BROKEN HEAD QUARRY POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

EPL 4860

This plan is prepared in accordance with the:

- Protection of the Environment Operations Act 1997,
- Protection of The Environment Regulation (General) 2009

A listing of the sections of the above relevant to the PIRMP is contained in Appendix 1.

Plan Prepared by D. Morris. General Manager Quarry. 6th June 2013 Broken Head

Updated By Andrew Doig ASBG 5th April 2019

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1. The objects of this plan

The objectives of this plan are to:

- To ensure timely and comprehensive communication of any incidents to relevant stakeholders.
- To identify, minimise and control any risk of a pollution incident.
- To ensure proper implementation of the plan by trained staff.
- To ensure regular reviewing & updating of the plan.
- To set out clear procedures to be followed in the unlikely event of a pollution incident.

2. Scope of the Plan

The scope of the plan is to cover the Broken Head Quarry area defined under its Environment Protection Licence (EPL) 4860.

It is important to note the quarry operations ceased and the site is in a rehabilitation phase, with at most two staff on site engaged in planting, rehabilitation and minor maintenance activities.

3. Definition of Pollution Incident.

A pollution incident is an incident or set of circumstances where there is or is likely to be a leak, spill or other escape of a substance which would or is likely to result in pollution. It does not include those incidents which involve noise.

4. What is a Material Harm Incident?

Any pollution incident which:

- Exceeds a cleanup cost estimated to exceed $10,000 or
- Is not deemed by BHQ as "trivial " must be dealt with in accordance with this plan.

is considered to be a Material Harm incident requiring the immediate notification of the five agencies listed in s148 POEO Act.

Non-trivial incidents may include:

- If the media is involved and broadcasts or is likely to broadcast the incident.

- Complaints based on annoyance, where more than 4 separate complaints are received for the same confirmed incident from the site, within the timeframe of the incident.
- Complaints, as above, but based on recorded medical condition, where more than 2 occur within the timeframe of the incident.

Broken Head Quarry uses four levels for pollution incidents, but only level 3 and 4 trigger Material Harm, and levels 1 to 2 are used for defining trivial incidents:

- Level 1 → Trivial incident in which the incident is easily managed by internal means and there is no off-site emission and the scale of the incident is small and easily contained, but internally reported and managed.
- Level 2 → A trivial incident (sub-material harm) which is more about complaints than environmental harm, such as small scale dust or odour emissions or minor exceedances in licence limits. While not considered material harm under this PIRMP, they may require at least a courtesy call to the EPA to inform of a minor Licence issue or non-conformance.
- Level 3 → A lower level Material Harm incident where a Fire Unit is not required (e.g. 000 is not required to be called.
- Level 4 → A high level Material Harm incident where a Fire Unit is required or the spill, escape is of a large significance requiring external emergency response.

5. Potential Pollution Hazards within Broken Head Quarry

- Fuels, Oils & Lubricants.
- Other assorted mechanical workshop chemicals
- Herbicides
- Flocculants and coagulants used for
- Surface Water sedimentation ponds.
- Silt settling ponds
- Fire water from fighting fires on the site
- Dust

6. Pre-emptive Actions with Regard to Identified Hazards

All fuels, oils & liquid lubricants are stored in or on bunded areas. These bunded areas comply with

- AS 1940 - 2017, The storage and handling of agricultural and veterinary chemicals
- AS 2507 - 1998. The storage and handling of flammable and combustible liquids

Any handling of these goods is done by suitably competent and authorised personnel only.

Workshop chemicals, pesticides, paints & solvents are in small quantities only, so pose no threat to the environment beyond our boundaries.

Spill kits are located in both workshops & the container which houses the herbicides. All staff are trained in the use of the spill kits.

East Side

The site's Environment Protection Licence requires 82.5mm (up to five day event duration) to be held on site. If discharge occurs is must not exceed 50 mg/kg suspended solids concentration. Clean water is allowed to drain off this main dam towards the east, as permitted by the Department of Planning and Environment and the NSW Office of Water.

Should the holding capacity of the dams be tested, we pump the excess water through the plant, then to the east side silt pond, treating it as it discharges to the pond. After treating with flocculent and coagulant, the resulting, clean water is released to our main dam on the east side. This dam has a holding capacity of 20 mega litres.

