indicators to guide the proficiency requirements to be maintained.

The ER focal point for each shift will coordinate the development and revision of the scene responder's skills maintenance program. External 3rd party professional ERT responders may be utilised to help maintain skill proficiencies.

Operations Team Leads (OTL) or the Control Room Specialists will be responsible for prompting the ER skills maintenance requirements for CCR personnel with emergency response duties as per the matrix.

3.13.3 Emergency Drill Program

A program of Level 1 drills that review the effectiveness of ER processes to simulated credible emergency scenarios shall be conducted as per (Need to insert Ref here).

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Each shift will complete one (1) Level 1 exercise every swing.

A holistic evaluation of the emergency response will include observations of the actions of CCR personnel and scene response ERT. Exercise validation includes reviewing the completeness of information contained in the IMG to guide the emergency response to this event type.

Over a 36-month period, each defined event identified in this ERP aligned to the IMG's shall be practiced by each shift.

The OTL shall review each Level 1 drill and identify recommendations for corrective actions to improve emergency response effectiveness. See Section 3.17

To retain currency, ERT personnel are required to complete a minimum of 70% of planned annual ERT skills maintenance program activities as per section 3.13.2 and emergency drill program activities as per section 3.13.3. These shall be tracked in approved INPEX systems.

3.14 Level 2/3 Exercises

One major Level 2/3 exercise shall be conducted on an annual basis and incorporate the Company IMT/CMT and external agencies as per Company Emergency and Crisis Management Standard [0000-AH-STD-60051] to test information flow and interoperability.

3.15 Skills Maintenance and Drill Requirements

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

- All MAE scenarios defined within the facility Safety Case are to be exercised.
- Exercises should incorporate credible association scenarios, including system failures that could occur both as a result of the initial incident and/or as a result of an escalating event impacting that system.
- 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 skills maintenance activities (training) and exercises shall be maintained, including any notes, meeting minutes.

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3.16 Post- Drill / Exercise and Incident Debriefs to Identify Continual Improvement

Debriefing meetings shall be facilitated by the IC following all incidents and Level 1 exercises. 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 or incident reports, debriefing meeting minutes, lessons learned, and actions shall be kept in the company Document Management System and made available to personnel when requested. Identified Corrective Actions and Improvement Opportunities are to be captured in the relevant action tracking system.

All relevant emergency procedures used for drills and exercises shall be discussed, as required, in debriefing meetings. Any required changes to emergency procedures/IMGs shall be made via the Management of Change procedure.

3.17 Plan Validation

This ERP and IMGs will be validated by the following:

- 1 x muster alarm check per week *(no muster)*
- 1 x Level 1 exercise per swing where simulated emergency scenario based on selected IMG(s) will evaluate the team's ER effectiveness.
- 1 x training session where skills and drills are practised per swing which increases the individuals ERT capability.
- 1 x full-site muster drill per quarter (a full-site muster during an actual emergency can be included)
- 1 x Level 2 exercise per annum

3.18 Record Keeping

All skills maintenance training and Level 1 emergency exercises shall 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.

Level 1 exercise records will be retained in Ops Haart so management assurance reports can be produced as required to demonstrate facility emergency preparedness.

3.19 Monitor and Audit

In accordance with the Company's Emergency and Crisis Management Standard [0000-AH-STD-60051], 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.

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3.20 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 as per company standard, 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, personnel changes 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
- consultation with support agencies and emergency services identifies changes to emergency support arrangements
- findings of audits, emergency reporting or communication changes which affect the ICHTHYS LNG Facility.

Where there is a change in statutory responsibilities, INPEX will ensure that the ERP aligns and will consult with the respective Emergency agencies.

The ERP Custodian (Operations Production Superintendent) with support from the S & EM team will ensure the ERP review is completed collaboratively with Onshore Operations as the end users of the plan.

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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 personnel safety in the vicinity of the emergency.

An emergency can be reported by:

- TETRA Radio by activating the (orange) emergency button
- via the designated emergency number **8888**
- via telephone **8983 8888**
- activating a manual call point or activation of automated fire and gas detection.

All these systems are 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 and developed for the Facility ERT. See Section 4.6.

4.3 Formation of the ERT

The Incident Commander will determine when the ERT is to be assembled.

The Incident Commander will operate from the incident command console at the rear of the CCR. The Incident Commander is supported by an Operations Officer, Control Room Operator, Communications Officer, Muster Coordinator and a Log Keeper. 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 only deploy emergency teams to the incident scene if it is safe to do so.

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Primary responsibility for Muster Coordination will be with the Operations Technician Production as identified by the IC (See Appendix A), operating from the CCR. Security will be designated as a backup function operating from the Gatehouse, reporting to the Communications Officer if activated.

