Risk Management Bulletin

Business Flood Planning and Mitigation Guide

CHUBB®

Introduction

The most common cause of flooding is due to established water storage areas (natural and man-made) or catchments receiving far greater amounts of water than normal, causing the river levels to rise and flooding to take place. However, flooding can also occur:

- From the oceans and lakes – in the forms of high tides, tsunamis, storm surges and breach of shore line defences
- When grounds are already saturated, above average rain, snow or ice melts occur.
- When there is poorly maintained, blocked, overloaded or insufficient drainage.
- Where existing water mains are damaged or in disrepair.

Flooding is a natural occurrence which cannot be entirely prevented. Floods can have a devastating effect on companies, not only from the immediate physical impact of flood water, but also on its potentially long term interruption on business. Appropriate preparation and action conducted in advance of a flood may help to reduce the immediate impact, physical damage and interruption to the business operations.

To help mitigate the effect of a flood, this guide provides some advice in the action to be taken before, during and after a flood incident.

Flood risk assessment

To establish the most effective way of protecting the business from consequences associated with flooding, the following risks should be evaluated:

- The property as a whole
- The Buildings
- The Equipment
- The inventory and all other contents

Some of the areas for consideration within the risk assessment process should include:

- Distance from all flowing and static water: Sea, rivers/tributaries, creeks, streams, culverts, ditches, ponds, lakes, reservoirs, canals, overflow facilities, etc.
- Whether there are planned changes to the existing flowing or static water (damming, re-routing, change in overflow facilities etc.) - both in immediate areas and also upstream and downstream of your site.

- Condition of existing flood defences and equipment and whether there are planned repairs/upgrades/ downgrades - who is maintaining these?
- Location and extent of any future planned on-site or local authority flood defences.
- The topography of the land upon which your business is built on - including sloping (direction of slope), flat, on a summit etc. - and the surrounding land in relation to the site. Will water flow towards you or away?
- Whether there is any planned building construction on-site or on third party land that would affect the site and surrounding area and the normal water flows.
- Yard storage arrangements of third party sites - could these block drains, redirect water flows to your site etc.
- Surrounding natural vegetation or trees and potential involvement in a flood.
- Incorporating flood prevention/ mitigation techniques within the design of any new buildings, plant, equipment, future additions or projects.
- The presence or otherwise of existing or planned floodplains.
- Condition of existing site, nearby third party and public surface and underground drainage/waste water facilities, dyke arrangements and any planned changes to them.
- Suitability of maintenance programs for storm water gutters, downspouts, culverts, bridges and site roof, floor and yard drainage systems.
- Condition of existing flood removal and clean-up equipment.
- Surrounding water pool levels.
- Whether any processes or storage arrangements within the business would affect the flood risk.
- Firefighting water run-off effects.
- Historical flood data/previous incidents.

Assistance with assessing and Mitigating the Flood Risk

To help in the assessment process, there are a number of agencies, associations and organisations which can provide useful advice on such items as flood risk assessments, flood warnings, flood protections and flood preparedness advice:

- Local State Emergency Service (SES)
- Geoscience Australia www.ga.gov.au/index.html
- Local Governments / Councils
- Local Water Authorities
- National Committee on Water Engineering - www.engineersaustralia.org.au
- Engineers Australia

Business Flood Plan

A flood plan should be:

☐ Formulated to assist with damage mitigation and reduced business interruption.

☐ A formal, user friendly document that fully details how the business will respond and take action in a pre-flood, flood threat, actual flood and post flood situation.

☐ Readily available and accessible to all key staff having responsibilities and appropriate training for flood action implementation.

☐ Reviewed and re-assessed on a routine basis (minimum annually) to make any changes, alterations/ updates made as appropriate.

☐ Reviewed / updated after a flood to take account of any lessons learnt from the incident.

☐ Regularly tested (minimum annually).

To help with the implementation of the plan, detailed checklists for pre-flood/ flood threat and post flood conditions should be incorporated indicating the order in which processes, plant, equipment and utilities are to be shut down or isolated as appropriate and the site/premises made secure. Within the pre-flood/flood threat checklist, the length of time required to complete the tasks should be determined in advance, so that the appropriate action can be taken at the right time.

As a minimum, the following areas/items should be formally included in the plan:

- Interaction with local government planning departments, State Emergency Service and Australian Bureau of Meteorology.
- A list of all useful and applicable contacts - web addresses and telephone numbers as appropriate - private and public utility providers, emergency services, local authorities, customers, suppliers and available alternatives, applicable contractors for flood protection product installation, clean-up and repair operations.
- Strategies for protecting the property, buildings, equipment, stock, and all other contents, including vehicles and mobile plant, with appropriate permanent or temporary flood protection measures, products, barriers or defences.

Instructions

- To contact the local Chubb office and your insurance broker in the event of receiving any flood warnings.
- For alerting the local emergency services as appropriate.
- For emergency isolation and shutdown procedures for all plant, equipment, processes (including flammable and/or combustible liquids, gas and air lines, etc.), private and public utilities (gas, water and electricity), buildings and areas, in the event of flood warnings being received.
- For the relocation of business critical plant, equipment, stock, data, vehicles, mobile plant, all other contents and hazardous, flammable, combustible and volatile materials to safer areas on and off-site as appropriate.

Provision of:

- Suitable and sufficient flood protection measures and products (resistant measures and resilient repairs as appropriate), such as sand, sand bags, grease, anti-rusting compounds, plastic sheeting, tarpaulins, boards, "skirting systems," covers, non-return valves to prevent sewage back-up, etc., as appropriate, together with suitable tools and equipment needed to install.
- Appropriate and sufficient equipment for clean-up/repair after a flood, such as torches, mops, buckets, hoses, shovels, pumping equipment, emergency electrical power and lighting as appropriate.