As no activity has occurred on this side of the site, after rehabilitation was finalised hence no water treatment has been necessary. No chemicals or liquids other than from natural runoff of kept on this side. The east side is considered of very low risk for all pollutants.

West Side

Surface water west side, is retained on-site. Holding dams with a capacity in excess of 8 mega litres catch all storm water runoff. Run-off from the site passes through a series of sediment traps, then into our process dam.

The coagulants and flocculants are stored within a bunded container. The risk of both the container and the bund failing inside a normally locked small shipping container arrangement is considered very low.

Overspill from the treatment dam into east side the final "lily dam", prior leaving the site, has not occurred for the last 5 years. No stormwater discharge has left the east side of the site from the treatment dam during this time. As the area is of sandy geography, absorption into the ground is high, which also assists in the lowering of dam levels along with evaporation and irrigation around the site.

As a consequence of the likely nil discharge outcome any spilt chemicals such as diesel, would be captured in our dams and would not go off site. A scenario where a large diesel spill occurred during an overflow event is considered a very low risk event. Removal of the

diesel tank would probably be one of the most risky events to be undertaken, which is considered of low risk.

Dust is of low risk and controlled to the best of our ability, by continuous use of a water cart available at the site. As the site is in rehabilitation phase the level of earthworks is minor and accordingly is the emission of dust.

7. Inventory and Location of Pollutants

See SDS master file in weighbridge office, or SDS documents in holders at the door of each relevant storage area for details on all chemical pollutants. Hard copies of relevant MS-DS sheets are attached to the hard copy of this document, on file in the office of the Quarry Manager.

Table 1 Inventory, location and physical controls on liquid and gaseous pollutants on site

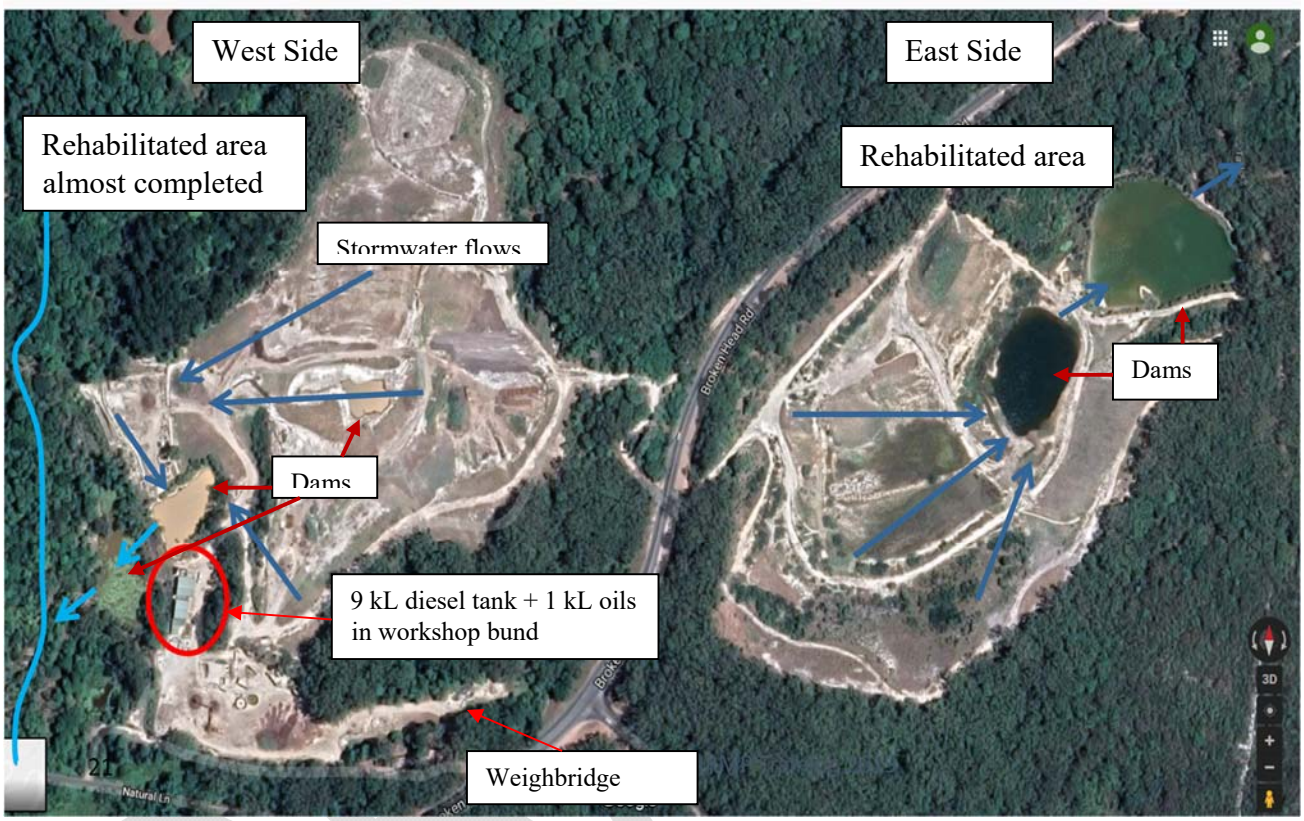
Substance	Amount (max)	Location
Dam waters	28 ML	In 4 main dams on site see map
Oils	1,100 L	In bunded area in workshop
Diesel	9,000 L	In bunded area north of workshop
Poly Aluminium Chloride solution	1,000 L	In bunded container north of workshop
Bicarbonate pH stabiliser solution	1,000 L	In bunded container north of workshop
Oxygen gas	30 L	One cylinder in workshop
Acetylene	20 L	One cylinder in workshop
Petrol	20 L	In small motors – pumps and garden equipment