On activation of the ERT, the Emergency Response Team Leader (ERTL) will initially report to the CCR and receive a briefing from the Incident Commander. This will include the incident priorities and strategies and designate a safe route to approach the emergency scene in the event of a loss of containment. The ERTL 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.

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

4.3.1 On-Scene Commander

The Incident Commander will consider appointing an On-Scene Commander when the incident is:

- significant / involves multiple significant hazards
- complex due to multiple response teams deployed, or
- when external emergency services are required to assist with emergency response operations

The On-Scene Commander, in these situations acts as the interface between the Operations Officer and the ERTL. This allows the ERTL to remain task-focussed.

On activation, the On-Scene Commander will initially report to the CCR 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 in the CCR and emergency team leaders at the incident scene.

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 facility emergency.

4.4.1 Notifications

The following notification thresholds have been established in order to notify the relevant Emergency Services agency of events impacting ILNG.

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Agency / Emergency Service	Notified when the following occurs	Method of notification
NT Police	Facility security threat/ fatality on site	Phone call to 000
NTFRS	Emergency such as Rescue, HAZMAT, Fire requiring external assistance	Phone call to 000
St John Ambulance	Medical emergency where one or more persons are likely to require transport to offsite medical care	Phone call to 000
Darwin Port Harbour Control	Spill to port waters Any waterside security events Any emergency involving a vessel at the jetty or in the turning basin	Phone call to 08 8919 0821

4.4.2 Emergency Service Attendance at Facility

When emergency service personnel or resources attend a facility emergency, they are to be escorted to the incident scene.

Prior to deployment to incident scene, the Incident Commander is to ensure all external response personnel will be given a briefing including 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.

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 ERT 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 Commander.
- The Incident Control function will either be performed by the ICHTHYS LNG Incident Commander or the senior representative in attendance at the facility from the agency that has statutory responsibility for that hazard.

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- 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 Commander. 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.
- Agency ERT 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.
  - Where possible, external ERT will be involved in a site debrief before they are released from the site 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 ERT are deployed to ICHTHYS LNG to supplement the facility's emergency response.

4.4.4 Unified Incident Management Processes

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

The concepts are aligned to the principles of the Australasian Inter-Service Incident Management System (AIIMS). 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

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- 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
- 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.

4.4.5 Multi-Agency Coordination Arrangements (D-IMT)

In the event of a significant incident at the ICHTHYS LNG Facility, particularly if there is potential for a wider impact on the Darwin community or Darwin region, NT Police in conjunction with other emergency agencies, may convene an interagency liaison group to coordinate emergency response support and dissemination of community information.

It is likely this group will assemble at the Territory Emergency Operations Centre. INPEX will be requested to provide a senior representative.

The Operations Production Superintendent (or delegate) will attend this coordination group and communicate issues and any actions required to the D-IMT Leader.

Emergency Service agencies may also request to place a Liaison Officer within the D-IMT.

4.5 Medical Emergencies

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

The Medic (or if absent, the Medical Support -Occupational First Aiders who respond with the ERT) shall assume the role of Medic. The Medic will 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 Commander.

The Medic has the following responsibilities:

- Administer medical treatment (at forward command point or medical centre as required)
- 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

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Medical evacuation by helicopter *(if available)* may be an option to be considered for urgent medical care with a temporary landing site established near the Security Gatehouse or other suitable location.

4.5.1 Multiple Casualty Incident (MCI)

For INPEX planning and response purposes, an MCI is an event that can be triggered if casualties exceed the capacity or potential to exceed the capacity of the contracted medical provider. This threshold can be adjusted depending on severity of injuries. Emergency planning has included contingency arrangements for deployment of NT St John Ambulance or other medical personnel to support facility medical resources to deal with a multiple casualty incident.

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

Triage can either be completed in a safe location near the incident scene away from any potential hazards, or alternatively when injured persons are transported to the site Medical Centre depending on circumstances.

Treatment and stabilisation of injured persons will occur at the site medical centre. To facilitate orderly transfer of persons requiring transport to off-site healthcare, a casualty clearing post will be established within the medical centre. Persons will be placed in casualty clearing in preparation for handover to ambulances for off-site transfer.

Further information is contained in the Mass Casualty Event IMG [L060-AH-GLN-60019]

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 will be used to transport an injured person(s) 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 Medic/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.

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Any time the ambulance is deployed from the facility, the OTL may consider suspending or postponing high risk activities. See 2.1.9

4.5.3 Fatality

Only a qualified medical practitioner can officially declare a person to be deceased. Any notification shall report that the person is showing no vital signs of life.

In all cases, the Police will attend the scene of a fatality to conduct a coronial investigation. 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. Police will provide further guidance.

