Remote, Isolated and Lone Work Procedure

Purpose

The purpose of this procedure is to:

- define the process for managing risks associated with travel and work where a worker is unaccompanied (lone work) and/or in locations defined as remote or isolated.
- specify the minimum mandatory standard risk controls for lone, remote and isolated work.
- define the process to be followed to issue and use a distress beacon.

Scope

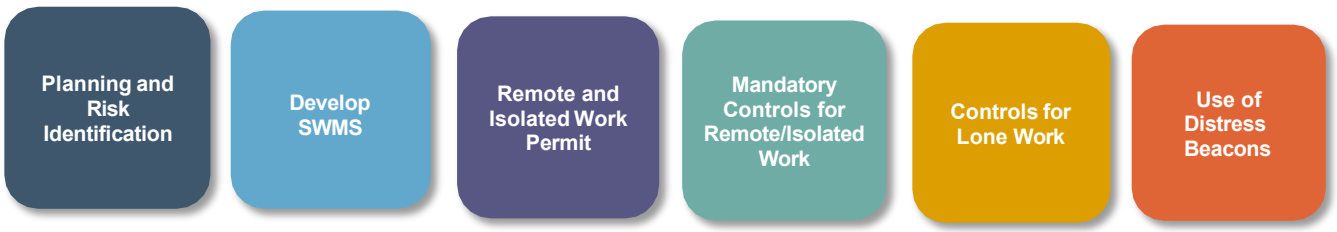
This procedure applies to all Queensland Hydro employees and contractors when working under the Queensland Hydro HS Management System (HSMS) or when directed under Contract. The following definitions apply:

Risk Scenario	Definition	Risk Controls
Isolated and remote work	Work is being completed in an area that will have a delayed emergency response due to: ▪ No reliable primary or backup communication method is available to enable the work party to initiate and maintain emergency communications; **and/or** ▪ Geographic location and/or difficult access means an appropriate emergency response is delayed by greater than 60 minutes.	Risk controls must be aimed at: ▪ Ensuring communication can be always maintained to permit emergency assistance to be summoned. ▪ Ensuring that the work party can manage potential emergencies for a period of time, prior to the arrival of professional emergency responders.
Lone work	Where a worker is unaccompanied (i.e. alone) and if incapacitated may be unable to initiate an emergency response.	Risk controls must be aimed at either removing the risk of working alone (prohibiting working alone for listed high risk activities) and/or providing a means of monitoring the wellbeing of the lone worker.

Responsibilities

Who	What
Queensland Hydro Construction Manager/ Person in Charge	▪ Review and approve all remote and isolated work via the remote and isolated work permit ▪ Ensure a back at base (BAB) protocol has been established and resourced. ▪ Be primary contact for distress beacons registered with the Australian Maritime Safety Authority.
Supervisor/ Manager	▪ Submit remote and isolated permits as required for works. ▪ Ensure workers under their direction adequately plan to comply with the requirements of this procedure. ▪ Ensure workers are trained in the use of communication devices.

Who	What
	▪ Ensure appropriate transport, communication devices and personal protective equipment is available and maintained.
Back at base (BAB) person	▪ Must be available for communications with the work party at the planned time for scheduled communications. ▪ Must be familiar with the planned method of communications (e.g. radio). ▪ Must attempt contact with the work party if personnel arrival or planned communications are overdue. ▪ Must initiate emergency if work party is overdue by greater than 30 minutes and communication cannot be established.
Workers	▪ Ensure that risk management planning for each work activity has been adequately undertaken and appropriate controls have been implemented. ▪ Ensure work is undertaken in accordance with the planned arrangements, including schedule of communications. ▪ Adhere to all requirements of the isolated and remote work permit.
Health and Safety Team	▪ Maintain Australian Maritime Safety Authority (AMSA) beacon registration database. ▪ Disable and dispose of expired beacons. ▪ Arrange for beacon replacement batteries as required. ▪ Arrange for provision of training for personnel assigned a distress beacon.
Users of distress beacons	▪ Ensure distress beacons are appropriately stored. ▪ Report any lost, damaged, stolen or otherwise disposed of beacons to the Health and Safety team ASAP. ▪ Self- test the distress beacon prior to commencing a remote or isolated work activity. ▪ Return all distress beacons to the Health and Safety team for disabling and disposal seven years from date of issue.