Other pollutants:

- Surface storm water run-off → rare event
- Dust

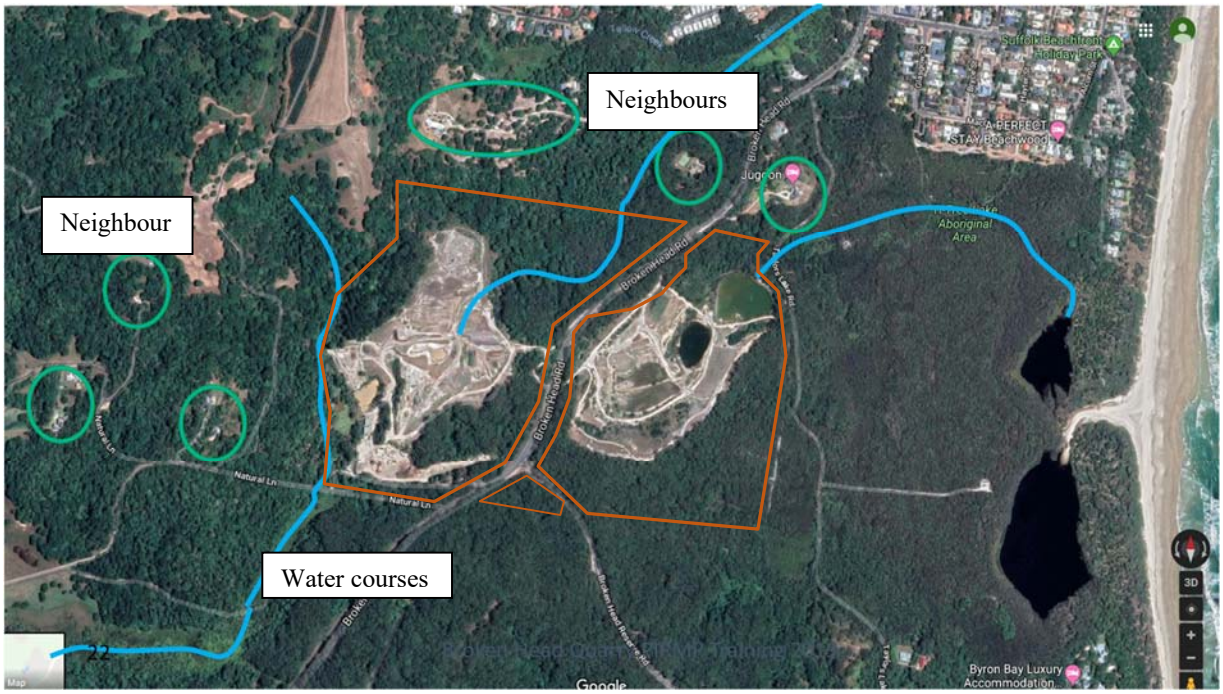
8. Map views and locations of various pollutants