In addition, NT Worksafe is likely to attend the scene to initiate their incident investigation process. The Company's internal investigation procedure will run in parallel.

The area shall be secured with appropriate equipment such as bunting, screens, coverings, etc to 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 containing information relating to deceased persons shall be done over a secure radio channel.

In the event of a fatality at the facility, Refer INPEX Australia Management of Fatalities Plan [0000-AH-PLN-60002]

4.6 Incident Management Guides

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 Operations Superintendents.

Response to security related events can be found in the Incident Management Guides.

Ref to Section 2 Table 2.4 and 2.5 for list of MAE, NON-MAE and Security IMG's.

4.7 Communication Principles

- Emergency communications are to be kept brief
- Communication must be factual – no speculation or rumours.
- The Incident Commander will authorize all external emergency communications

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- 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).

4.8 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
- Neighbouring facilities or vessels
- Internal Company notifications
- Regulators (where required)

4.9 Emergency Contact Numbers

Internal and external contact numbers to be used during an emergency are contained in the INPEX Australia Emergency Contact Directory and or as identified in the relevant IMG.

4.10 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.

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5 RECOVERY

Recovery processes assist the facility restore the emotional, social, economic and physical well-being of personnel, environmental values and physical infrastructure following an emergency. Some recovery actions may continue well after the response 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 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 incident 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 who may require ongoing support for their emotional wellbeing.

5.2 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 assess damage and identify plant and infrastructure reinstatement required to return the area to normal operations.

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.

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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 and related IMGs shall be updated as necessary following the post-incident 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's will collect all information used in the CCR and IMT where applicable to manage the emergency response.

Records contained in individual team members' 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.

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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 (this building contains the CCR)
CCPP	Combined Cycle Power Point
CCTV	Closed Circuit TeleVision
CCR	Central Control Room
CMT	Crisis Management Team
Company	INPEX Australia
CRO	Control Room Operator

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Acronym	Definition
DIMT	Darwin Incident Management Team
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.
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
GEP	Gas Export Pipeline

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Acronym	Definition
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.
IMG	Incident Management Guide and includes security related incidents
Incident	Events, accidentally or deliberately caused which require a response.
Incident Commander (IC)	The individual responsible for the management of all incident operations. The Incident Commander is allocated for the tactical response, resolution and recovery to an incident or emergency. The emergency services *(when in attendance)* may also use the term Incident Commander (AIIMS terminology).
INPEX	INPEX (Corporate) Tokyo
LNG	Liquefied Natural Gas

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Acronym	Definition
LPG	Liquefied Petroleum Gas
LoC	Loss of Containment
m	Metres
mm	Millimetres
MAE	Major Accident Event
MFIP	Master Fire Indicator Panel (located in entrance to Central Control Building)
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)
OTL	Operations Team Lead (also the Incident Commander in emergencies)
NTPFES	Northern Territory Police, Fire and Emergency Services

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Acronym	Definition
PAGA	Public Address General Alarm
PCS	Process Control System
PEARS	People, Environment, Asset, Reputation and Sustainability
POB	Persons on Board
PPE	Personnel Protective Equipment
PWC	Power and Water Corporation (NT Utility provider)
SCE	Safety Critical Element
SME	Subject Matter Expert
SIMOPS	Simultaneous Operations
SITREP	Situation Report – A report describing the current situation. May also be referred to as an update.
UPS	Uninterruptable Power Supply
VAS	Video Assessment System

Issued for Use

APPENDIX A: ERT ROLE CHECKLISTS

Incident Commander

Operations Officer

Control Room Operator

Communications Coordinator

On-Scene Commander

Medic

Occupational First Aider

Log Keeper

Muster Coordinator

Emergency Response Team Leader

Emergency Response Team Member

Issued for Use

ICHTHYS LNG	INCIDENT COMMANDER	
Key Responsibilities • Maintain the safety of all ICHTHYS LNG personnel and initiates actions to protect the environment and the ICHTHYS LNG asset. • Provide leadership, assesses the incident situation including potential for escalation, determines protection priorities, implement tactical plans and directs ICHTHYS LNG ERT. • Establish and maintain regular communication with the IMT and emergency services as required.		
Reports to	**D-IMT Leader (once activated)**	
Management Position	**Operations Team Leader (Or trained delegate)**	
Response Phase	**Action**	**Status/ Time**
Immediate Response Actions	Muster	☐
	Proceed to the CCR. Receive briefing from Control Room Operator	☐
	Confirm automatic systems have activated (if appropriate)	☐
	Consider whether routine operations need to be suspended.	☐
	Determine if ERT is to be activated	☐
	Consider requesting assistance from emergency services – Life threatening situations 000	☐
	Verify incident records are being maintained.	☐
Execute Protective Actions	Confirm activation of General Alarm, if necessary	☐
	Manual activation of additional protective systems (if required)	☐
	Determine isolation zone for the incident	☐
	Evacuate personnel from isolation zone	☐
	Determine if vehicles can be driven. Safe access route.	☐
	If injured persons, deploy Medic	☐
	Determine if On-Scene Commander is required. Identify person to fulfil the OSC role.	☐