Plans/maps which highlight:

- The location of all flood protection products and instructions/training in their storage and use as appropriate.
- Any business critical private and public utilities, plant, equipment, stock, data, buildings, areas and contents.
- The location of hazardous, flammable, combustible and volatile materials, gases or liquids.
- The location of processes or storage facilities that would be susceptible to flood water ingress/contamination/ damage, and if affected could result in an extended interruption in business.
- The location of isolation/shut-down points for plant, equipment, processes (including flammable and/ or combustible liquids, gas and air lines etc.), private and public utilities (gas, water and electric), buildings, areas, etc.
- Procedures and strategies for securing, compounding and fencing yard contents, stock, plant, cylinders, equipment etc. and relocating any mobile plant and vehicles to safer areas that would not be affected by the flood as appropriate.
- Strategies for reducing the business interruption potential and assisting in the recovery process, contingency planning process.

Pre-Flood/Flood Threat Checklist

	Action to be taken	Time required	Completed
1.	Shut down and isolate all business critical processes, plant, equipment, private and public utilities as appropriate.		
2.	Check sump pumps are in working order, and roof, floor and yard drainage systems/downspouts/gutters etc. are clear of any debris/vegetation/silt/ blockages.		
3.	Close/shut manually operated drainage valves/systems to reduce the potential for backflow.		
4.	Drain any open tanks of hazardous, flammable, combustible and other volatile materials. Shut down any flammable liquids, volatile materials and flammable gas operations.		
5.	Relocate any business critical machinery, plant, equipment, vehicles, stock, data, drawings, records etc. to safer areas clear of potential flood water levels.		
6.	Secure any portable containers of flammable, combustible and other volatile materials, liquids and gases that cannot be moved to safer areas.		
7.	Cover/protect/shroud (e.g. greasing agents, anti-rusting compounds, plastic sheets/tarpaulins) business critical machinery, plant, equipment etc. that cannot be moved to safer areas.		
8.	Support any vulnerable pipe work and structural members of buildings, plant, equipment etc. under construction.		
9.	Ensure any portable back-up/standby generating equipment is fully fuelled.		
10.	Secure and/or fill any above and below ground tanks, vessels and cylinders etc. that could be susceptible to flotation.		
11.	Secure or relocate yard items that cannot be moved to safer areas and could be transported in a flood and could potentially cause back-up problems, e.g. storage, cylinders, vehicles etc.		
12.	Fill sandbags and install all flood protection products as appropriate, to protect business critical buildings, areas, plant, equipment, utilities, hazardous facilities, fire sprinkler/suppression pump house etc.		
13.	Ensure all fixed fire detecting and fighting equipment together with physical and electronic security systems are in working order.		
14.	Contact and put all designated clean-up/ repair and replacement contractors on alert and readiness.		
15.	Contact the local Police and appointed security watchman/guarding services etc. to monitor potential security breaches, increasing manned guarding levels as appropriate.		
16.	Contact your local Chubb office and your insurance broker and inform them of potential flood conditions.		

Post Flood Checklist

Action to be taken:

1. Cooperate
   - Local Police, Fire, and State Emergency Service units.
   - Local Health and Safety, and Environment Agencies.
   - Any other authorities having jurisdiction, as appropriate.

2. With the approval of Chubb Insurance Australia Limited and/or appointed loss adjusters, work together with the above authorities having jurisdiction (as appropriate) to assess the damage and what action needs to be taken.

3. Before instigating clean-up/drying, repair and replacement activities:
   - Keep the safety of yourself, your staff and your contractors/visitors as your #1 priority.
   - Ensure flood water levels have dropped/are dropping and local weather forecasters are predicting lower rainfall.
   - Check flood affected areas, including storage racking, tanks, vessels, fire rated compartments etc. for structural integrity/stability/damage, and secure/dismantle as appropriate.
   - Check for the presence of any hazardous/flammable or volatile liquids, gases and materials that might have escaped and remove/purge as necessary.

4. Instigate clean-up/drying, repair and replacement activities, including appointment of designated contractors as appropriate.

5. Clean-up/drying, repair and replacement activities should be prioritised, dealing with business critical plant, equipment, stock, utilities, buildings, etc. in the first instance.

6. Pump out any standing water and remove blockages, debris and silt.

7. Ensure all on-site storm drainage systems (including internal and external gutters and downspouts), bridges, roads, ditches and culverts are clear and free of blockages/debris/silt.

8. Assess any nearby off-site drainage systems, bridges, roads ditches and culverts to have any blockages/debris/silt removed by the appropriate authorities.

9. Notify Chubb and your broker of any impairment to fixed fire detecting and fighting equipment and fire rated compartments, together with any flood affected electronic security systems.

10. Return any flood damaged fire detecting and fighting equipment and fire rated compartments, together with any flood affected electronic security systems, to working order as soon as possible.

About Chubb in Australia

Chubb is the world's largest publicly traded property and casualty insurer. Chubb, via acquisitions by its predecessor companies, has been present in Australia for 100 years. Its operation in Australia (Chubb Insurance Australia Limited) provides specialised and customised coverages including Business Package, Marine, Property, Liability, Energy, Professional Indemnity, Directors & Officers, Financial Lines, Utilities as well as Accident & Health, to a broad client base, including many of the country's largest companies. Chubb also serves successful individuals with substantial assets to insure as well as individuals purchasing travel and personal accident insurance.

More information can be found at www.chubb.com/au.

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Chubb Risk Management Bulletin - Business Flood Planning and Mitigation Guide, Australia. Published 03/2021.

Chubb15-13-0321