West Side **East Side**

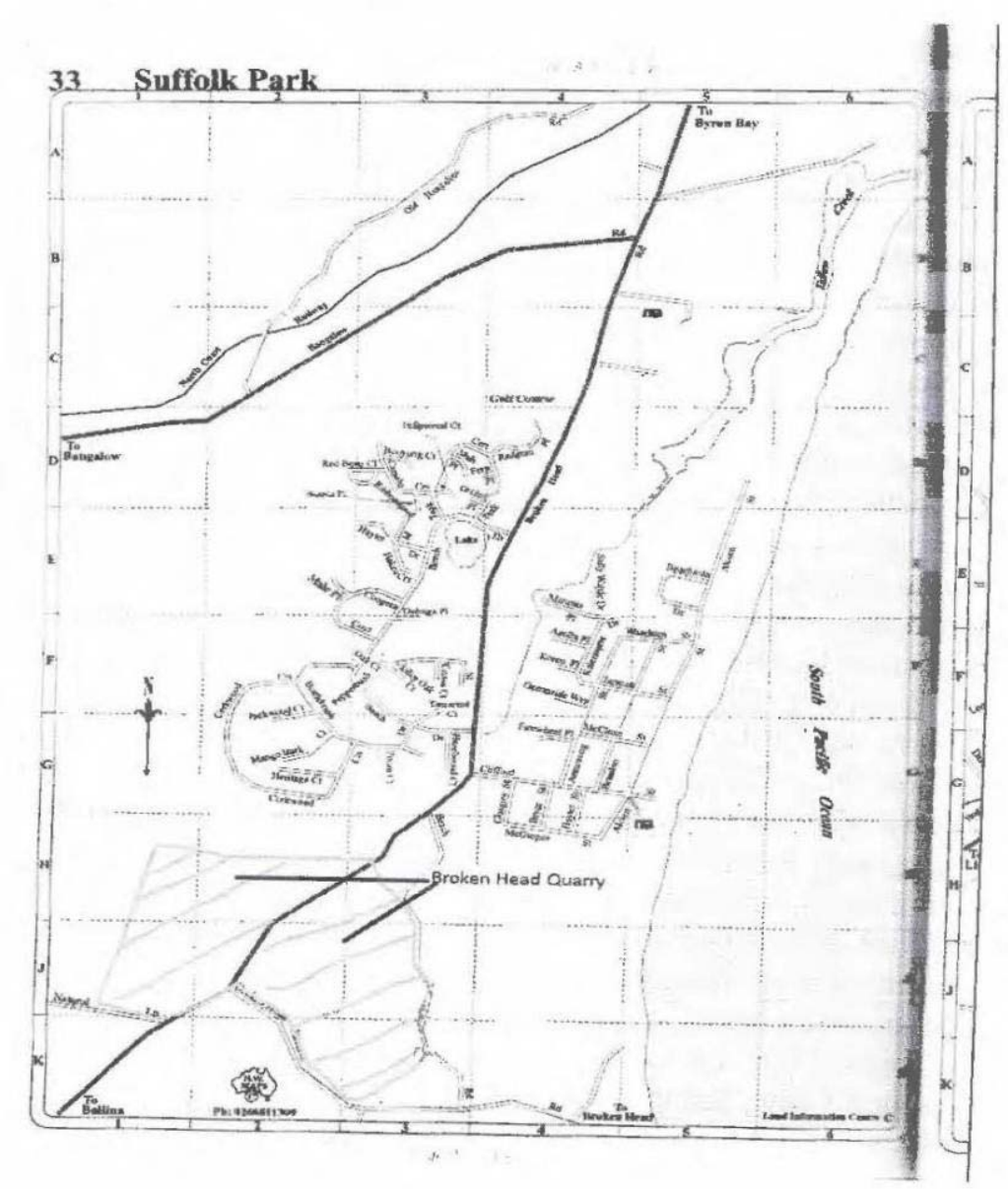


9kL Diesel tank in bund

Site Location with neighbours



Property Location Diagram.