Continued over page

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Response Phase	Action	Status/ Time
Establish Situational Awareness	Confirm location, extent of emergency	☐
	Identify any damaged systems	☐
	Review open permits	☐
	Review detailed plan for the incident area (IMG or others) if available	☐
	Identify risks, assess incident escalation potential	☐
	Consider potential for offsite impact. Relay this information to responding emergency services.	☐
	Establish protection priorities	☐
	Confirm muster status *(if muster was initiated). For safety and welfare consider the need to move personnel at muster points to an alternate location.*	☐
Incident Control	Develop initial Incident Plan	☐
	Brief On-Scene Commander / Emergency Response Team Leader	☐
	Activate additional incident plans if required	☐
	Assess effectiveness of emergency response and initiate changes where necessary	☐
	Conduct timeouts with CCR team as necessary	☐
	Monitor response operations for safety	☐
	Provide situation reports to IMT Leader, stakeholders and emergency services as required	☐
	PA announcements on emergency situation	☐
	Determine Incident under control when appropriate. Stand down PA announcement.	☐
Recovery Phase	Identify and oversee implementation of recovery activities	☐
	Determine when it is safe to access emergency area. Identify any restrictions	☐
	Consider emotional wellbeing of ICHTHYS LNG personnel (Peer support)	☐
	Initiate Facility incident debrief	☐

Issued for Use

ICHTHYS LNG	**OPERATIONS OFFICER**	
Key Responsibilities • 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	**Incident Commander**	
Management Position	**CCR Specialist**	
Response Phase	**Action**	**Status/ Time**
Immediate Response Actions	Muster	☐
	Proceed to CCR. Obtain briefing from Incident Commander	☐
	Assist Incident Commander with initial incident assessment	☐
	Mobilise ERT. Communicates with ERT Leader. Verifies all Emergency Team members have responded. *(Discuss with Incident Commander if On-Scene Commander role is required)*	☐
Execute Protective Actions	Determine safe access route for ERT	☐
	With Incident Commander, brief ERT on emergency and likely hazards	☐
	Establish scene control of isolation areas	☐
Establish Situational Awareness	Obtain information from F&G operator on systems activated	☐
	Confirm protective systems are operating and providing protection	☐
Incident Control	Assist in developing incident plan and tactical objectives	☐
	Maintain communication with Emergency Response Team Leader *(On-Scene Commander if appointed)*	☐
	Provide information to Emergency Response Team Leader urgently when unsafe conditions are detected.	☐
	Identify additional resources to control emergency	☐
	Provide regular scene situation updates to Incident Commander	☐
	Reviews effectiveness of incident response and recommend potential changes of incident tactics to the Incident Commander.	☐

Continued over page

Issued for Use

Response Phase	Action	Status/ Time
Recovery Phase	Implement isolation zones as identified by the Incident Commander	☐
	Verify emergency resources have been replenished.	☐
	Monitor and evaluates emotional wellbeing of emergency team personnel (Peer Support)	☐
	Conduct debrief of emergency team scene response	☐

Issued for Use

ICHTHYS LNG	CONTROL ROOM OPERATOR	
Key Responsibilities • 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**
Immediate Response Actions	Confirm incident report, location and details	☐
	Confirm activation of GA (if required)	☐
	Notify Incident Commander of emergency situation	☐
	Confirm automatic systems have activated	☐
	If necessary, make initial PA announcement	☐
	Monitor status of adjacent systems	☐
Execute Protective Actions	If escape routes / muster points are unsafe, make PA announcement to communicate alternative arrangements.	☐
	Verify all escalation controls have been activated	☐
	Activate adjacent systems if necessary, to contain escalation	☐
	Provide information to Incident Commander / Operations Officer on unsafe areas.	☐
	If medical emergency / injured persons is reported – mobilise Medic	☐
	Consider wind direction for plume and thermal impact	☐
Establish Situational Awareness	Maintain VAS coverage of incident area	☐
	Consult appropriate plans / procedures to identify cause and effect	☐
	Monitor depressurisation and inventory levels	☐
	Identify any safety critical systems that may be compromised	☐
	Review open permits	☐
	Identify potential risks, assess potential and communicate to Incident Commander / Operations Officer	☐
Incident Control	Provide input into development of incident tactical plans as required	☐
	Provide regular status updates on ICHTHYS LNG process systems	☐