Procedure

1. Planning and risk identification

A risk assessment must be undertaken prior to the commencement of all remote, isolated and lone work, in accordance with Queensland Hydro's Risk Management procedure.

Each remote/ lone/ isolated work scenario requires controls to be in place to ensure an acceptable level of risk. A work activity may involve only one of these scenarios (e.g. remote and isolated work) or a combination of risk scenarios (e.g. lone work which is in an isolated and remote work location). Combined risk scenarios present an increased level of safety risk.

Accordingly, a work activity that involves, for example, both lone and isolated and remote work must be undertaken with risk controls in place that addresses each of the risk scenarios.

The risk assessment completed in the planning phase for remote, isolated and lone work **must** consider the following factors at a minimum:

1. **Nature of the work activity**

For example, is the work being performed a high-risk construction task versus investigative work such as survey, cultural heritage assessment or ecological monitoring?

2. **Means of accessing work area**

For the Borumba Pumped Hydro Project site, a network of largely 4WD access tracks exists across the site. There will also be work locations which cannot be accessed via 4WD vehicle, typically because the area has no existing tracks, has steep terrain and/ or is heavily vegetated.

Where 4WD vehicle access is not possible, alternative means of access such as the use of utility -terrain vehicles (UTVs), watercraft, or walking to the area on foot will need to be considered.

Where 4WD vehicle access is not possible near the work area, consideration must be given to how workers will be able to evacuate the area in a timely manner in the event of an emergency, such as a bushfire or medical emergency. This assessment must consider both able-bodied workers being able to evacuate from the area as well as controls for the scenario where a worker has become unwell or injured during the course of the work and is no longer able to independently leave the area by the means in which they came in. As an example, if the work party will be required to walk a significant distance from the 4WD/ UTV etc, the assessment must consider how a worker who has injured their leg and is unable to walk back to the vehicle could be evacuated.

The assessment must consider whether specialized equipment might need to be carried by the work party or left in a nearby area to be used in the event of an emergency event – e.g. a chainsaw and suitably trained and competent person within the work party to clear trees in the event that helicopter retrieval is the only means of evacuating an injured person; the use of a big wheel stretcher; the use of skids etc.

3. **Fitness of the work party for the planned activities**

The assessment must consider whether the work party have a sufficient level of physical fitness to be able to safely undertake the planned work, especially where the work will involve long periods of walking and/or traversing areas which are uneven, steep and heavily vegetated.

When completing a remote work permit, the workgroup must disclose all medical conditions that may affect their ability to safely perform the inherent requirements of the proposed remote/ isolated/lone work. All controls identified to manage any such medical conditions must be listed on the permit - for example, where a worker identifies as having known anaphylactic reactions to wasp stings, Queensland Hydro will ensure the work party carry epi pens and are aware of how to use the epi pen.

Where a medical disclosure raises concerns that the individual may not have the minimum physical requirements to safely undertake the remote/ isolated work task, Queensland Hydro will seek further medical clarification and may make the determination that the individual is not approved to undertake the work.

4. **Weather conditions**

Weather conditions including heat (risk of dehydration), heavy rainfall (risk of track deterioration or creek crossings becoming impassable) and high winds (risk of falling tree branches) must be considered in the planning phase and again each day before work can commence. Immediately prior to commencing work, where weather conditions are unfavourable and adequate controls cannot be identified, the Queensland Hydro Construction Manager (or delegate) will make the decision not to proceed with the work.

During the Queensland bushfire danger period (nominally July – December) the daily fire danger rating must be checked each day before work can commence. Work in remote or isolated locations will not be permitted when the daily fire danger rating is extreme or catastrophic. When the rating is high, consideration must be given to the nature of work being performed before commencing work (e.g. will the work have any potential to ignite a fire) as well as potential evacuation routes that the work party could use to evacuate in the event of an approaching fire.

5. Road and track conditions

Road/ track conditions must be considered prior to commencing a journey into remote and isolated work areas.