9. Safety and Treatment Equipment Available

- Spill kits. These kits contain various absorbent capable products. Socks, Booms, Pads, Powders. The larger 240litr wheelie bin kits are located in the mechanical workshop and the Red container. Smaller mobile kits are available at the same location plus one carried in our water-cart, for emergency use.
- PPE equipment is available for all staff. All staff are trained and encouraged to use the appropriate PPE when handling the various hazardous materials that they sometimes do. PPE equipment available includes, but is not limited to: Masks, Hearing protection, Gloves, Overalls, Raincoats, Helmets. The wearing of correct PPE is mandatory at Broken Head Quarry.
- SDS sheets for all hazardous materials held on site, are found at the entrance to each storage facility & a master copy at the weighbridge office.
- Site plant such as water carts, pumps, hoses and loaders etc can be used to combat incidents and minimise pollution
- Fire extinguishers are available at the workshop near the storage of flammable and combustible liquids. The availability of the water cart is also considered relevant safety equipment in the case of fires.
- The lower treatment dam has a treatment plant which is capable of mixing flocculants, coagulants and other treatment chemicals into the dam. Rapid settling of suspended solids is a common outcome when using this system.

10. Material Harm Mandatory Contact List

If a Material Harm incident is declared then the following five agencies are required to be contacted depending on the severity of the incident:

If the incident poses a serious & imminent threat to persons, property or the environment immediately call :

Fire and Rescue	**000**
EPA	131 555
Ministry of Health (North Coast - Lismore PHU)	6620 7500
SafeWork NSW	131 050
Local Authority (Byron Council)	6626 7000

If there is not an immediate threat to human health or the environment call:

EPA first	131 555
Local Authority (Byron Council)	6626 7000
Ministry of Health (North Coast - Lismore PHU)	6620 7500
SafeWork NSW	131 050
Fire and Rescue	1300 729 579

Other relevant authorities may also be required to be informed. These include.

EPA local office. Grafton	02 6640 2500
NSW Dept of Planning.	02-9228-6403
NSW Dept of Primary Industries	02-6738 8509
NSW Office of Water. (If relevant.)	1800-353-091
BHQ. Quarry Manager.	02-6685 4573
	mob 0418-254-695

11. Early Warnings to Neighbours

As well as the regulatory authorities and specified quarry officers, it may be necessary to inform neighbours or anyone else who may or are likely be affected by the pollution incident for example:

- Properties located downstream of material harm pollution involving a local water course.
- Properties located downwind of any significant air pollution, such as a fire or major dust emission.

This could be achieved by a personal visit or by phone. It will be necessary to inform all interested parties of:

- The Nature & size of the incident.
- All relevant information regarding any chemical if chemical are involved.
- What to do to protect themselves, such as keep windows closed if it is an air pollution issue such as from dust or smoke or avoid use of creek waters if it is contaminated
- What steps are in place to rectify the incident.
- Supply the contact details for the person in charge of the incident, should the interested party require further information.

A smaller variation of this plan will be posted on the Broken Head Quarry website as required by s98D(2) POEO Regulation 2009.

12. Procedures to minimise the risk of harm to staff

The likelihood of a large pollution incident, on the property, is very low as the site is in rehabilitation phase.

Staff may only combat an incident if it is safe to do so.

Staff combating any incident will be required to wear the default safety gear:

For aquatic spills and incidents

- Safety boots,
- High visibility working clothes

For fuels and other chemicals

- Safety boots
- Gloves
- Full length clothing
- Safety glasses

It may be necessary to set up an exclusion zone around the perimeter of a significant pollution incident. In the event of an incident occurring, the person in charge will delegate a company representative to attend to any traffic entering Broken Head Quarry. Considering the quarry is in rehabilitation phase the amount of vehicle traffic, is minimal and use of barrier tape is considered unwarranted as the two staff will need to manage vehicle traffic if they arrive.

For large incidents such as a major bush fire or fuel fire, BHQ has an emergency assembly point at the weighbridge.

13. Actions to Be Taken, During or After a Pollution Incident.

In the unlikely event of a pollution incident, the following will occur.

Communications and Material Harm declaration

- Personnel on the scene will immediately contact the Quarry Manager.
- The extent of the pollution threat will be determined by those on the scene. The Pollution Incident Response Plan put into effect immediately, if necessary.
- Appropriate authorities will be contacted. (Contact details on page 6 of this plan.)
- Spill kits and or other means will be utilized to contain any leak if possible. If insufficient absorbent equipment is available, soil or sand will be used as a temporary containment barrier.