Continued over page

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Response Phase	Action	Status/ Time
Recovery Phase	When Incident Commander declares incident safe, make PA call to allow personnel to return (include any isolations if necessary)	☐
	Reinstates systems when incident is resolved	☐
	Participate in post incident debrief	☐

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ICHTHYS LNG	**COMMUNICATIONS COORDINATOR**	
Key Responsibilities • 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 (as appointed by the IC)**	
Response Phase	**Action**	**Status/Time**
Immediate Response Actions	Muster	☐
	Proceed to CCR. Obtain briefing from Incident Commander.	☐
	Establish communications log. Collect actions already completed by Control Room Operator.	☐
Execute Protective Actions	Monitors site radio for situation reports or emergency messages	☐
	Conveys response requests as appropriate	☐
Establish Situational Awareness	Establishes radio contact with key response personnel at scene	☐
	Assesses vulnerability of communication mediums to emergency impact	☐
Incident Control	Assists Log Keeper with updating boards and chronological log.	☐
	Transmit external communications when authorized by Incident Commander	☐
Recovery Phase	Collect all incident information and passes to Log Keeper	☐
	Assist with reinstatement of communications and logistics to normal operations	☐
	Participate in post incident debrief	☐

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ICHTHYS LNG	**MEDIC**	
Key Responsibilities • 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 • Supervise medical support team.		
Reports to	**Operations Officer *(On-Scene Commander if appointed)***	
Management Position	**ICHTHYS LNG Medic**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	Proceed to Fire station. Obtain briefing from Incident Commander.	☐
	Confirm if any injured persons	☐
Execute Protective Actions	Receive brief from Incident Commander / Operations Officer on potential hazards at incident scene	☐
	With Operations Officer and CRO determine safe access path to incident scene	☐
	Deploy to incident scene to assess and render medical assistance	☐
Establish Situational Awareness	Complete triage of injured persons	☐
	Determine extent of medical support required (stretcher bearers etc)	☐
	Assess potential for external medical assistance. Pre-warn hospitals *(particularly for multi-casualty events)*	☐
Incident Control	Establish casualty clearing post if required (Med Ctre)	☐
	Provide regular updates to Operations Officer on injured persons' status	☐
	Liaise with medical support as required for specialist medical support	☐
	If external medical support is required, make arrangements for site access and escort	☐
	Prepare injured persons for medical transport if req'd	☐
Recovery Phase	Treat injured persons as required	☐
	Replenish medical stock used	☐
	Monitor emotional wellbeing of personnel	☐
	Participate in post-incident debrief	☐

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ICHTHYS LNG	**OCCUPATIONAL FIRST AIDER**	
Key Responsibilities • Assist the Medic, treat and care for injured persons • Drive on-site ambulance on behalf of Medic • Trained occupational first-aiders		
Reports to	**Medic**	
Management Position	**Operations Tech Production (as appointed by the IC)**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	When deployed, assemble in the medical centre (or as directed) and receive a briefing from the Medic.	☐
	Prepare equipment for deployment	☐
	Conduct safety checks	☐
Execute Protective Actions	Wear appropriate PPE	☐
	Accompany Medic to CCR for briefing	☐
	Monitor own safety and other team members continuously	☐
Incident Control	Assist Medic in treatment of injured persons	☐
	Perform Medic responsibilities if Medic is injured or missing	☐
	Drive on-site ambulance on behalf of Medic	☐
Recovery Phase	Replenish medical supplies	☐
	Assist Medic in other duties as required	☐
	Monitor team members emotional wellbeing (Peer Support)	☐
	Participate in post incident debrief	☐

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ICHTHYS LNG	LOG KEEPER	
Key Responsibilities Maintain a chronological record of events during the emergency		
Reports to	**Incident Commander**	
Management Position	**Operations Tech Productions (as appointed by the IC)**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	Proceed to CCR. Obtain briefing from Incident Commander.	☐
	Commence information collection	☐
Establish Situational Awareness	Commence establishing chronological record of events	☐
	Record weather information e.g. wind speed and direction (current and forecast)	☐
	Collect information on casualty status, logistics movements and emergency team resources	☐
	Sketch a plan of the incident location	☐
Incident Control	Obtain information from Incident Commander timeouts and update displays as required	☐
	Visually display the Incident Commander's plan and priorities and other key incident information	☐
	Prompt the Incident Commander for regular public address announcements	☐
	Record time when Incident Commander declares incident safe or resolved	☐
Recovery Phase	Collect all incident information for inclusion into incident records	☐
	Participate in post-incident debrief	☐

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ICHTHYS LNG	MUSTER COORDINATOR	
Key Responsibilities Confirm the muster status of the ICHTHYS LNG (including the ERT);		
Reports to	**Incident Commander**	
Management Position	**Operations Tech Production (as appointed by the IC)**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	On sounding of GPA contacts the CCR. Obtains briefing from Incident Commander.	☐
	Obtain Facility POB list	☐
	Verify e-muster system is operational. If not initiate manual system to obtain muster status.	☐
	Maintain personal log	☐
Execute Protective Actions	Identify hazardous areas that may impede with mustering	☐
	Liaise with CRO to make PA announcement to alert personnel of hazard and advise alternative muster points / path	☐
Establish Situational Awareness	Monitor muster progress on VAS	☐
	Monitor muster number on e-muster system	☐
	Compile muster information and report muster status to Incident Commander /Operations Officer	☐
	Communicate with muster points as required	☐
	If ICHTHYS LNG evacuation, take muster records	☐
Recovery Phase	Assist with safe return of personnel when muster has been released	☐
	Undertake other duties as assigned to assist recovery processes	☐
	Pass incident information to Log Keeper	☐
	Participate in post-incident debrief	☐

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ICHTHYS LNG	ON-SCENE COMMANDER	
This position may not be filled in all circumstances. Incident Commander will determine. An On-Scene Commander should be deployed for a large or complex event and when external support is deployed to the scene. These responsibilities are also included in Emergency Response Team Leader's responsibilities. **Key Responsibilities** • 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	**Ops Tech**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	If designated by the Incident Commander, report to the CCR for briefing	☐
	Identify critical protection priorities and potential hazards	☐
	Maintain personal log	☐
Execute Protective Actions	With Operations Officer and CRO, identify safe access path to incident scene	☐
	Deploy ERT when authorised by Incident Commander	☐
	Verify isolations and depressurization are at appropriate levels	☐
	Define potential hazards to crew members	☐
	Activate any additional equipment such as portable monitors, gas monitoring to protect from exposure	☐
	Establish scene control. Remove non-essential personnel	☐
Establish Situational Awareness	Identify potential safety critical systems that may be compromised	☐
	Establish Forward Command Point and communications with Operations Officer	☐
	Review scene for hazards and potential escalation factors	☐
	Determine source of emergency that needs to be contained.	☐

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	Determine tactical priorities	☐
	Identify any potential for environmental impact	☐

Continued over page

Response Phase	Action	Status /Time
Incident Control	Brief ERT Leader and members as required	☐
	Maintain radio contact with emergency team at all times	☐
	Monitor scene safety and implement controls to reduce scene hazards	☐
	Provide regular situation reports back to Operations Officer	☐
	Identify additional resources to control incident	☐
	When external emergency response support is deployed to scene, arrange for security access and escort	☐
	Liaise with emergency service Team Leader and monitor their safety	☐
	Provide external teams with a liaison operative if required to maintain situation hazard awareness	☐
	Advise when scene is under control or safe.	☐
Recovery Phase	Identify any systems isolations or access restrictions that will need to remain.	☐
	Assist with damage assessment	☐
	Assist with scene investigation (if initiated)	☐
	Replenish emergency team equipment and consumables	☐
	Monitor emotional wellbeing of emergency team.	☐
	Participate in post incident debrief	☐

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ICHTHYS LNG	EMERGENCY RESPONSE TEAM LEADER	
Key Responsibilities Monitor Emergency Team members during incident and maintain their safety. Lead and directs the Emergency Response Team using the following principles: • 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 *(On-Scene Commander if established)***	
Management Position	**Operations Technician Production (as appointed by the IC)**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	Proceed to CCR for face-to-face briefing from Operations Officer	☐
	Identify critical protection priorities and potential hazards	☐
	Verify all emergency team members have responded	☐
Execute Protective Actions	With Operations Officer and CRO identify safe access path to incident scene	☐
	Deploy ERT when authorised by Incident Commander	☐
	Verify isolations and depressurization are appropriate	☐
	Define potential hazards to crew members	☐
	Activate any additional equipment such as portable monitors, gas monitoring to protect from exposure	☐
	Establish scene control. Remove non-essential personnel	☐
Establish Situational Awareness	Identify potential safety critical systems that may be compromised	☐
	Establish Forward Command Point and communications with Operations Officer	☐
	Review scene for hazards and potential escalation factors	☐
	Determine source of emergency to be contained	☐
	Determine tactical priorities	☐
	Identify any potential for environmental impact	☐

Continued over page

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Response Phase	Action	Status /Time
Incident Control	Brief ERT members as required	☐
	Maintain radio contact with emergency team at all times	☐
	Monitor scene safety and implement controls to reduce scene hazards	☐
	Provide regular situation reports back to Operations Officer *(On-Scene Commander if established)*	☐
	Identify additional resources to control incident	☐
	Advise when scene is under control or safe	☐
Recovery Phase	Identify any systems isolations or access restrictions that will need to remain.	☐
	Assist with damage assessment	☐
	Assist with scene investigation (if initiated)	☐
	Replenish emergency team equipment and consumables	☐
	Monitor emotional wellbeing of emergency team	☐
	Participate in post incident debrief	☐

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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 (as appointed by the IC)**	
Response Phase	**Action**	**Status /Time**
Immediate Response Actions	Muster	☐
	Report to Fire Station, don PPE and perform safety equipment checks	☐
	Complete radio communication check within the team	☐
	Await instructions to deploy, including safe approach route	☐
Execute Protective Actions	Await briefing from Emergency Response Team Leader	☐
	Assess hazards, use monitoring equipment and appropriate PPE	☐
	Activate any local equipment that will aid in incident containment	☐
	Establish isolations as directed	☐
Establish Situational Awareness	Identify potential hazards at scene	☐
	Attempt to identify source of emergency if it is safe to do so	☐
	Communicate any new or emerging hazards	☐
Incident Control	Respond as directed by the Emergency Response Team Leader	☐
	Continually monitor other team members	☐
	Conduct all emergency actions in accordance with procedures	☐
	Maintain communication with Emergency Response Team Leader	☐
	Withdraw when requested to maintain safety	☐
Recovery Phase	Replenish emergency response equipment and consumables	☐
	Monitor emotional wellbeing of emergency team members	☐
	Participate in post incident debrief.	☐

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APPENDIX B: 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 ***(Incident Commander to consider)***	**Status**		
	Yes	**No**	**N/A**
Advise the IMT Leader	☐	☐	☐
If necessary, initiate a site muster and suspend work	☐	☐	☐
Inspect scene with Medic (when safe to do so)	☐	☐	☐
Inform staff of the situation. Direct not to mention any details of the incident until Police have given approval and notified the Next of Kin.	☐	☐	☐

Secure the fatality scene as per the following:
• 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:
  • 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 VAS at the scene (if available)
• If applicable take photographs or video
	☐	☐	☐

Notify Police and provide them with a summary of what has occurred • Telephone NT Police: 131 444	☐	☐	☐
Identify any witnesses to the events and advise them to write statements. (Note-Section 5.4) Identify, Isolate, Interview & Evidence principles.	☐	☐	☐
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)	☐	☐	☐
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	☐	☐	☐

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Onsite Management of Fatality Response Check List			
Senior INPEX Manager/Management ***(Incident Commander to consider)***	**Status**		
	Yes	**No**	**N/A**
Is the individual or personnel involved Aboriginal and Torres Strait Islander (ATSI)? If so, contact INPEX Senior Aboriginal Affairs Advisor	☐	☐	☐
Log all key events, calls and any direction given by Police	☐	☐	☐
Due to possible time delay, confirmed with Police if the deceased can be removed and preserved appropriately	☐	☐	☐
Notify the Darwin IMT Leader (on duty) via INPEX Call Centre • Within Australia - 1800 305 789 • Outside Australia - +61 8 6213 6350 • Mobile (Redundancy) - +61 439 694 175	☐	☐	☐
Assist the INPEX Perth Office in managing any internal or external communications	☐	☐	☐
Notify Regulator (as per regulatory reporting requirements)	☐	☐	☐
• NOPSEMA: 08 6461 7090	☐	☐	☐
• Worksafe NT: 1800 019 115	☐	☐	☐
Confirm that the Regulator will attend the scene	☐	☐	☐
Transport arrangements for Regulator and or Police have been organised	☐	☐	☐
Transport arrangements for Regulator and or Police are confirmed	☐	☐	☐
Grant travel exemptions for Regulator and or Police	☐	☐	☐
Appoint a person to meet and escort Regulator and or Police on arrival	☐	☐	☐

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APPENDIX C: PAGA TEMPLATES

A.1 Site Emergency Muster Announcements

SITE EMERGENCY MUSTER ANNOUNCEMENTS

If advising of a specific muster point to move to, use muster point number, name and direction.

E.G. Muster Point 4 Tankage Flare, West of site.

SITE EMERGENGY MUSTER ANNOUNCEMENT

Attention All Personnel ..... Attention All Personnel.

The site muster alarm has sounded due to _____ in _____Area.

All personnel are to stop work, make your worksite safe, proceed to your nearest muster point, and await further instruction.

Repeat announcement

ANNOUNCEMENT WHEN SITE EMERGENGY MUSTER IS SILENCED (as instructed by IC)

Attention All Personnel ..... Attention All Personnel.

The site muster alarm has been silenced to aid communications

The site muster is still in progress.

Continue to muster and await further instruction.

***Repeat announcement ***

ALL CLEAR ANNOUNCEMENT

Attention All Personnel ..... Attention All Personnel.

All Clear, All Clear

The site muster is complete. You may return to work.

Repeat announcement

Incident Commander to make announcement regarding permit re-issue. (This will depend on the nature of the muster event.)

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A.2 Area Alarm Announcements

AREA ALARM ANNOUNCEMENTS

AREA ALARM ANNOUNCEMENT

Attention All Personnel ..... Attention All Personnel.

The area alarm has sounded due to _____ in _____Area.

All personnel make your worksite safe, leave the area, and await further instruction.

Repeat announcement

AREA ALARM 'ALL CLEAR' ANNOUNCEMENT

Attention All Personnel ..... Attention All Personnel.

This is an 'ALL CLEAR' announcement for the _____ Area.

The area alarm has been investigated and it is safe to return to work.

Repeat announcement

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A.3 PAGE and Alarm Testing Announcements

PAGA AND ALARM TESTING ANNOUNCEMENTS

ANNOUNCEMENT FOR FIRE AND GAS TESTING

Attention All Personnel ..... Attention All Personnel.

Fire and Gas alarm testing is about to commence in _____Area.

Disregard area alarms until further notice.

Repeat announcement

ANNOUNCEMENT FOR FIRE AND GAS TESTING COMPLETE

Attention All Personnel ..... Attention All Personnel.

Fire and Gas alarm testing is complete in _____Area.

Please respond to all future alarms in this area.

Repeat announcement

ANNOUNCEMENT FOR PAGA TESTING IN PROGRESS

Attention All Personnel ..... Attention All Personnel.

PAGA testing is about to commence in _____ Area.

Disregard the PAGA alarms in this area until further notice.

Repeat announcement

ANNOUNCEMENT FOR PAGA TESTING COMPLETE

Attention All Personnel ..... Attention All Personnel.

PAGA testing is complete in _____Area.

Please respond to all future PAGA alarms in this area.

Repeat announcement

PAGA SOUND TEST ANNOUNCEMENT

This is a PAGA sound test. Testing 1,2,3.....3,2,1. Test Complete.

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A.4 Weekly PAGA Test

WEEKLY PAGA TEST (THURSDAY 15:30)

VOICE ANNOUNCEMENT SITE WIDE - press and hold "SITE WIDE ANNOUNCEMENT"

Attention all Personnel..... Attention all Personnel,

Weekly testing of the PAGA is about to commence
No Action is required

Repeat announcement

The tones you are about to hear will be in order of ALL CLEAR, followed by ALERT ALARM, followed by MUSTER ALARM followed by ALL CLEAR

Press and release "ALL CLEAR"
Wait 10 seconds
Press and release CANCEL
Wait 5 seconds

Press and release ELERT SITE WIDE
Wait 10 seconds
Press and release CANCEL
Wait 5 seconds

Press and release MUSTER SITE WIDE
Wait 10 seconds
Press and release CANCEL
Wait 5 seconds

Press and release ALL CLEAR
Wait 10 seconds
Press and release CANCEL
Wait 5 seconds

VOICE ANNOUNCEMENT SITE WIDE - press and hold "SITE WIDE ANNOUNCEMENT"

Attention all Personnel..... Attention all Personnel,

Testing of the P.A.G.A is complete. Please respond to all future alarms

Repeat announcement

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A.5 Maritime Security Zone Unauthorised Vessel Entry

MARITIME SECURITY ZONE UNAUTHORISED VESSEL ENTRY

JETTY UNAUTHORISED VESSEL ENTRY AREA ANNOUNCEMENT (Zone 12 on PAGA)

Instruct a panel operator to move CCTV to record footage of event and take note of details of vessel/persons on board (size, colour, # of persons etc).

Attention Unauthorised Vessel.....Attention Unauthorised Vessel

You have entered the INPEX LNG water-side restricted zone and are requested to vacate the area immediately.

I repeat, You have entered the INPEX LNG water-side restricted zone and are requested to vacate the area immediately.

Police will be notified and further action will be taken if you fail to vacate.

Thank you for your cooperation.

Note:

If the vessel is an allowed vessel (usually shown by a triangle on the radar) they will usually have a vessel name shown on the radar. Contact should be made via VHF first then on Channel 10 by using the following script:

***Repeat the Vessel name three times,* This is INPEX LNG Terminal. Could you please state your intention for entering the water-side restricted zone.**

Enter a dialogue and advise that we are now monitoring the area and discuss any communication protocols for further contact if required as well as how we are monitoring the area.

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