The following resources can be consulted prior to travel for external road conditions:

- RACQ website.
- Qld Transport website for local road conditions.
- https://www.qfes.qld.gov.au/Current-Incidents.

The Queensland Hydro Site Construction team will inspect tracks ahead of the planned work, with all track inspections to be documented using the track inspection form in Dashpivot. Where work is being carried out off the Project site on land not under the management and control of Queensland Hydro (e.g. Imbil State Forest) it may not be practicable for every track within an area to be inspected before work begins. The Remote and Isolated Work permit will identify what inspections have been undertaken and any agreed requirements related to the ability of the Contractor to self-assess tracks before use. Typically where a track has not been inspected, the Contractor will be required to walk the full length of the track before attempting to drive it.

Where an inspection has identified concerns with the condition of the track, any subsequent driving restrictions/ conditions will be listed on the permit. Where a track has been inspected and has been deemed to be unsuitable for use, the Queensland Hydro supervisor will place a red and white cone at the start of the track, to physically denote the track is not to be used.

Where a track has been inspected and has been deemed suitable for use, the Queensland Hydro supervisor will place a green and white cone at the start of the track. Where there has been a significant weather/rainfall event after a track has been inspected and whilst works are ongoing, the track will require reinspection to ensure conditions have not changed.

Cones are only to be removed by Queensland Hydro.

Workers must at all times abide by all track closures and any restrictions/ conditions related to driving, which will all be listed on the permit.

2. Development of SWMS

A SWMS must be developed for all remote and isolated work. The SWMS must include the mandatory controls listed below at a minimum. The **SWMS template HS-FRM-0033** can be used or contractors can use their own.

3. Remote and Isolated Work Permit

A **Remote and Isolated Work Permit** verifies that the risks for this work have been assessed, mandatory controls recorded and verified as being in place and communicated to all parties involved.

A remote and isolated work permit is **mandatory** for all remote and isolated work, as defined in the scope of this procedure.

The Queensland Hydro Project Manager (or delegate) for the planned work is to initiate the Permit as the Permit Requestor. The permit is to be submitted to the Queensland Hydro Construction Manager (or delegate) for approval. The Queensland Hydro Construction Manager must authorize and issue the permit to the Permit Holder (typically the Supervisor of the work party) before any work can commence. All members of the work party must read and sign the permit before commencing the work. Permits are completed and maintained via Dashpivot.

A permit is valid **for a maximum of 5 days** from the date of approval before requiring reissue. The **Permit to Work Procedure (HS-PRO-0009)** should be referenced.

4. Managing Remote and Isolated Work

4.1. Mandatory Controls

The following critical controls are mandatory for remote and isolated work:

Critical Control	Objective	Details
Review of medical conditions	To ensure members of the work party can meet the inherent physical requirements of the proposed remote/ isolated work.	Workers must disclose all medical conditions that may affect their ability to safely perform the inherent requirements of the proposed remote/ isolated/lone work. If concerns are identified Queensland Hydro may request permission from the worker to obtain further information from the individual's treating GP and/or relevant medical treatment provider. All medical information provided to Queensland Hydro is treated as confidential and is subject to Queensland Hydro's Privacy Policy.

Critical Control	Objective	Details
Communication Devices	To provide multiple means of communication for areas where mobile phone coverage is not available.	The Work party must carry with them: ▪ Satellite messaging device (e.g. Garmin Inreach, ZOLEO, SpotTracker) ▪ Project digital mobile radio (issued by Queensland Hydro) ▪ EPIRB/Personal locator beacon (i.e. distress beacon) Workers must be familiar with the use of the devices. EPIRB/PLBs must be registered with AMSA. Queensland Hydro may be able to loan distress beacons and satellite messaging devices to the work party for the duration of the work if required. The BAB person must have administrator access to the satellite messaging device, to ensure 2-way communication can be maintained and that tracking of the crew is available.
Scheduled check of communication coverage	To ensure the work party remain within coverage of the communication devices.	At the commencement of the work and at agreed intervals of no greater than 2hrs, including when the work party arrive at the work area, the party must make contact (via radio or satellite messaging device) with the BAB person to ensure coverage remains. **If communications coverage is not available, the work party must cease work and return to an area where there is confirmed coverage.**
GPS satellite tracking	To ensure the work party can be located in the event of an emergency.	When on foot the work party must have a satellite messaging device (e.g. Garmin Inreach, ZOLEO, SpotTracker etc) with tracking feature enabled and administrator access provided to BAB person. Light vehicles/ATVs to be fitted with In Vehicle Monitoring System.
Back at Base (BAB) monitoring	Ensure continual communications maintained with the work party over the course of the activity.	BAB monitoring of work party to be undertaken by a person based on site with pre-determined call-in intervals to be established (e.g. 1 hourly).
First aid equipment	Ensure the work party has suitable equipment available to provide an immediate response to injury/ illness.	The Work party must carry with them: ▪ Snake bite bandage kit ▪ Suitable first aid kit. To determine a suitable first aid kit, refer to **First Aid Procedure** (**HS-PRO-0005).** ▪ Automated External Defibrillator (AED) in the work vehicle or to remain with the work party if a risk assessment determines this is required.

Critical Control	Objective	Details
		▪ Flare(s) – to assist in locating the work party in the event that helicopter retrieval is needed.
First aid trained personnel	Ensure the work party has a competent person to provide an immediate response to injury/ illness.	Remote first aid competency for at least 1 of the work party for every 10 workers when work being undertaken is high risk e.g. operation of mobile plant. First aid competency for at least 1 of the work party for every 10 workers when work being undertaken is low risk e.g. walking, ecological survey.
Miscellaneous		▪ Snake gaitors ▪ An adequate supply of drinking water. Minimum recommendation 5L per person per day.

5. Managing Lone Work

5.1. Prohibited Activities

The following activities must never be undertaken by people working alone:

- Use of chainsaw.
- Boating or working adjacent to water.
- Work at heights requiring the use of a harness.
- Confined space entry.
- Engagement with landholders/stakeholders at their private residence.

6. Back at Base Monitoring

Back at base (BAB) monitoring refers to the use of pre-determined call-in intervals (e.g. hourly) between the work party and a nominated BAB person.

The frequency of call-ins between the work party and the nominated BAB person will be determined in the risk planning phase and should reflect the duration of the work and level of risk associated with the work. Typically on the Borumba Project Site, call-ins will be completed using the Queensland Hydro digital mobile radio network or via the use of the satellite communication system (e.g. Garmin).

The worker/ work party must provide details of the work/ travel plan and estimated time of completion to the BAB person.

In the event of an overdue scheduled call-in or overdue time of completion, the BAB person must attempt to contact the worker/work party. The BAB person must immediately notify the Queensland Hydro Construction Manager if communications cannot be established within 30 minutes of the worker/work party being overdue.

The Queensland Hydro Construction Manager will then ascertain the location of the work party via the satellite tracking devices in use – such as checking the Garmin Inreach app and/or requesting the Head of HSE to locate a Queensland Hydro vehicle via the IVMS system (as detailed in **Vehicle Safety Procedure (HS-PRO-0032)**).

The Queensland Hydro Construction Manager and Head of HSE will escalate the response in accordance with **Borumba Project Emergency Response Plan (BR-PLN-0002).** Actions undertaken may include calling 000 and sending out a new work party to the last known location.

7. Distress Beacons

7.1. Types of Distress Beacons

A distress beacon is an electronic device that when activated in a life-threatening situation, assists rescue authorities to locate those in distress. Distress beacons are designed for use when no other means of communication is available. Within Queensland Hydro there are two types of distress beacons used:

	Personal Locator Beacon (PLB)	Emergency Position Indicating Radio Beacon (EPIRB)
Typical Usage	Land – may be used as a control when accessing remote or isolated locations either on foot, by 4WD or ATV	Maritime – To be always carried in boats used by Queensland Hydro
Description	PLBs are smaller and easier to carry than other beacons and are designed to be worn or carried by individuals, rather than mounted to a vehicle. Typically operates for >24hours.	Typically used for boating. Designed to float. EPIRBS may also be used on land. Typically operates for >48hours.

7.2. Requisition of a Distress Beacon

PLBs and EPIRBs will be provided to workers if there is a requirement for the worker to undertake work that is remote or isolated as detailed above. Purchasing of distress beacons will be undertaken in conjunction with the Queensland Hydro Health and Safety Team.

7.3. Distress Beacon Registration

All Queensland Hydro distress beacons must be registered at the time of purchase with AMSA. Beacons may be registered to an individual or business units within Queensland Hydro. Management of the beacon registration program will be maintained by the Health and Safety Team.

Beacons must be registered on a two-yearly basis.

All beacons will be registered with the individual's (to whom the beacon has been allocated) phone number as the primary contact and the Queensland Hydro Person in Charge phone number as the secondary emergency contact.

The form **Personal Locator Beacon Registration Form (HS-FRM-0010)** is to be used for registrations.

7.4. Maintenance of Distress Beacons

Personnel issued distress beacons are to:

- Ensure the beacons are stored appropriately, including kept away from magnetic sources, such as radio speakers, and stored in a location where the activation switch is not subject to pressure, or to sudden shock.
- Self-test the beacon prior to commencing the activity, using the self-test function on the unit.
- Check the distress beacon battery to ensure it remains within date and arrange with the Health and Safety Team for a replacement battery before the expiry date.
- Immediately notify the Health and Safety Team if the beacon is lost, stolen, destroyed, or otherwise disposed of; and
- Return all beacons to the Health and Safety Team for disabling and disposal seven years after the date of issue.

7.5. Use of Distress Beacons

When accessing remote/ isolated areas on foot, PLBs should be physically carried on the body or within a pack/ bag which is easily accessible. If travelling in a vehicle, the PLB should be stowed in an easily accessible compartment such as the glove box or centre console. It is important that all members of the work party know the location of the PLB.

EPIRBs in boats should be stored in a mounting bracket with a sticker identifying its location or in a grab bag with other emergency equipment such as flares.

In the event of an emergency, communication should first be attempted with others close by using radios, mobile or satellite phones. If these communication channels are not available, the distress beacon is to be used. Examples of situations where distress beacons may need to be activated include:

- There is a need for urgent medical evacuation;
- Becoming lost;
- Mechanical breakdown of a boat or vehicle; or
- Other life-threatening situations.

Personnel should be aware that satellites will have difficulty detecting beacons if in a valley surrounded by mountainous terrain or in heavy tree cover. Where possible, before deploying the beacon, attempt to move to an area where the aerial is vertical in a clear open area.

Once a distress beacon is activated, it should not be switched off until, the rescue has been completed or you are advised to by the rescue authority.

7.6. Response to Inadvertent/ Accidental Activation of a Distress Beacon

In the event a distress beacon is inadvertently or accidentally activated, the beacon owner should attempt to switch off the beacon immediately and contact the **Rescue Coordination Centre on Ph 1800 641 792** as soon as possible to advise that no emergency exists. Where personnel are out of phone range, they should use a radio to request that their supervisor/ manager/ B2B person make this call.

There is no penalty for inadvertent activations.

Beacon owners must ensure they notify their manager, and the Health and Safety Team as soon as is practicable of any false or accidental activations.

7.7. Response to a genuine activation of a distress beacon

If a distress beacon is genuinely activated, the following will occur:

- AMSA will receive the alert and raise an incident;
- AMSA will attempt to phone the registered beacon owner to confirm whether there is an emergency. AMSA will escalate the incident as required (e.g. initiate a search and rescue mission with Queensland Police); or
- Where AMSA are unable to contact the registered beacon owner, AMSA will contact Queensland Hydro on the designated phone numbers. Once Queensland Hydro is notified of the situation, attempts will be made to contact the beacon owner using radio.

The time it takes for search and rescue personnel to reach someone will depend on several factors, including the weather, terrain and accessibility of the location. The more remote the location of the distress incident, the longer the response time.

7.8. Training in the use of distress beacons

At the time of issue, the Health and Safety team will ensure personnel are shown how to use the beacon, covering everything from activation to testing the beacon.

References

Document Code	Document Title
BR-PLN-0002	Borumba Emergency Response Plan
HS-PRO-0029	Crisis and Emergency Management Procedure
HS-PRO-0005	First Aid Procedure
HS-PRO-0032	Vehicle Safety Procedure
HS-FRM-0010	Personal Locating Beacon Registration Form