- If the spill is likely to escape beyond the property boundaries and cause >$10,000 clean up costs, or poses a threat to neighbours Material Harm will be triggered
- If Material Harm is triggered notification procedures to the five agencies will be implemented.
- There is sufficient holding capacity in all of our ponds, which all surface run-off of any kind must pass through, that there is very little likelihood of anything escaping beyond the boundary. However, if the cleanup cost of a spill affecting one of our dams > $10,000 then Material Harm will be triggered.
- When time permits contact the head office in Sydney regarding the event.
- If the leak or spilt material is likely to go off-site and the incident is of such a scale consider notifying neighbours which may be affected.

Physical actions

- Do not combat the spilt material, fire or other incident unless it is safe to do so. A mental safety evaluation should be undertaken before anyone is permitted to get close to any spilt chemicals, fire or other dangerous situation
- Any equipment involved, or in the vicinity, will be shut-down.
- Where safe to do so minimise further leakage by turning off valves or the machine, plugging leaks with bungs etc.
- Depending on the size of the spill: Quick construction of barriers or earth mounds, bunds and dams, sandbags and spill kits socks/pillows or absorbent materials to minimise spread of liquids and flowable solids and muds.
- Where possible clean-up the spill material quickly, using our own equipment.
- Do not flush stormwater drains with water unless authorised by the controlling agency e.g. Fire Brigade or EPA
- In the event of a major event, e.g. a diesel delivery tanker falling into one of our ponds, we could isolate any given area or pond with fill materials if sufficient spill equipment was not immediately available.
- Containers and drums which contain spilt materials to be stored temporarily until collected for waste disposal.
- Disposal of spilt materials, if not of an organic nature, would take place after consultation with local authorities and the EPA to determine the best place for treatment and or disposal.

14. Staff Training.

All company staff have had training in:

- Understanding what constitutes a pollution incident
- The steps to be taken in the event of any pollution incident
- Use of appropriate spill equipment and it's location on-site
- The location of copies of this plan

- Safety procedures in the event of any pollution incident
- Training log can be found in staff personnel files & training records

15. Updating and Testing Of the Plan

Effective date: **4 April 2019**

Review date before 4 April 2020 if the site's EPL is in force

This Plan will be updated according to the following:

- 12 months from the last update
- Within one month of a Category 1 Incident

Or unless the sites Environment Protection Licence is surrendered

Testing dates

This Plan will be tested according to the following:

- 12 months from the last test, or
- On before one month after a Material Harm reportable incident.

Recording of Testing

A detailed record of the testing of the Plan will be prepared after each testing of the plan is undertaken. If the test identifies any shortcomings in the Plan, especially the implementation of the spill response procedures, the Plan will be corrected or appropriate non-conformance actions will be undertaken.

16. Implementation Of The Plan

The POEO Act 1997 s 153F requires the Plan be implemented if a pollution incident occurs. $2 million maximum fines apply for failing to implement the Plan.

Hence if a pollution incident occurs:

- It must be responded to according to this Plan and its reference documents.
- An incident response report/audit must be completed

Appendix 1 – Regulatory Requirements

PIRMP Legislation extract

POEO Act Part 5.7

153A **Duty of licence holder to prepare pollution incident response management plan**
The holder of an environment protection licence must prepare a pollution incident response management plan that complies with this Part in relation to the activity to which the licence relates.

153C **Information to be included in plan**
A pollution incident response management plan must be in the form required by the regulations and must include the following:

(a) the procedures to be followed by the holder of the relevant environment protection licence, or the occupier of the relevant premises, in notifying a pollution incident to:
(i) the owners or occupiers of premises in the vicinity of the premises to which the environment protection licence or the direction under section 153B relates, and
(ii) the local authority for the area in which the premises to which the environment protection licence or the direction under section 153B relates are located and any area affected, or potentially affected, by the pollution, and
(iii) any persons or authorities required to be notified by Part 5.7,
(b) a detailed description of the action to be taken, immediately after a pollution incident, by the holder of the relevant environment protection licence, or the occupier of the relevant premises, to reduce or control any pollution,
(c) the procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and, in particular, the persons through whom all communications are to be made,
(d) any other matter required by the regulations.

