

# Borumba Pumped Hydro Project Severe Weather Event Protocol

## 1. Purpose

This Severe Weather Event Protocol has been developed to ensure a consistent response by Principal Contractors appointed to work on the Borumba Pumped Hydro Project (“the Project”), to severe weather events including:

- impending storms where lightning is expected.
- flooding from rivers/creeks and or rain deluge which may impede site access/egress or travel internally within the site.

A Principal Contractor may choose to adopt a protocol that is of a higher standard than that detailed in this document. Where this occurs, the Principal Contractor is to provide a copy of the protocol to Queensland Hydro for review.

## 2. Scope

This protocol is to be adopted by each Principal Contractor working on the Project during the Exploratory Works phase.

The protocol applies to surface work only and does not apply to underground operations.

## 3. Weather Forecasting Services

Queensland Hydro has contracted Early Warning Network (EWN) to provide weather forecasting services for the Project. Queensland Hydro will provide nominated personnel of the Principal Contractor with access to the Early Warning Network at no cost.

**Note:** The EWN Alerts are configured to provide two notifications based on proximity to the site at ~30km and at ~15km.

#### 4. Lightning Response Protocol

Alert Level	Response
<p><b>Green Alert</b></p> <p>Lightning detected within 20 - 30km of the centre of the site.</p>	<p>All personnel are advised that lightning activity has been detected. Workers to prepare to take further action.</p> <p>Identify the nearest safe location and if none are nearby either:</p> <ul style="list-style-type: none"> <li>▪ Be prepared to move to a safe location if the lightning alert level increases; or</li> <li>▪ Consider moving one or more light vehicles to the job site which can be used as a safe refuge for the work group if lightning activity moves closer.</li> </ul> <p>Supervisor or delegate to monitor lightning activity.</p>
<p><b>Yellow Alert</b></p> <p>Lightning detected within 10 - 20km of the centre of the site.</p>	<p>Supervisor or delegate is to risk assess current operations in relation to lightning activity and understand the direction the storm is moving in, giving specific consideration to unsafe locations and hazardous activities. If the storm is moving towards the work front the following is to occur:</p> <ul style="list-style-type: none"> <li>▪ Suspension of the following hazardous activities: <ul style="list-style-type: none"> <li>- Crane operations (booms lowered where the crane design allows).</li> <li>- Surface drill rig operations.</li> <li>- EWP and scissor lift activities.</li> <li>- Bulk liquid and dangerous goods operations.</li> <li>- Refuelling operations.</li> <li>- Hazardous activity or work in unsafe locations where the location or nature of the work mean that a safe location cannot be reached within 5 to 10 minutes.</li> </ul> </li> <li>▪ All personnel in unsafe locations with no nearby safe location to relocate to a safer location.</li> <li>▪ Prepare to take further action (include identifying safe park up zones for mobile plant, taking into consideration potential for lightning strikes to cause tyre explosions).</li> <li>▪ Supervisor or delegate to monitor lightning activity.</li> </ul>
<p><b>Red Alert</b></p> <p>Lightning detected within 0 - 10km to the centre of the site</p>	<p>Suspension of activities as per Yellow Alert plus the following additional controls:</p> <ul style="list-style-type: none"> <li>▪ All personnel immediately seek a safe location and remain in place until the alert is downgraded. Relocation to another safe location should only occur in exceptional circumstances and by the shortest route possible.</li> <li>▪ Suspension of all mobile plant operations (e.g. front end loaders, excavators, rollers). Mobile plant to be parked such that potential line of fire if a tyre explosion was to occur is minimised.</li> <li>▪ Supervisor (or delegate) to monitor lightning activity.</li> <li>▪ Use of wired radios in vehicles or buildings to be kept to a minimum.</li> </ul>
<p><b>All Clear</b></p>	<p>Return to outdoor activities with caution.</p> <p>Supervisor to continue monitoring for further lightning activity.</p>

#### 5. Flood Response Protocol

Queensland Hydro have installed hydrometric monitoring equipment at key waterways across the Project site. This monitoring equipment automatically transmits rainfall and river level data to the Queensland Hydro site team, who

will use this information to make decisions on when internal water crossings may need to be closed due to the risks associated with elevated water levels/ increased water flow.

Contractors will be required to comply with instructions from Queensland Hydro on access conditions through water crossings and on unsealed public roads during periods of heavy or prolonged wet weather.

## 6. Responsibilities

Who	What
<b>All workers</b>	<ul style="list-style-type: none"> <li>▪ Alert your supervisor or fellow workers if you see lightning or hear thunder and seek shelter.</li> <li>▪ Never seek shelter in temporary structures, sheds, buildings with unearthed metal roofs, or under trees.</li> <li>▪ Avoid bodies of water and metal objects such as fencing that may conduct electricity.</li> <li>▪ When sheltering (including inside a vehicle), avoid contact with the external surfaces, metal objects such as pipes, wiring, metal parts of the vehicle, and avoid using plugged in electrical equipment.</li> <li>▪ Workers who are caught away from shelter should:               <ul style="list-style-type: none"> <li>- Remove all metal objects from your body.</li> <li>- Avoid being on the highest point in an open area or near tall objects, but do not lie flat on the ground.</li> <li>- Crouch (alone) with your feet together, preferably in a ditch or hollow so you are not the highest object.</li> </ul> </li> </ul>
<b>Supervisors</b>	<ul style="list-style-type: none"> <li>▪ Understand and comply with the requirements of this protocol.</li> <li>▪ Ensure that workers under their control are aware of and understand and comply with the requirements of this protocol.</li> </ul>