153D **Keeping of plan**
A person who is required to prepare a pollution incident response management plan under this Part must ensure that it is kept at the premises to which the relevant environment protection licence relates, or where the relevant activity takes place, and is made available in accordance with the regulations.

153E **Testing of plan**
A person who is required to prepare a pollution incident response management plan under this Part must ensure that it is tested in accordance with the regulations.

153F **Implementation of plan**
If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of section 147) is caused or threatened, the person carrying on the activity must immediately implement any pollution incident response management plan in relation to the activity required by this Part.

POEO (General) Regulation 2009

98C(a) **Hazards:**
A description of the hazards to human health or the environment associated with the activity to which the licence relates

98C(b) **Likelihood:**
the likelihood of any such hazards occurring, including details of any conditions or events that could, or would, increase that likelihood,

98C(c) **Pre-Emptive Action:**
details of the pre-emptive action to be taken to minimise or prevent any risk of harm to human health or the environment arising out of the relevant activity,

98C(d) **Pollutant Inventory Types:**
an inventory of potential pollutants on the premises or used in carrying out the relevant activity,

98C(e) **Pollutant Inventory Quantities:**
the maximum quantity of any pollutant that is likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates,

98C(f) **Safety Equipment:**
a description of the safety equipment or other devices that are used to minimise the risks to human health or the environment and to contain or control a pollution incident,

98C(g) **Staff Contacts:**
the names, positions and 24-hour contact details of those key individuals who:
are responsible for activating the plan, and
are authorised to notify relevant authorities under section 148 of the Act, and
are responsible for managing the response to a pollution incident,

98C(h) **Authority Contact:**
the contact details of each relevant authority referred to in section 148 of the Act,

98C(i) **Early Warnings Neighbours:**
details of the mechanisms for providing early warnings and regular updates to the owners and occupiers of premises in the vicinity of the premises to which the licence relates or where the scheduled activity is carried on,

98C(j) **Staff Safety:**
the arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried on,

98C(k) **Maps:**
a detailed map (or set of maps) showing the location of the premises to which the licence relates, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises and the location of any stormwater drains on the premises,

98C(l) **Early Warnings General:**
a detailed description of how any identified risk of harm to human health will be reduced, including (as a minimum) by means of early warnings, updates and the action to be taken during or immediately after a pollution incident to reduce that risk,

98C(m) **Training of Staff:**
the nature and objectives of any staff training program in relation to the plan,

98C(n) **Timing of Testing:**
The dates on which the plan has been tested and the name of the person who carried out the test,

98C(o) **Updating of Plan:**
the dates on which the plan is updated,

98C(p) **Plan Testing**
the manner in which the plan is to be tested and maintained.

98D(1) **Availability of plan:**
(1) A plan is to be made readily available:
(a) to an authorised officer on request, and
(b) at the premises to which the relevant licence relates, or where the relevant activity takes place, to any person who is responsible for implementing the plan.

98D(2) **Publishing Plan Parts:**
(2) A plan is also to be made publicly available in the following manner within 14 days after it is prepared:
(a) in a prominent position on a publicly accessible website of the person who is required to prepare the plan,
(b) if the person does not have such a website--by providing a copy of the plan, without charge, to any person who makes a written request for a copy.

Procedures under Act:
3) Subclause (2) applies only in relation to that part of a plan that includes the information
98D(3) required under:
(a) section 153C(a) of the Act, and
(b) clause 98C (1) (h) and (i) or (2) (b) and (c) (as the case requires).

Privacy Protection:
98D(4) (4) Any personal information within the meaning of the *Privacy and Personal Information Protection Act 1998* is not required to be included in a plan that is made available to any person other than a person referred to in subclause (1).

Testing of the Plan - 1) The testing of a plan is to be carried out in such a manner as to
98E(1) ensure that the information included in the plan is accurate and up to date and the plan is capable of being implemented in a workable and effective manner.

Minimum Testing:
2) Any such test is to be carried out:
(a) routinely at least once every 12 months, and
98E(2) (b) within 1 month of any pollution incident occurring in the course of an activity to which the licence relates so as to assess, in the light of that incident, whether the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner