FLOOD PROCEDURE MANUAL

WIVENHOE DAM

SOMERSET DAM

NORTH PINE DAM

LESLIE HARRISON DAM

UNCONTROLLED SPILLWAY DAMS

Uncontrolled Copy

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Agency	Responsible Person	Location
Seqwater	Dam and Source Operations Manager	Margaret Street, Brisbane
Seqwater	Principal Engineer Dam Safety	Karalee
Seqwater	Principal Hydrologist	Margaret Street, Brisbane
Seqwater	Operations Coordinator, North	Landers Shute
Seqwater	Operations Coordinator, Central	Wivenhoe Dam
Seqwater	Operations Coordinator, South	Karalee
Seqwater	Storage Supervisor	Leslie Harrison Dam
Seqwater	Storage Supervisor	North Pine Dam
Seqwater	Storage Supervisor	Somerset Dam
Seqwater	Storage Supervisor	Wivenhoe Dam
Seqwater	Senior Flood Operations Engineer	Flood Operations Centre, Brisbane

DEFINITIONS

"Act" means the *Water Supply (Safety and Reliability) Act 2008*;

"AEP" means annual exceedance probability, the probability of a specified event being exceeded in any year.

"AHD" means Australian Height Datum;

"Chairperson" means the Chairperson of Seqwater;

"Close Call" means being able to be contacted at all times and being able to report for duties at a designated site within two hours of being contacted.

"Controlled Document" means a document subject to managerial control over its contents, distribution and storage. It may have legal and contractual implications;

"Dams" means dams to which these procedures apply, that is Wivenhoe Dam, Somerset Dam, North Pine Dam and Leslie Harrison Dam;

"Dam Operator" means a person who has been trained and who is competent to release flood water from a dam and undertake all required Flood Event duties at a dam;

"Dam Supervisor" means the senior on-site officer at a Dam;

"Duty Flood Operations Engineer" outside a flood event means the Flood Operations Engineer currently on close call. During a flood event, means the Flood Operations Engineer currently controlling the Flood Operations Centre.

"EAP" means Emergency Action Plan for a Dam;

"EL" means elevation in metres Australian Height Datum;

"Event Log" means the handwritten log of significant events that is maintained at operational sites during a Flood Event;

"Flood Event" is a situation where the Duty Flood Operations Engineer expects the water level in either of the Dams to exceed the Full Supply Level;

"Flood Officers" means personnel who work in the Flood Operations Centre supporting the Flood Operations Engineers;

"Flood Manuals" means Manual of Operational Procedures for Flood Mitigation for Wivenhoe Dam and Somerset Dam and the Manual of Operational Procedures for Flood Releases from North Pine Dam;

"Flood Operations Centre" means the Centre used during by Flood Operations Engineers to manage Flood Events;

"Flood Operations Engineer" means a person designated to direct flood operations at the dams in accordance with the Flood Manuals;

"Flood Operations Manager" means a person designated to be responsible for the overall management of the Flood Operations Centre;

"FSL" or "Full Supply Level" means the level of the water surface when the reservoir is at maximum operating level, excluding periods of flood discharge;

"Gauge" when referred to in (m) means river level referenced to AHD, and when referred to in (m^3/s) means flow rate in cubic metres per second;

"Senior Flood Operations Engineer" means a person designated in accordance with the Flood Manuals;

"Seqwater" means the Queensland Bulk Water Supply Authority trading as Seqwater.

"Significant Event" means any event that relates to water release, dam safety or public safety that occurs during a Flood Event. This includes instructions to dam operators and information provision to individuals and agencies external to Seqwater.

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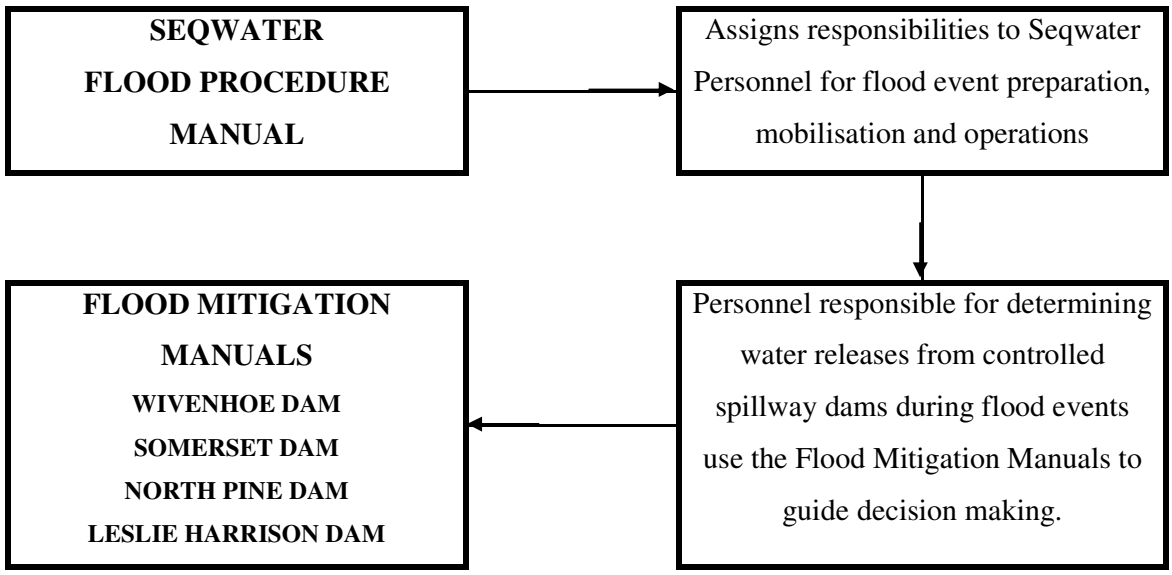
1 INTRODUCTION

Given their potential significant impact on downstream populations, it is imperative that Seqwater's dams are operated during flood events in accordance with clearly defined procedures to minimise impacts to life and property. This Manual contains the procedures that describe the responsibilities of Seqwater personnel for flood event preparation, mobilisation and operation, in relation to Seqwater's dams.

For Wivenhoe, Somerset and North Pine Dams, the procedures refer to Flood Mitigation Manuals that have been prepared and gazetted in accordance with the Water Supply Act 2008. These Manuals contain operating principles under which decisions relating to the release of water from these dams during flood events must be made. A Flood Mitigation Manual has also been prepared for Leslie Harrison Dam and although this Manual is yet to be gazetted under the Act, it should still be used as the basis for decision making in relation to the release of water during flood events.

The relationship between this Manual and the Flood Mitigation Manuals for Wivenhoe, Somerset, North Pine and Leslie Harrison Dams is outlined in the diagram below. The Uncontrolled Spillway dams do not have associated Flood Mitigation Manuals as it is not possible to in any way influence flood releases from these dams during flood events.



2 FLOOD OPERATIONS CENTRE – STAFFING ARRANGEMENTS AND CENTRE ADMINISTRATION

2.1 Preparedness

Purpose

This procedure is used to ensure that the Flood Operations Centre is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of the Flood Operations Centre for Flood Events. It defines the responsibilities of the Flood Operations Engineers and Flood Officers in ensuring that the Flood Operations Centre is properly maintained.

Responsibilities

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. This Flood Operations Manager is to ensure that:

- A Flood Operations Engineer and three Flood Officers are on close call and ready to attend the Flood Operations Centre if called. Personnel on close called are termed Duty Flood Operations Engineer and Duty Flood Officer.
- Sufficient Flood Operations Engineers and Flood Officers are available to staff the Flood Operations Centre if a Flood Event is declared. A flood event could require 24 hour staffing of the Flood Operations Centre over a period of weeks.
- Contact details for Flood Operations Engineers and Flood Officers are up to date.
- Current copies of the following documents are available in the Flood Operations Centre:
    - Manual of Operational Procedures for Flood Mitigation for Wivenhoe Dam and Somerset Dam.
    - Manual of Operational Procedures for Flood Mitigation for North Pine Dam.
    - Wivenhoe Dam – Emergency Action Plan.

  - Somerset Dam – Emergency Action Plan.
  - North Pine Dam – Emergency Action Plan.

- The following facilities are available in the Flood Operations Centre:
  - The data collection and modelling systems are required to manage Flood Events at Wivenhoe, Somerset and North Pine dams.
  - Sufficient stationary and forms.
  - Landline telephone, mobile telephone, satellite telephone, Seqwater radio network, facsimile and email communication systems.
  - Power systems and back-up power systems required to ensure computer system reliability during a flood event.

The Duty Flood Operations Engineer must ensure that they:

- Are contactable at all times by telephone.
- Have constant access to facilities that provide appropriate real time monitoring of dam and catchment conditions.
- Are able to travel to the Flood Operations Centre in two hours to direct the mobilisation and operation of a flood event, without compromising the safety of the dams or the intent of the Flood Mitigation Manuals.
- As incoming Duty Flood Engineer, organise handover from the current duty staff. This handover normally occurs in the Flood Operations Centre and involves both the staff coming off a period of close call and the staff commencing a period of close call. Expected weather conditions during the commencing close call period and any current issues impacting on the operation of the Flood Operations Centre are to be discussed during the handover.
- As outgoing Duty Flood Engineer, prepare a status summary sheet for Wivenhoe, Somerset and North Pine dams as shown in Appendix A.
- Contact the Flood Operations Manager should any issue arise that has the potential to adversely impact on the operations of Flood Operations Centre.

While on close call, Flood Officers are to ensure that they:

- They are contactable at all times by telephone.
- Report to the Duty Flood Operations Engineer if at any time during a close call period they become “unfit for duty”.
- Are able to travel to the Flood Operations Centre within two hours of being called.
- Attend the close call handover meeting organised by the Flood Operations Engineers.

2.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of the Flood Operations Centre for a Flood Event.

Scope

This procedure applies to the mobilisation of the Flood Operations Centre for Flood Events impacting on Wivenhoe, Somerset and North Pine dams. It defines the responsibilities of the Flood Operations Engineers leading up to and during Flood Operations Centre mobilisation.

Responsibilities (Pre-Mobilisation)

It is the responsibility of the Duty Flood Operations Engineer to declare a Flood Event and mobilise the Flood Operations Centre. If the Duty Flood Operations Engineer considers it possible for the Full Supply Level of Wivenhoe, Somerset or North Pine Dam to be exceeded as a result of rainfall occurring in the dam catchments, the Flood Operations Centre is to be mobilised.

If significant rainfall is forecast or appears possible, the Duty Flood Operations Engineer is to adopt a conservative approach in mobilising the Flood Operations Centre (i.e. when in doubt, mobilise the Centre). The decision to mobilise is to be based on BOM forecasts and available rainfall and streamflow data. The reasons for mobilisation or non-mobilisation are to be recorded in the Event Log located in the Flood Operations Centre.

In instances where catchment runoff is likely to be low and the full supply level of a storage

is likely to be exceeded by less than 100 millimetres, consideration can be given to not mobilising the Flood Operations Centre and managing the event through operational releases. Such an approach should not be used if BOM forecasts and catchment conditions provide for any possibility of catchment runoff that may result in the full supply level of a storage being exceeded by 100 millimetres.

Responsibilities (Post-Mobilisation)

Once the decision has been made to mobilise the Flood Operations Centre, the Duty Flood Operations Engineer is to undertake the following actions:

- Notify the Senior Flood Operations Engineers of the mobilisation.
- Notify the Flood Operations Manager of the mobilisation.
- Commence recording significant events in the Event Log (see Appendix B for sample Flood Event log).
- Contact the required Flood Officers on close call and direct them to travel to the Flood Operations Centre to commence duty.
- Contact the relevant Seqwater Operations Coordinator and instruct the Coordinator to send appropriate Operations Staff to the dams impacted by the Flood Event. The Seqwater Operations Coordinator is also to be advised of the expected duration of the Flood Event to allow to Coordinator to organise suitable staffing arrangements for the dam for the duration of the event. Contact details for the Seqwater Operations Coordinator can be found in the Emergency Action Plans of the dams being impacted by the Flood Event.

2.3 Normal Operations

Purpose

This procedure is used to manage the operation of the Flood Operations Centre during a Flood Event when communications with operations personnel at the dams are working normally.

Scope

This procedure applies to the operation of the Flood Operations Centre during Flood Events impacting on Wivenhoe, Somerset and North Pine dams. It defines the responsibilities of the Flood Operations Engineers and the Flood Officers during Flood Operations Centre operations.

Responsibilities (Staffing of the Dams and Flood Operations Centre)

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. During a Flood Event, the Flood Operations Manager is to ensure that:

- Suitable staffing arrangements are in place for the Flood Operations Centre and at the impacted dams for the expected duration of the Flood Event. Generally, staff are to work in 12 hour shifts that commence at either 7:00am or 7:00pm. However, shift lengths and shift start and end times can be varied as required, to allow appropriate management of the Flood Event. Staff rosters at the dams are to be developed in conjunction with the relevant Seqwater Operations Coordinator. Contact details for the Seqwater Operations Coordinators can be found in the Emergency Action Plans of the dams being impacted by the Flood Event.
- Staff working in the Flood Operations Centre during a Flood Event use the Flood Event Shift Log to sign on at the commencement of a shift and sign off at the end of a shift.

Responsibilities (Operations within the Flood Operations Centre)

Once the flood response team has been mobilised, it is the responsibility of the Duty Flood Operations Engineer to direct the operations of the Flood Control Centre. During a Flood Event, the Duty Flood Operations Engineer retains this responsibility until it is formally handed over to the Flood Operations Engineer taking the next shift.

Once the Flood Operations Centre is mobilised, the Duty Flood Operations Engineer is responsible for the following:

- Recording all Significant Events in the Event Log.

- Maintaining the integrity of ALERT data used to manage the event. This includes rejecting data of unacceptable quality and notifying Seqwater's Hydrographic staff of issues with Seqwater ALERT stations. The contact details of Hydrographic staff can be found in the Emergency Action Plans for the dams. Notification should be in the form of an email.
- Directing flood releases from the dams in accordance with the Flood Mitigation Manuals and using the Flood Modelling Systems to support decision making.
- Rectifying software or hardware problems that adversely affect the Flood Modelling Systems, by directing the Computer Systems Officers responsible for maintaining the computer systems in the Flood Operations Centre.
- Rectifying communications issues by managing any required rectification works.
- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made and appropriately recorded in the Event Log.
- Maintaining accurate plots of headwater levels in each of the dams.
- Conducting end of shift handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Radial gate, sluice gate and regulator valve openings at each dam.
    - Flood release procedures being applied and the reason for their selection.
    - Status of compliance with the Flood Manuals and Emergency Action Plans.
    - Status of the communication systems.
    - Status of the data gathering network.
    - Status of computer systems and Flood Modelling Systems.
    - Any areas of concern associated with the management of the Flood Event.
    - Areas in which the discretion has been exercised in accordance with the Flood Manuals.

While on close call, Flood Officers are to ensure that:

- Undertake Flood Event duties as directed by the Duty Flood Operations Engineer.

At the completion of a Flood Event, the Flood Operations Manager is required to produce a report on the event in accordance with the Flood Mitigation Manuals.

2.4 Loss of Communications

Purpose

This procedure is used to manage the operation of the Flood Operations Centre during a Flood Event when communications with operations personnel at the dams are lost.

Scope

This procedure applies to the operation of the Flood Operations Centre during a Flood Events impacting on Wivenhoe, Somerset and North Pine dams. It defines the responsibilities of the Flood Operations Engineer during Flood Operations Centre operations.

Responsibilities

In the event of loss of communications with a dam, responsibility for flood operations passes to the Dam Supervisor at that dam. When it is determined the communications fault arises at the Flood Operations Centre end of the network, the Duty Flood Operations Engineer is to make arrangements for the communications link to be repaired as soon as possible.

When repair of the fault is not within the control of the Duty Flood Operations Engineer, the problem is to be reported to the appropriate authority and the communication line is to be periodically checked to determine if it has been repaired. Upon resumption of communications, the Duty Flood Operations Engineer is to assess the situation and resume responsibility for flood operations in accordance with the Flood Manuals.

3 FLOOD OPERATIONS CENTRE – FLOOD MODEL MAINTENANCE AND FLOOD EVENT ACTIONS

3.1 Preparedness

Purpose

This procedure is used to ensure that the Flood Operations Centre is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of the Flood Operations Centre for Flood Events. It defines the responsibilities of the Flood Operations Engineers in ensuring that the Flood Operations Centre is properly maintained.

Responsibilities

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. This Flood Operations Manager is to ensure that:

- A Flood Software Register containing a listing of the current versions of the computer programs used for flood operations, their purpose and their directory location within the computer system, is maintained within the Flood Operations Centre.
- A Password Register containing a listing of all user names and passwords used for flood operations software is maintained within the Flood Operations Centre.
- A Directory Register containing standard directory structures for managing archival data and flood events is maintained within the Flood Operations Centre.
- All operational computers are clearly labelled and a Computer Register is maintained to summarise the programs that are used on each computer during flood events and the directory structure used on each computer for managing flood event data.
- The current versions of the computer programs used for flood operations are run at least monthly to verify their correct operation.

3.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of the Flood Operations Centre for a Flood Event.

Scope

This procedure applies to the mobilisation of the Flood Operations Centre for Flood Events impacting on Wivenhoe, Somerset and North Pine dams. It defines the responsibilities of the Flood Operations Engineers following mobilisation of the Flood Operations Centre.

Responsibilities

Once the decision has been made to mobilise the Flood Operations Centre, the Duty Flood Operations Engineer is to ensure that the following actions are undertaken:

- A start time for the event is established. This time will generally be 9:00am on the day preceding the commencement of the event rainfall.
- A suitable directory structure is established within the computer network to manage the flood event data in accordance with the
- All rainfall and streamflow data for the event is examined and all suspect data is removed prior to use in the Flood Modelling Systems. Any stations providing unreliable data are to be marked “out of action”.
- Inflow hydrographs are to be derived for the following locations as appropriate:
    - Wivenhoe Dam.
    - Somerset Dam.
    - North Pine Dam.
    - Lockyer Creek Catchment.
    - Bremer River Catchment

  These derived inflow hydrographs are also to be examined using a variety of rainfall scenarios. The following cases can be used as a guide:
    - Actual rainfall.
    - Actual rainfall plus 100% of forecast rainfall.

- Actual rainfall plus 50% of forecast rainfall.
- Actual rainfall plus 200% of forecast rainfall.

- Input the derived inflow hydrographs for Wivenhoe Dam, Somerset Dams Lockyer Creek Catchment and Bremer River Catchment into Wivenhoe and Somerset Operations Spreadsheet and run this program. Based on the resulting data from the operations spreadsheet and in accordance with the strategies outlined in the Flood Mitigation Manual, determine gate operations strategies for Wivenhoe and Somerset dams.

- Input the derived inflow hydrographs for North Pine Dam into North Pine Operations Spreadsheet and run this program. Based on the resulting data from the operations spreadsheet and in accordance with the strategies outlined in the Flood Mitigation Manual, determine gate operations strategies for North Pine Dam.

- As appropriate, advise the following external parties of the gate operations strategies to allow road closure arrangements to be undertaken prior to roads becoming inundated (see Emergency Action Plans for contact details):
  - Moreton Bay Regional Council (North Pine Dam)
  - Ipswich City Council (Wivenhoe Dam)
  - Somerset Regional Council (Somerset Dam)

  If these agencies cannot be contacted, releases can be initiated if the safety of a dam is at risk. However every attempt at contact must be made if the water outflow resulting from a gate operation is likely to adversely impact on a public road.

- Direct gate operations at the dams as appropriate. Instructions to Dam Supervisors for gate movements should be in writing in the form of a Flood Operations Directive as contained in Appendix C. Dam Supervisors should acknowledge the gate operations in writing once they have been undertaken.

- Advise Seqwater's Dam and Source Operations Manager of gate operations by providing a copy of all Flood Operations Directives. Regular updates to Seqwater's Dam and Source Operations Manager may also be required to advise of longer term strategies to manage the Flood Event. This allows Seqwater to provide appropriate Flood Event advice to the public and other stakeholders, including the Queensland Water Commission and the Water Grid Manager. Such communication will generally be initiated by the Dam and Source Operations Manager.

- As appropriate, advise the following external parties of the gate operations strategies (see Emergency Action Plans for contact details):
    - Bureau of Meteorology (All Dams)
    - Brisbane City Council (All Dams)
    - Dam Safety Regulator (All Dams)

3.3 Normal Operations

Purpose

This procedure is used to manage the operation of the Flood Operations Centre during a Flood Event when communications with operations personnel at the dams are working normally.

Scope

This procedure applies to the operation of the Flood Operations Centre during a Flood Event.

Responsibilities

Prior to the flood event peak being understood, the Duty Flood Operations Engineer is to ensure that the actions contained in Section 3.2 (above) are undertaken on an hourly basis. To summarise, these actions are:

- Ensure rainfall and streamflow input data integrity.
- Derive required hydrographs.
- Update gate operations spreadsheets.
- Determine gate operations strategies in accordance with the Flood Mitigation Manuals.
- Advise Emergency Response Agencies and Seqwater of gate operations strategies.
- Direct gate operations at the dams.

Once the flood event peak is understood, these actions can be undertaken at time intervals of longer than one hour as appropriate. Should a significant variation in gate operation strategy

occur from the previously derived strategy, it is most important that the following agencies are advised of the variation as soon as possible:

- Local Authority responsible for road closures.
- Any other impacted Local Authorities.
- Bureau of Meteorology.
- Dam Safety Regulator.
- Seqwater.

3.4 Loss of Communications

Purpose

This procedure is used to manage the operation of the Flood Operations Centre during a Flood Event when communications with operations personnel at the dams are lost.

Scope

This procedure applies to the operation of the Flood Operations Centre during a Flood Event.

Responsibilities

As outlined in Section 2.4, in the event of loss of communications with a dam, responsibility for flood operations passes to the Dam Supervisor at that dam. However, once communications are restored following a loss of communications event, the Duty Flood Operations Engineer on duty is to ensure that the following actions are undertaken.

- Determine the gate operation sequence used during the loss of communications event and input this sequence into gate operations spreadsheets.
- Resume actions and procedures as contained in Section 3.3 (above).

It is critical to ensure that the gate operation sequence used by the Dam Operators during the period that communications was lost is fully understood when determining gate operations strategies following a Loss of Communications event. Failure to do so could result in a departure from the Flood Mitigation Manual.

4 WIVENHOE DAM

4.1 Preparedness

Purpose

This procedure is used to ensure that Wivenhoe Dam is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of Wivenhoe Dam for Flood Events. It defines the responsibilities of the Seqwater Operations Coordinator responsible for Wivenhoe Dam and the Dam Operators.

Background

Wivenhoe Dam and Somerset Dam both have significant flood storage capacities and have the ability, when operated in conjunction with one another, of substantially reducing downstream flood flows. The flood mitigation capability of the dams is a function of the magnitude of the incoming flood event and the volume of flood storage available. The larger the flood and the closer the storage is to FSL, the less capability there will be to mitigate the effects.

The structural safety of the dam is paramount as failure of Wivenhoe Dam could have catastrophic consequences due to the magnitude of the flood damage which would be caused downstream. It is therefore necessary that the dam is kept ready for flood operations at all times and that a Dam Supervisor be available to initiate flood releases within two hours of being directed to mobilise. Failure to maintain this state of readiness could endanger the integrity of the dam and its ability to control downstream flood releases.

The safety of the Wivenhoe Dam depends primarily on the proper operation of the radial gates. This infrastructure is used to control flood releases and the operation of the infrastructure relies on the proper functioning of the mechanical hoist mechanisms and their electric and hydraulic power supply and controls. Wivenhoe Dam is an earth and rockfill dam that cannot withstand overtopping without damage or risk of failure.

Responsibilities

The Seqwater Operations Coordinator responsible for Wivenhoe Dam is to ensure that:

- At least two Dam Operators are on close call and ready to attend Wivenhoe Dam if called.
- Sufficient Dam Operators are available to staff Wivenhoe Dam if a Flood Event is declared.
- Contact details for Dam Operators are up to date.
- Current copies of the following documents are available at Wivenhoe Dam:
    - Manual of Operational Procedures for Flood Mitigation for Wivenhoe Dam and Somerset Dam.
    - Wivenhoe Dam – Emergency Action Plan.
    - Wivenhoe Dam – Standing Operating Procedures.
    - Wivenhoe Dam – Operation and Maintenance Manual.
- The following facilities are available at Wivenhoe Dam:
    - Sufficient stationary and forms.
    - Landline telephone, mobile telephone, satellite telephone, Seqwater Radio Network, Facsimile and Email communication systems.
    - Power systems and back-up power systems required to ensure computer system and communication system reliability during a flood event.
- All preventive maintenance work is undertaken at the dam in accordance with the Wivenhoe Dam – Operation and Maintenance Manual.
- Flood release infrastructure and associated back-up systems are maintained in a constant state of operational readiness for Flood Events.
- The Flood Operations Engineer on duty is advised should any issue arise that has the potential to adversely impact on flood operations of Wivenhoe Dam.

While on close call, Dam Operators are to ensure that:

- They are contactable at all times either by telephone.

- In the event of a Flood Officer being "unfit for duty" the Flood Officer is to report the fact to the Flood Operations Engineer currently on close call.
- They are able to travel to Wivenhoe Dam within two hours of being called.

4.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of Wivenhoe Dam for a Flood Event.

Scope

This procedure applies to the mobilisation of Wivenhoe Dam for Flood Events. It defines the responsibilities of the Duty Flood Operations Engineer , the Seqwater Operations Coordinator responsible for Wivenhoe Dam and the Dam Supervisor, leading up to and during Wivenhoe Dam mobilisation.

Responsibilities

It is the responsibility of the Duty Flood Operations Engineer to declare a Flood Event and notify the Seqwater Operations Coordinator responsible for Wivenhoe Dam that flood releases are likely from the dam. Once the decision has been made to mobilise the Flood Operations Centre, the Seqwater Operations Coordinator responsible for Wivenhoe Dam is to ensure that the following actions are undertaken:

- Notify the Principal Engineer Dam Safety of the mobilisation.
- Commence recording significant events in the Event Log.
- Contact the required Dam Operators on close call and direct them to travel to Wivenhoe Dam to commence duty.
- Specify which of the Dam Operators is to be the Dam Supervisor for the purposes of managing the Flood Event.

Once the Dam Supervisor reaches site, the Dam Supervisor is to ensure that the following actions are undertaken:

- Check that communications exist between Wivenhoe Dam and the Flood Operations Centre.
- Commence recording significant events in the Event Log.
- Complete the Flood Readiness Checklist contained in Appendix D.
- Undertake Flood Operations as directed by the Flood Operations Centre.

Prior to flood releases initiating, the Duty Flood Operations Engineer is to contact the Brisbane City, Ipswich City and Somerset Regional Councils to advise of the likely impact of the releases, particularly in relation to the public road crossings downstream of the dam. Contact details for these Councils are contained in the Wivenhoe Dam Emergency Action Plan.

4.3 Normal Operations

Purpose

This procedure is used to manage the operation of Wivenhoe Dam during a Flood Event when communications with the Flood Operations Centre are working normally.

Scope

This procedure applies to the operation of Wivenhoe Dam during a Flood Event. It defines the responsibilities the Flood Operations Engineers, the Seqwater Operations Coordinator responsible for Wivenhoe Dam and the Dam Supervisor during flood operations at Wivenhoe Dam.

Responsibilities (Staffing of the Dam)

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. During a Flood Event at Wivenhoe Dam, this Flood Operations Manager is to ensure that:

- Suitable staffing arrangements are in place at Wivenhoe Dam for the duration of the Flood Event. Generally, staff are to work in 12 hour shifts that commence at either 7:00am or 7:00pm. However, shift lengths and shift start and end times can be varied

as required, allowing appropriate management of the Flood Event. Staff rosters at Wivenhoe Dam are to be developed in conjunction with the Seqwater Operations Coordinator responsible for Wivenhoe Dam.

- All staff working at Wivenhoe Dam during a Flood Event use the Flood Event Shift Log to sign on at the commencement of a shift and sign off at the end of a shift.

Responsibilities (Operation of the Dam)

Once flood operations commence at Wivenhoe Dam, the Dam Supervisor is responsible for the following:

- Recording all Significant Events in the Event Log.
- Undertaking flood releases from the dam strictly in accordance with the directions of the Flood Operations Centre.
- Rectifying communications issues at the dam by managing any required rectification works.
- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made.
- Conducting end of shift handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Radial gate, sluice gate and regulator valve openings at each dam.
    - Status of the communication systems.
    - Any areas of concern associated with the management of the Flood Event.
- Advising the Flood Operations Engineer on duty should any issue arise that has the potential to adversely impact on flood operations during the Flood Event.
- Repairing any flood infrastructure breakdowns that have the potential to adversely impact on flood operations of Wivenhoe Dam after obtaining approval for such repairs from the Flood Operations Engineer on duty. Repairs are to be undertaken in accordance with the Operation and Maintenance Manual and the Flood Manuals.

At regular intervals during the Flood Event, the Duty Flood Operations Engineer is to contact the Brisbane City, Ipswich City and Somerset Regional Councils to advise of the

current status of the flood releases and the expected releases and potential impacts during the course of the Flood Event. Contact details for these Councils are contained in the Wivenhoe Dam Emergency Action Plan.

4.4 Loss of Communications

Purpose

This procedure is used to manage the operation of Wivenhoe Dam during a Flood Event when communications with the Flood Operations Centre are lost.

Scope

This procedure applies to the operation of Wivenhoe Dam during a Flood Event. It defines the responsibilities of the Dam Supervisor in operating Wivenhoe Dam.

Responsibilities

In the event of loss of communications with the Flood Operations Centre, responsibility for flood operations passes to the Dam Supervisor. The Dam Supervisor is then to:

- Take all practicable measures to restore communications with Flood Operations Centre and periodically check the lines of communication for any change.
- Make flood releases from Wivenhoe Dam in accordance with the Manual of Operational Procedures for Flood Releases from Wivenhoe Dam.
- Recording all Significant Events in the Event Log.
- Attempt all external notifications as contained in the Wivenhoe Dam - Emergency Action Plan.
- The required frequency of gate operations and water level readings will be a function of the magnitude of the flood. It is therefore the responsibility of the Dam supervisor to monitor each event as it develops and adopt observation frequencies to suit. At the completion of a flood event, the Dam Supervisor is to close all radial and sluice gates once the lake level falls to EL 67.0 metres.

5 SOMERSET DAM

5.1 Preparedness

Purpose

This procedure is used to ensure that Somerset Dam is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of Somerset Dam for Flood Events. It defines the responsibilities of the Seqwater Operations Coordinator responsible for Somerset Dam and the Dam Operators.

Background

Somerset Dam and Wivenhoe Dam both have significant flood storage capacities and have the ability, when operated in conjunction with one another, of substantially reducing downstream flood flows. The flood mitigation capability of the dams is a function of the magnitude of the incoming flood event and the volume of flood storage available. The larger the flood and the closer the storage is to FSL, the less capability there will be to mitigate the effects.

The structural safety of the dam is paramount as failure of Somerset Dam could have catastrophic consequences due to the magnitude of the flood damage which would be caused downstream. Whilst Wivenhoe Dam has the capacity to mitigate the flood effects of such a failure in the absence of any other flooding, if the failure were to occur during major flooding, Wivenhoe Dam could be overtopped and destroyed also.

It is therefore necessary that the dam is kept ready for flood operations at all times and that a Dam Supervisor be available to initiate flood releases within two hours of being directed to mobilise. Failure to maintain this state of readiness could endanger the integrity of the dam and its ability to control downstream flood releases.

The safety of the Somerset Dam depends primarily on the proper operation of the spillway gates and the low level sluice gates. This infrastructure is used to control flood releases and

the operation of the infrastructure relies on the proper functioning of the mechanical hoist mechanisms and their electric power supply and controls. Somerset Dam is a mass concrete dam that can withstand limited overtopping without damage and this fact is made use of in the flood mitigation procedures.

Responsibilities

The Seqwater Operations Coordinator responsible for Somerset Dam is to ensure that:

- At least two Dam Operators are on close call and ready to attend Somerset Dam if called.
- Sufficient Dam Operators are available to staff Somerset Dam if a Flood Event is declared.
- Contact details for Dam Operators are up to date.
- Current copies of the following documents are available at Somerset Dam:
    - Manual of Operational Procedures for Flood Mitigation for Wivenhoe Dam and Somerset Dam.
    - Somerset Dam – Emergency Action Plan.
    - Somerset Dam – Standing Operating Procedures.
    - Somerset Dam – Operation and Maintenance Manual.
- The following facilities are available at Somerset Dam:
    - Sufficient stationary and forms.
    - Landline telephone, mobile telephone, satellite telephone, Seqwater Radio Network, Facsimile and Email communication systems.
    - Power systems and back-up power systems required to ensure computer system and communication system reliability during a flood event.
- All preventive maintenance work is undertaken at the dam in accordance with the Somerset Dam – Operation and Maintenance Manual.
- Flood release infrastructure and associated back-up systems are maintained in a constant state of operational readiness for Flood Events.
- The Flood Operations Engineer on duty is advised should any issue arise that has the potential to adversely impact on flood operations of Somerset Dam.

While on close call, Dam Operators are to ensure that:

- They are contactable at all times either by telephone.
- In the event of a Flood Officer being "unfit for duty" the Flood Officer is to report the fact to the Flood Operations Engineer currently on close call.
- They are able to travel to Somerset Dam within two hours of being called.

5.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of Somerset Dam for a Flood Event.

Scope

This procedure applies to the mobilisation of Somerset Dam for Flood Events. It defines the responsibilities of the Duty Flood Operations Engineer, the Seqwater Operations Coordinator responsible for Somerset Dam and the Dam Supervisor, leading up to and during Somerset Dam mobilisation.

Responsibilities

It is the responsibility of the Duty Flood Operations Engineer to declare a Flood Event and notify the Seqwater Operations Coordinator responsible for Somerset Dam that flood releases are likely from the dam. Once the decision has been made to mobilise the Flood Operations Centre, the Seqwater Operations Coordinator responsible for Somerset Dam is to ensure that the following actions are undertaken:

- Notify the Principal Engineer Dam Safety of the mobilisation.
- Commence recording significant events in the Event Log.
- Contact the required Dam Operators on close call and direct them to travel to Somerset Dam to commence duty.
- Specify which of the Dam Operators is to be the Dam Supervisor for the purposes of managing the Flood Event.

Once the Dam Supervisor reaches site, the Dam Supervisor is to ensure that the following actions are undertaken:

- Check that communications exist between Somerset Dam and the Flood Operations Centre.
- Commence recording significant events in the Event Log.
- Complete the Flood Readiness Checklist contained in Appendix E.
- Undertake Flood Operations as directed by the Flood Operations Centre.

5.3 Normal Operations

Purpose

This procedure is used to manage the operation of Somerset Dam during a Flood Event when communications with the Flood Operations Centre are working normally.

Scope

This procedure applies to the operation of Somerset Dam during a Flood Event. It defines the responsibilities the Flood Operations Engineers, the Seqwater Operations Coordinator responsible for Somerset Dam and the Dam Supervisor during flood operations at Somerset Dam.

Responsibilities (Staffing of the Dam)

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. During a Flood Event at Somerset Dam, this Flood Operations Manager is to ensure that:

- Suitable staffing arrangements are in place at Somerset Dam for the duration of the Flood Event. Generally, staff are to work in 12 hour shifts that commence at either 7:00am or 7:00pm. However, shift lengths and shift start and end times can be varied

as required, allowing appropriate management of the Flood Event. Staff rosters at Somerset Dam are to be developed in conjunction with the Seqwater Operations Coordinator responsible for Somerset Dam.

- All staff working at Somerset Dam during a Flood Event use the Event Log to sign on at the commencement of a shift and sign off at the end of a shift.

Responsibilities (Operation of the Dam)

Once flood operations commence at Somerset Dam, the Dam Supervisor is responsible for the following:

- Recording all Significant Events in the Event Log.
- Undertaking flood releases from the dam strictly in accordance with the directions of the Flood Operations Centre.
- Rectifying communications issues at the dam by managing any required rectification works.
- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made.
- Conducting end of shift handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Radial gate, sluice gate and regulator valve openings at each dam.
    - Status of the communication systems.
    - Any areas of concern associated with the management of the Flood Event.
- Advising the Flood Operations Engineer on duty should any issue arise that has the potential to adversely impact on flood operations during the Flood Event.
- Repairing any flood infrastructure breakdowns that have the potential to adversely impact on flood operations of Somerset Dam after obtaining approval for such repairs from the Flood Operations Engineer on duty. Repairs are to be undertaken in accordance with the Operation and Maintenance Manual and the Flood Manuals.

At regular intervals during the Flood Event, the Duty Flood Operations Engineer is to contact the Somerset Regional Council to advise of the current status of the flood releases and provide notification if the Lake Level is likely to impact on Kilcoy. Contact details for the Somerset Regional Council are contained in the Somerset Dam Emergency Action Plan.

5.4 Loss of Communications

Purpose

This procedure is used to manage the operation of Somerset Dam during a Flood Event when communications with the Flood Operations Centre are lost.

Scope

This procedure applies to the operation of Somerset Dam during a Flood Event. It defines the responsibilities of the Dam Supervisor in operating Somerset Dam.

Responsibilities

In the event of loss of communications with the Flood Operations Centre, responsibility for flood operations passes to the Dam Supervisor. The Dam Supervisor is then to:

- Take all practicable measures to restore communications with Flood Operations Centre and periodically check the lines of communication for any change.
- Make flood releases from Somerset Dam in accordance with the Manual of Operational Procedures for Flood Releases from Somerset Dam.
- Recording all Significant Events in the Event Log.
- Attempt all external notifications as contained in the Somerset Dam - Emergency Action Plan.

The required frequency of gate operations and water level readings will be a function of the magnitude of the flood. It is therefore the responsibility of the Dam supervisor to monitor each event as it develops and adopt observation frequencies to suit. At the completion of a

flood event, the Dam Supervisor is to close all radial and sluice gates once the lake level falls to EL 99.0 metres.

6 NORTH PINE DAM

6.1 Preparedness

Purpose

This procedure is used to ensure that North Pine Dam is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of North Pine Dam for Flood Events. It defines the responsibilities of the Seqwater Operations Coordinator responsible for North Pine Dam and the Dam Operators.

Background

North Pine Dam has a very small flood storage capacity and essentially must release nearly all incoming flood waters as soon as they enter the reservoir with very little flood mitigation. Because of this small flood storage capacity and the size of the catchment, flood releases may be necessary within a relatively short time of the commencement of heavy rainfall within the catchment. This is especially the case when the storage is at or near the Full Supply Level.

It is therefore necessary that the dam is kept ready for flood operations at all times and that a Dam Supervisor be available to initiate flood releases within two hours of being directed to mobilise. Failure to maintain this state of readiness could endanger the integrity of the dam and its ability to control downstream flood releases.

The safety of the dam depends primarily on the proper operation of the spillway gates which are used to control maximum flood levels. Such operation in turn relies on the proper functioning of the mechanical hoist mechanisms and their electric power supply and controls.

Responsibilities

The Seqwater Operations Coordinator responsible for North Pine Dam is to ensure that:

- At least two Dam Operators are on close call and ready to attend North Pine Dam if called.

- Sufficient Dam Operators are available to staff North Pine Dam if a Flood Event is declared.
- Contact details for Dam Operators are up to date.
- Current copies of the following documents are available at North Pine Dam:
    - Manual of Operational Procedures for Flood Releases from North Pine Dam.
    - North Pine Dam – Emergency Action Plan.
    - North Pine Dam – Standing Operating Procedures.
    - North Pine Dam – Operation and Maintenance Manual.
- The following facilities are available at North Pine Dam:
    - Sufficient stationary and forms.
    - Landline telephone, mobile telephone, satellite telephone, Seqwater Radio Network, Facsimile and Email communication systems.
    - Power systems and back-up power systems required to ensure computer system and communication system reliability during a flood event.
- All preventive maintenance work is undertaken at the dam in accordance with the North Pine Dam – Operation and Maintenance Manual.
- Flood release infrastructure and associated back-up systems are maintained in a constant state of operational readiness for Flood Events.
- The Flood Operations Engineer on duty is advised should any issue arise that has the potential to adversely impact on flood operations of North Pine Dam.

While on close call, Dam Operators are to ensure that:

- They are contactable at all times either by telephone.
- In the event of a Flood Officer being “unfit for duty” the Flood Officer is to report the fact to the Flood Operations Engineer currently on close call.
- They are able to travel to North Pine Dam within two hours of being called.

6.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of North Pine Dam for a Flood Event.

Scope

This procedure applies to the mobilisation of North Pine Dam for Flood Events. It defines the responsibilities of the Duty Flood Operations Engineer , the Seqwater Operations Coordinator responsible for North Pine Dam and the Dam Supervisor, leading up to and during North Pine Dam mobilisation.

Responsibilities

It is the responsibility of the Duty Flood Operations Engineer to declare a Flood Event and notify the Seqwater Operations Coordinator responsible for North Pine Dam that flood releases are likely from the dam. Once the decision has been made to mobilise the Flood Operations Centre, the Seqwater Operations Coordinator responsible for North Pine Dam is to ensure that the following actions are undertaken:

- Notify the Principal Engineer Dam Safety of the mobilisation.
- Commence recording significant events in the Event Log.
- Contact the required Dam Operators on close call and direct them to travel to North Pine Dam to commence duty.
- Specify which of the Dam Operators is to be the Dam Supervisor for the purposes of managing the Flood Event.

Once the Dam Supervisor reaches site, the Dam Supervisor is to ensure that the following actions are undertaken:

- Check that communications exist between North Pine Dam and the Flood Operations Centre.
- Commence recording significant events in the Event Log.
- Complete the Flood Readiness Checklist contained in Appendix F.
- Undertake Flood Operations as directed by the Flood Operations Centre.

Prior to flood releases initiating, the Duty Flood Operations Engineer is to contact the Moreton Bay Regional Council to advise of the likely impact on Youngs Crossing and ensure that this crossing is closed to the public prior to being impacted by the releases. Contact details for the Moreton Bay Regional Council are contained in the North Pine Dam Emergency Action Plan.

6.3 Normal Operations

Purpose

This procedure is used to manage the operation of North Pine Dam during a Flood Event when communications with the Flood Operations Centre are working normally.

Scope

This procedure applies to the operation of North Pine Dam during a Flood Event. It defines the responsibilities the Flood Operations Engineers, the Seqwater Operations Coordinator responsible for North Pine Dam and the Dam Supervisor during flood operations at North Pine Dam.

Responsibilities (Staffing of the Dam)

Seqwater must at all times designate a Flood Operations Manager who is responsible for the overall management of the Flood Operations Centre. During a Flood Event at North Pine Dam, this Flood Operations Manager is to ensure that:

- Suitable staffing arrangements are in place at North Pine Dam for the duration of the Flood Event. Generally, staff are to work in 12 hour shifts that commence at either 7:00am or 7:00pm. However, shift lengths and shift start and end times can be varied as required, allowing appropriate management of the Flood Event. Staff rosters at North Pine Dam are to be developed in conjunction with the Seqwater Operations Coordinator responsible for North Pine Dam.
- All staff working at North Pine Dam during a Flood Event use the Event Log to sign on at the commencement of a shift and sign off at the end of a shift.

Responsibilities (Operation of the Dam)

Once flood operations commence at North Pine Dam, the Dam Supervisor is responsible for the following:

- Recording all Significant Events in the Event Log.
- Undertaking flood releases from the dam strictly in accordance with the directions of the Flood Operations Centre.
- Rectifying communications issues at the dam by managing any required rectification works.
- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made.
- Conducting end of shift handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Radial gate, sluice gate and regulator valve openings at each dam.
    - Status of the communication systems.
    - Any areas of concern associated with the management of the Flood Event.
- Advising the Flood Operations Engineer on duty should any issue arise that has the potential to adversely impact on flood operations during the Flood Event.
- Repairing any flood infrastructure breakdowns that have the potential to adversely impact on flood operations of North Pine Dam after obtaining approval for such repairs from the Flood Operations Engineer on duty. Repairs are to be undertaken in accordance with the Operation and Maintenance Manual and the Flood Manuals.

At regular intervals as appropriate during the Flood Event, the Duty Flood Operations Engineer is to contact the Moreton Bay Regional Council to advise of the current status of the flood releases and the expected releases and potential impacts during the course of the Flood Event. Contact details for the Moreton Bay Regional Council are contained in the North Pine Dam Emergency Action Plan.

6.4 Loss of Communications

Purpose

This procedure is used to manage the operation of North Pine Dam during a Flood Event when communications with the Flood Operations Centre are lost.

Scope

This procedure applies to the operation of North Pine Dam during a Flood Event. It defines the responsibilities of the Dam Supervisor in operating North Pine Dam.

Responsibilities

In the event of loss of communications with the Flood Operations Centre, responsibility for flood operations passes to the Dam Supervisor. The Dam Supervisor is then to:

- Take all practicable measures to restore communications with Flood Operations Centre and periodically check the lines of communication for any change.
- Make flood releases from North Pine Dam in accordance with the Manual of Operational Procedures for Flood Releases from North Pine Dam.
- Recording all Significant Events in the Event Log.
- Attempt all external notifications as contained in the North Pine Dam - Emergency Action Plan.

The required frequency of gate operations and water level readings will be a function of the magnitude of the flood. Gate movements need to be carried out for every 15 millimetre rise or fall of the reservoir and on larger events this may require observations and movements at the intervals in the order of five minutes as specified in the Flood Manual. It is therefore the responsibility of the Dam supervisor to monitor each event as it develops and adopt observation frequencies to suit. At the completion of a flood event, the Dam Supervisor is to close all radial gates once the lake level falls to EL 39.55 metres.

7 LESLIE HARRISON DAM

7.1 Preparedness

Purpose

This procedure is used to ensure that Leslie Harrison Dam is maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of Leslie Harrison Dam for Flood Events. It defines the responsibilities of the Seqwater Operations Coordinator responsible for Leslie Harrison Dam, the Flood Operations Coordinators and the Dam Operators.

Background

Leslie Harrison Dam has a very small flood storage capacity and essentially must release nearly all incoming flood waters as soon as they enter the reservoir with very little flood mitigation. Because of this small flood storage capacity and the size of the catchment, flood releases may be necessary within a relatively short time of the commencement of heavy rainfall within the catchment. This is especially the case when the storage is at or near the Full Supply Level.

It is therefore necessary that the dam is kept ready for flood operations at all times and that a Dam Supervisor be available to initiate flood releases within two hours of being directed to mobilise. Failure to maintain this state of readiness could endanger the integrity of the dam and its ability to control downstream flood releases.

The safety of the dam depends primarily on the proper operation of the vertical lift spillway gates which are used to control maximum flood levels. Such operation in turn relies on the proper functioning of the mechanical hoist mechanisms and their electric power supply and controls.

Responsibilities

The Seqwater Operations Coordinator responsible for Leslie Harrison Dam is to ensure that:

- A Flood Operations Coordinator is on duty at all times to monitor catchment conditions, mobilise staff for flood events and coordinate operations during flood events at Leslie Harrison Dam.
- At least two Dam Operators are on close call and ready to attend Leslie Harrison Dam if called.
- Sufficient Dam Operators are available to staff Leslie Harrison Dam if a Flood Event is declared.
- Contact details for Dam Operators are up to date.
- Current copies of the following documents are available at Leslie Harrison Dam:
    - Manual of Operational Procedures for Flood Releases from Leslie Harrison Dam.
    - Leslie Harrison Dam – Emergency Action Plan.
    - Leslie Harrison Dam – Standing Operating Procedures.
    - Leslie Harrison Dam – Operation and Maintenance Manual.
- The following facilities are available at Leslie Harrison Dam:
    - Sufficient stationary and forms.
    - Landline telephone, mobile telephone, satellite telephone, Seqwater Radio Network, Facsimile and Email communication systems.
    - Power systems and back-up power systems required to ensure computer system and communication system reliability during a flood event.
- All preventive maintenance work is undertaken at the dam in accordance with the Leslie Harrison Dam – Operation and Maintenance Manual.
- Flood release infrastructure and associated back-up systems are maintained in a constant state of operational readiness for Flood Events.
- The Flood Operations Coordinator on duty is advised should any issue arise that has the potential to adversely impact on flood operations of Leslie Harrison Dam.

While on close call, Flood Operations Coordinators are to ensure taht:

- They are contactable at all times by telephone.

- They have facilities to allow appropriate real time monitoring of dam and catchment conditions.
- They are able to travel to a suitable location in sufficient time to direct the mobilisation and operation of a flood event without compromising the safety of the dams or the intent of the Flood Manual.
- They organise a handover of close call staff on the day at which close call commences. This handover can be conducted over the telephone and involves both the staff coming off a period of close call and the staff commencing a period of close call. Expected weather conditions during the commencing close call period and any current issues impacting on the operation of the dam are to be discussed during the handover.
- They contact Seqwater's Principal Engineer Dam Safety, should any issue arise that has the potential to adversely impact on flood operations at the dam.

While on close call, Dam Operators are to ensure that:

- They are contactable at all times either by telephone.
- In the event of a Flood Officer being "unfit for duty" the Flood Officer is to report the fact to the Flood Operations Engineer currently on close call.
- They are able to travel to Leslie Harrison Dam within two hours of being called.

7.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of Leslie Harrison Dam for a Flood Event.

Scope

This procedure applies to the mobilisation of Leslie Harrison Dam for Flood Events. It defines the responsibilities of the Flood Operations Coordinators on close call, the Seqwater Operations Coordinator responsible for Leslie Harrison Dam and the Dam Supervisor, leading up to and during Leslie Harrison Dam mobilisation.

Responsibilities

It is the responsibility of the Flood Operations Coordinator on close call to declare a Flood Event and notify the Seqwater Operations Coordinator responsible for Leslie Harrison Dam that flood releases are likely from the dam. Once the decision has been made to mobilise the dam for a flood event, the Seqwater Operations Coordinator responsible for Leslie Harrison Dam is to ensure that the following actions are undertaken:

- Notify the Principal Engineer Dam Safety of the mobilisation.
- Commence recording significant events in the Event Log.
- Contact the required Dam Operators on close call and direct them to travel to Leslie Harrison Dam to commence duty.
- Specify which of the Dam Operators is to be the Dam Supervisor for the purposes of managing the Flood Event.

Once the Dam Supervisor reaches site, the Dam Supervisor is to ensure that the following actions are undertaken:

- Check that communications exist between Leslie Harrison Dam and the Flood Operations Coordinators.
- Commence recording significant events in the Event Log.
- Complete the Flood Readiness Checklist contained in Appendix G.
- Undertake Flood Operations as directed by the Flood Operations Centre.

Prior to flood releases initiating, the Flood Operations Coordinator on close call is to contact the Redland City Council to advise of the likely magnitude of the flood releases and ensure that the Council will contact external parties impacted by the releases. Contact details for the Redland City Council are contained in the Leslie Harrison Dam Emergency Action Plan.

7.3 Normal Operations

Purpose

This procedure is used to manage the operation of Leslie Harrison Dam during a Flood Event when communications with the Flood Operations Centre are working normally.

Scope

This procedure applies to the operation of Leslie Harrison Dam during a Flood Event. It defines the responsibilities the Flood Operations Coordinators, the Seqwater Operations Coordinator responsible for Leslie Harrison Dam and the Dam Supervisor during flood operations at Leslie Harrison Dam.

Responsibilities (Staffing of the Dam)

During a Flood Event at Leslie Harrison Dam, the Seqwater Operations Coordinator responsible for Leslie Harrison Dam is to ensure that:

- Suitable staffing arrangements are in place at Leslie Harrison Dam for the duration of the Flood Event. Generally, staff are to work in 12 hour shifts that commence at either 7:00am or 7:00pm. However, shift lengths and shift start and end times can be varied as required, allowing appropriate management of the Flood Event.
- All staff working at Leslie Harrison Dam during a Flood Event use the Event Log to sign on at the commencement of a shift and sign off at the end of a shift.

Responsibilities (Operation of the Dam)

Once flood operations commence at Leslie Harrison Dam, the Dam Supervisor is responsible for the following:

- Recording all Significant Events in the Event Log.
- Undertaking flood releases from the dam strictly in accordance with the directions of the Flood Operations Coordinators.
- Rectifying communications issues at the dam by managing any required rectification works.

- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made.
- Conducting end of shift handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Radial gate, sluice gate and regulator valve openings at each dam.
    - Status of the communication systems.
    - Any areas of concern associated with the management of the Flood Event.
- Advising the Flood Operations Coordinator on duty should any issue arise that has the potential to adversely impact on flood operations during the Flood Event.
- Repairing any flood infrastructure breakdowns that have the potential to adversely impact on flood operations of Leslie Harrison Dam after obtaining approval for such repairs from the Flood Operations Coordinator on duty. Repairs are to be undertaken in accordance with the Operation and Maintenance Manual and the Flood Manuals.

At regular intervals during the Flood Event, the Flood Operations Coordinator on close call is to contact the Redland City Council to advise of the current status of the flood releases and the expected releases and potential impacts during the course of the Flood Event. Contact details for the Redland City Council are contained in the Leslie Harrison Dam Emergency Action Plan.

7.4 Loss of Communications

Purpose

This procedure is used to manage the operation of Leslie Harrison Dam during a Flood Event when communications with the Flood Operations Coordinators are lost.

Scope

This procedure applies to the operation of Leslie Harrison Dam during a Flood Event. It defines the responsibilities of the Dam Supervisor in operating Leslie Harrison Dam.

Responsibilities

In the event of loss of communications with the Flood Operations Coordinators, responsibility for flood operations passes to the Dam Supervisor. The Dam Supervisor is then to:

- Take all practicable measures to restore communications with Flood Operations Coordinators and periodically check the lines of communication for any change.
- Make flood releases from Leslie Harrison Dam in accordance with the Manual of Operational Procedures for Flood Releases from Leslie Harrison Dam.
- Recording all Significant Events in the Event Log.
- Attempt all external notifications as contained in the Leslie Harrison Dam - Emergency Action Plan.

The required frequency of gate operations and water level readings will be a function of the magnitude of the flood. Gate movements need to be carried out for every 7 millimetre rise or fall of the reservoir and on larger events this may require observations and movements at the intervals in the order of five minutes as specified in the Flood Manual. It is therefore the responsibility of the Dam supervisor to monitor each event as it develops and adopt observation frequencies to suit. At the completion of a flood event, the Dam Supervisor is to close all vertical lift gates once the lake level falls to EL 18.30 metres.

8 UNCONTROLLED SPILLWAY DAMS

8.1 Preparedness

Purpose

This procedure is used to ensure that Seqwater's twenty uncontrolled spillway dams are maintained in a suitable state of preparedness for Flood Events.

Scope

This procedure applies to the maintenance of Seqwater's twenty uncontrolled spillway dams for Flood Events. It defines the responsibilities of the Seqwater Operations Coordinators that are responsible for Seqwater's twenty uncontrolled spillway dams and the Dam Operators.

Background

Seqwater owns twenty uncontrolled spillway dams. During flood events, these dams fill and overflow from a spillway, with Seqwater having no facility to regulate or change these outflows. Seqwater's primary responsibility during such events is to monitor the safety of the dam and provide dam outflow information to the relevant emergency agencies as required. Such agencies will generally be the Bureau of Meteorology and the Local Authority responsible for the area impacted by the dam outflow.

Seqwater's twenty uncontrolled spillway dams generally contain earth and rockfill structures that cannot withstand overtopping without damage or risk of failure. The exceptions to this are Little Nerang Dam and Moogerah Dam that can withstand some limited overtopping without risk. The structural safety of the dams is paramount as failure of a dam could have catastrophic consequences due to the magnitude of the flood damage which would be caused downstream. It is therefore necessary that the dam spillways are kept clear and well maintained and ready for flood outflows at all times and that a Dam Supervisor be available monitor flood releases as required. Failure to properly maintain the dam spillway could endanger the integrity of the dam and its ability to pass flood releases.

Responsibilities

The Seqwater Operations Coordinators responsible for Seqwater's twenty uncontrolled spillway dams are to ensure that:

- A Dam Operators is on close call and ready to attend a dam if required.
- Contact details for Dam Operators are up to date.
- Current copies of the following documents are available for each dam:
  - Emergency Action Plan.
  - Standing Operating Procedures.
  - Operation and Maintenance Manual.
- The following facilities are available to Dam Operators attending site in a flood event:
  - Sufficient stationary and forms.
  - Mobile telephone and Email communication systems.
- All preventive maintenance work is undertaken at the dam in accordance with the dam Operation and Maintenance Manuals.
- The dam spillway is maintained in a constant state of operational readiness for Flood Events.
- Seqwater's Principal Engineer (Dam Safety) is advised of any issue that has the potential to adversely impact on flood operations at an uncontrolled spillway dams.

While on close call, Dam Operators are to ensure that:

- They are contactable at all times either by telephone.
- In the event of a Dam Operator being "unfit for duty" the Operator is to report the fact to the relevant Operations Coordinator.
- They are able to travel to the dam to which they are assigned within two hours of being called.

8.2 Mobilisation

Purpose

This procedure is used to manage mobilisation of Seqwater's twenty uncontrolled spillway dams for Flood Events.

Scope

This procedure applies to the mobilisation of Seqwater's twenty uncontrolled spillway dams for Flood Events. It defines the responsibilities of Seqwater's Operations Coordinators, Dam Supervisors, and Principal Hydrologist leading up to and during mobilisation.

Responsibilities

It is the responsibility of the Seqwater's Operations Coordinators to ensure that the following actions are undertaken if a spillway overflow occurs:

- Notify Seqwater's Dam Safety and Source Operations Manager, Principal Engineer Dam Safety and Principal Hydrologist of the spillway overflow.
- Commence recording significant events in the Event Log.
- Direct monitoring of the dam in accordance with instructions from the Principal Engineer Dam Safety and Principal Hydrologist.
- If a Dam Supervisor is required to attend site, contact the relevant personnel on close call and direct the personnel to travel to the dam to commence duty.

Once the Dam Supervisor reaches site, the Dam Supervisor is to ensure that the following actions are undertaken:

- Commence recording significant events in the Event Log.
- Undertake Flood Operations duties as directed by the Operations Coordinator.

It is the responsibility of the Seqwater's Principal Hydrologist to ensure that the following actions are undertaken if a spillway overflow occurs:

- If the magnitude of the flood is likely to have significant downstream impacts, make contact the Bureau of Meteorology and the Local Authority responsible for the area

impacted by the dam outflow and offer assistance in the provision of dam outflow information. Contact details for these agencies are contained in the Seqwater's dam Emergency Action Plan. All such contact should be recorded in the Event Log. A guide outlining when contact should be made is contained in the following table.

DAM	POPULATION AT RISK	SPILLWAY LEVEL (m AHD)	STORAGE LEVEL FOR CONTACT (MODERATE FLOOD) (m AHD)	STORAGE LEVEL FOR CONTACT (MAJOR FLOOD) (m AHD)
Atkinson Dam	47	65.72	*	*
Baroon Pocket Dam	426	217.00	218.5	219.5
Bill Gunn Dam	> 100	110.00	*	*
Borumba Dam	365	135.01	138.0	139.0
Bromelton	6	80.00	*	*
Cedar Pocket	12	100.93	102.0	102.5
Clarendon Dam	> 100	96.00	*	*
Cooloolabin	155	295.91	296.3	296.5
Enoggera	2450	74.37	78.0	80.0
Ewen Maddock	1160	25.30	26.4	26.6
Gold Creek	146	92.75	96.6	97.4
Hinze Dam	120000	82.20	88.4	90.0
Lake MacDonald	142	95.32	96.2	96.5
Lake Manchester	1273	51.09	52.1	52.6
Little Nerang	18	168.02	170.0	171.0
Nindooinbah	3	122.80	*	*
Maroon Dam	352	207.14	208.9	209.3
Moogerah Dam	394	154.91	155.9	156.9
Poona Dam	6	152.70	*	*
Sideling Creek Dam	3948	20.42	20.8	21.2
Wappa Dam	126	44.81	46.0	46.9

* These dams are off-stream storages with relatively small catchment areas. Spillway overflows are likely to have little relative impact on downstream flooding.

8.3 Normal Operations

Purpose

This procedure is used to manage the operation of Seqwater's twenty uncontrolled spillway dams during a Flood Event.

Scope

This procedure applies to the operation of Seqwater's twenty uncontrolled spillway dams during a Flood Event. It defines the responsibilities of Seqwater's Operations Coordinators, Dam Supervisors and Principal Hydrologist during flood events impacting on any of Seqwater's twenty uncontrolled spillway dams.

Responsibilities (Staffing of the Dam)

During a Flood Event at an uncontrolled spillway dam, the relevant Operations Coordinator is to ensure that:

- Suitable staffing arrangements are in place to undertake any monitoring duties.
- All staff working during a Flood Event use the Event Log to sign on at the commencement and of the end of undertaking operations duties.

Responsibilities (Operation of the Dam)

If called a dam to undertake duties during a flood, the Dam Supervisor is responsible for the following:

- Recording all Significant Events in the Event Log.
- Ensuring all notifications specified in the Flood Manuals and Emergency Action Plans are made.
- Conducting handovers that provide the following information to incoming officers:
    - Reservoir storage elevations at each dam.
    - Status of the communication systems.
    - Any areas of concern associated with the management of the Flood Event.
- Advising the Operations Coordinator of any emerging issue that has the potential to adversely impact on dam safety during the Flood Event.

- Undertake water level monitoring in accordance with the following table:

DAM	SPILLWAY LEVEL (m AHD)	STORAGE LEVEL FOR DAILY MANUAL WATER LEVEL RECORDING (m AHD)	STORAGE LEVEL FOR TWICE DAILY MANUAL WATER LEVEL RECORDING (m AHD)	STORAGE LEVEL FOR SIX TIMES DAILY MANUAL WATER LEVEL RECORDING (m AHD)
Atkinson Dam	65.72	*	65.72	*
Baroon Pocket Dam	217.00	217.00	218.50	219.50
Bill Gunn Dam	110.00	*	110.00	*
Borumba Dam	135.01	135.01	138.00	139.00
Bromelton	80.00	*	80.00	*
Cedar Pocket	100.93	100.93	102.00	*
Clarendon Dam	96.00	*	96.00	*
Cooloolabin	295.91	295.91	296.30	296.50
Enoggera	74.37	74.37	78.00	80.00
Ewen Maddock	25.30	25.30	26.40	26.60
Gold Creek	92.75	92.75	96.60	97.40
Hinze Dam	82.20	82.20	88.40	90.00
Lake MacDonald	95.32	95.32	96.20	96.50
Lake Manchester	51.09	51.09	52.10	52.60
Little Nerang	168.02	168.02	170.00	*
Nindooinbah	122.80	*	122.80	*
Maroon Dam	207.14	207.14	208.90	209.30
Moogerah Dam	154.91	154.91	155.90	156.90
Poona Dam	152.70	152.70	152.90	*
Sideling Creek Dam	20.42	20.42	20.80	21.20
Wappa Dam	44.81	44.81	46.00	46.90

* Water level recording at this frequency is not required

It is the responsibility of the Seqwater's Principal Hydrologist to ensure that the following actions are undertaken if a spillway overflow occurs:

- If the magnitude of the flood is having significant downstream impacts, make contact the Bureau of Meteorology and the Local Authority responsible for the area impacted by the dam outflow and offer assistance in the provision of dam outflow information. Contact details for these agencies are contained in the Seqwater's dam Emergency Action Plan. All such contact should be recorded in the Event Log. A guide for contact is contained in the table in Section 8.2.

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9 FLOOD EVENT COMMUNICATIONS WITHIN SEQWATER

Purpose

This procedure is used to ensure that appropriate internal communications occur within Seqwater during declared Flood Events at Wivenhoe, Somerset, North Pine and Leslie Harrison dams.

Scope

This procedure applies to Flood Events at Wivenhoe, Somerset, North Pine and Leslie Harrison dams. It defines the responsibilities of the Seqwater's Dam and Source Operations Manager and Seqwater's Public Affairs and Media Manager.

Background

Wivenhoe Dam and Somerset Dam both have significant flood storage capacities and during flood events have a significant impact on flood levels downstream of the dam. Flood releases from North Pine and Leslie Harrison dams have the potential to significantly impact on downstream populations. In a major flood event, Seqwater will have a significant role in providing information in relation to likely flood impacts downstream of the dams.

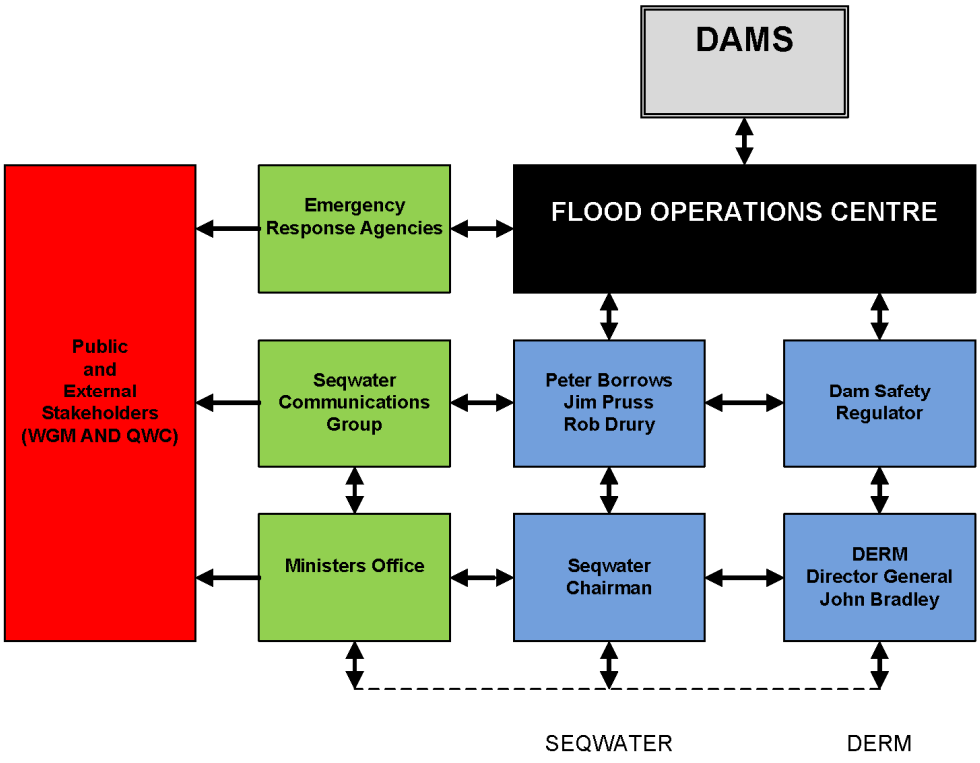
Responsibilities

At the onset of a flood event the Flood Operations Centre notifies Seqwater's Dam and Source Operations Manager that a flood event has commenced and advises of the flood releases strategies adopted to manage the event and the expected magnitude and impacts of the event. The Flood Operations Centre also notifies Seqwater's Dam and Source Operations Manager of any changes to adopted flood release strategies throughout the event and provides regular updates in relation to the likely impacts of the event.

Seqwater's Dam and Source Operations Manager is responsible for relaying this advice to Seqwater's Public Affairs and Media Manager, Seqwater's General Manager Water Delivery and Seqwater's Chief Executive Officer. Based on the likely magnitude and impacts of the event, Seqwater's Public Affairs and Media Manager in consultation with Seqwater's General Manager Water Delivery and Chief Executive Officer is responsible for providing appropriate information to the following Seqwater personnel and external:

- Seqwater Executive General Managers.
- Seqwater Chairman.
- Water Grid Manager.
- Queensland Water Commission.
- Offices of the Premier and Seqwater's shareholding ministers.
- Public.

The following diagram outlines how these information flows are likely to occur during a flood event.



APPENDIX A

DAM STATUS SUMMARY SHEET

13/01/2010 13:30 +61731200275 FCC BRISBANE PAGE 01/01

SUNWATER
Seqwater DAM OPERATIONS
Flood Control Centre

FACSIMILE MESSAGE

Senior Duty Flood Operations Engineer	Senior Duty Flood Operations Engineer	Duty Flood Operations Engineer	Duty Flood Operations Engineer
Rob Ayre [redacted]	John Ruffini [redacted]	Terry Malone [redacted]	John Tibaldi [redacted]

Somerset Dam, Wivenhoe Dam & North Pine Dam Operations

TO: Bureau of Meteorology Duty Engineer Flood Warning Centre Facsimile: [redacted]	**Issued Date:** 11-01-10 10:00
Copies to: • **Wivenhoe Dam** • **Somerset Dam** • **North Pine Dam** • **Rob Drury** • **Karalee Office** [redacted]	**Issued By:** John Ruffini

Current Status of SEQWater Storages - For your information

Dam	Current Level (m AHD)	% Full Supply Storage	Runoff to Fill (mm)	Antecedent Precipitation Index	Expected Initial Loss (mm)	Reqd Rain at 5mm/hr to Operate	Reqd Rain at 10 mm/hr to Operate	
Somerset (FSL 99.0 m)	97.28	82	50	42	44	128	107	
Wivenhoe (FSL 67.0 m)	62.26	63	61	32	45	150	125	Inclusive of Somerset catchment
			75			174	142	Exclusive of Somerset catchment
North Pine (FSL 39.6 m)	39.06	95	33	67	33	77	69	

No flood releases are planned at this stage

Dam Operators – Please advise/confirm current levels and gate status.

Approved: [redacted]	Current Duty Engineer John Tibaldi

File swfxdamstatus.doc

APPENDIX B

SAMPLE FLOOD EVENT LOG

Flood Event Log

The purpose of the Incident Log is to record all decisions, actions, direction and other pertinent information. It is important for all personnel involved in managing / responding to the incident to record information in the event that it is required as part of a post incident review or some other investigation.

Incident Name: ..... **Incident Manager:** .....

Date	Time	Item	Recorded by

APPENDIX C

SAMPLE FLOOD OPERATIONS DIRECTIVE

SUNWATER
Seqwater DAM OPERATIONS GROUP
Flood Control Centre

FAC SIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Duty Flood Operations Engineer
Terry Malone
[redacted]

Duty Flood Operations Engineer
John Tibaldi
[redacted]

Flood Event Operations Directive

TO: North Pine Dam Operators	Date: 20/05/2009 Time: 13:50 Directive No: 1

This transmission comprises of this page and other pages.

Message:

Please prepare for the commencement of gate operations.

Latest estimates indicate that we will reach FSL by about 15:00 this afternoon. Gate C should be opened 1 increment when the lake level reaches EL39.65 mAHD (The gate trigger level).

Minimum gate opening interval is 15 minutes between successive gate movements.

Gate sequence will be as follows:

- Gate C : Opening increment 1 – Lake Level 39.650 mAHD
- Gate E : Opening increment 1 – Lake Level 39.700 mAHD
- Gate A : Opening increment 1 – Lake Level 39.715 mAHD
- Gate D : Opening increment 1 – Lake Level 39.730 mAHD
- Gate B : Opening increment 1 – Lake Level 39.745 mAHD

Further gate openings are expected this evening based on current forecasts. We anticipate that we may reach EL 40.086 mAHD by tomorrow morning.

Please ensure you provide confirmation of attaining gate trigger level (EL 39.65 mAHD) and that you sound the siren.

Please provide the FOC lake level and gate settings information at least on an hourly frequency.

Regards

John Ruffini
Duty Flood Operations Engineer

C:\Documents and Settings\Irnalone\Local Settings\Temporary Internet Files\Content.Outlook\3RA1SZWU\OPS_Directive1_20090520_NorthPine.doc

APPENDIX D

WIVENHOE DAM – FLOOD READINESS CHECKLIST

Date: _____ Time: _____

Duty Officer in Charge: _____

Rainfall (mm):_____

Lake Level: _____ Gauge Board

Lake Level:_____ Auto dialler [redacted]

Tail Level _____ Gauge Board

Tail Level _____ Recorder [redacted]

Security Alarm code on key ring - Rain gauge adjacent to office - Lake Gauge board on western end of wall (RB) - Tail gauge board down Spillway Common road at Atkinson Crossing.

Outlet Works

Sump Pumps operational:	No. 1 ❒	No. 2 ❒
High Level Alarm operations:	❒	
V-Notch weirs clean:	❒	

Dam Underground Complex

Standby Generator operations:	❒
Mode Selector switch to Automatic:	❒
Monitor Telemetry:	❒

Winch Room

Electric Hydraulic Units operational:	❒	
Diesel Hydraulic operational:	❒	
Electric Hydraulic Unit Pumps mode:	Separated ❒	Connected ❒
Oil Return Valve Position:	Electric Vertical ❒	Diesel Horizontal ❒

Note: Check all valves are in position for mode selected. Key No. 5 is required for opening hydraulic cabinets as well as the Radial Gate local control panel on Pier.

APPENDIX E

SOMERSET DAM – FLOOD READINESS CHECKLIST

Date: _____ Time: _____

Duty Officer in Charge: _____

Rainfall (mm):_____

Lake Level Somerset: _____ Gauge Board

Lake Level Somerset: _____ Recorder

Lake Level Wivenhoe: _____ Gauge Boards at bridge

Lake Level Wivenhoe: _____ Phone Recorder

Communications Phone: _____

Local Phones: _____

Fax Lines: _____ Mobiles: _____

Hand held Radios: _____

Satellite Phone: _____

GENERATORS

1. *Fixed Standby Diesel above office (Top Deck)*

Check:

Oil	❒	Water	❒	Fuel	❒
Battery	❒	Auto Switch	❒		

Test run by following the **Manual Operation Instruction Sheet** in the Generator Control Panel, run for at least 15 min.

2. *Mobile Stand-by Diesel in shed at far end of Top Deck*

Check:

Oil	❒	Water	❒	Fuel	❒
Battery	❒	Auto Start	❒		

Test run by following the **Manual Operation Instruction Sheet** in the Generator Control Panel, run for at least 15 min.

3. *Portable 5.5 Honda*

Check:

Petrol	❒	Oil	❒	Test run	❒
Moved to Cone Valve Control Room	❒				

SUMP PUMPS are located in the Regulator Cone Valve chambers on both left and right banks. Test by turning auto/manual switch (on wall) to “ON” position or by flooding shaft. Follow the operation procedures on the attached form.

Tested Manual	❒	Tested Auto	❒

DOORS: all external doors are to remain closed at all times.

- CHECK all lower galleries for any excessive leaks or irregular colour. ❒
  Follow the instructions in the Flood Manual for inspection intervals.
- Clean all drains that may become blocked. ❒
- Cyclonic conditions secure crane to tie down points. ❒

Signed: _____

APPENDIX F

NORTH PINE DAM – FLOOD READINESS CHECKLIST

Checklist – Pre Flood

NOTE: Security Keypad located at Office – Isolate prior to entry on Dam Wall.

North Pine Dam Flood Readiness Check List

Date: _____ Time: _____ Duty Officer In Charge: _____
Rain Gauge _____ mm

Lake Level :- Gauge Board _____ Float Recorder _____ Digital Display_____

Autodialler [redacted] _____

Get Keys No.7 (Flood readiness) from level 2 key cabinet

LEVEL 7 ref Section 3 Stby Flood Operators Manual
Sump Pumps Operational :- No1. ☐ No.2 ☐ Vee Notch Weirs clean ☐

LEVEL 4
Doors to external regulator valves closed No1. ☐ No.2 ☐

LEVEL 2 ref Section 5 Stby Flood Operators Manual

Check Oil ☐ Water ☐ Fuel ☐ Battery ☐ Charger ☐ Auto/Man Sw set to Auto ☐
Standby Generator / Alternator Auto Operation (Turn off Main Switch) (4 sec delay) (Turn On Main Switch)(43 sec)
Leave selector set to Auto ☐ Reset Battery charger after test ☐

Radial Gate control supply energised ☐ All gate control selectors LOCAL ☐

All circuit breakers turned on in SWITCHBOARD A (behind Main Switch) ☐

LOCAL CONTROLS ref Section 2a Stby Flood Operators Manual
Light switch located inside opening-Downstream side

	A	B	C	D	E
Emergency Stop buttons pulled up					
Brake lever AND Electric Motor operates freely					
Motor plug connection secure					
Control Isolator "ON"					

EXTERNAL CONTROL PANEL ref Section 2b StbyFlood Operators Manual

	A	B	C	D	E
Direction switch OFF					
Key release ISOLATOR Available light on					
Push ISOLATOR and re-lock control panel					

DECK ref Section 6 StbyFlood Operators Manual

	A	B	C	D	E
Cathodic Protection OFF (Nth winch Gate A)					
Anode strings pulled up					

TRAILER ref Section 2d StbyFlood Operators Manual

Portable Gen /Motor Set shafts installed in deck					
Portable Gen/Motor Set Trailer on deck and test run					

Note! Use of portable trailer dependent on possible severity of flood event.

APPENDIX G

LESLIE HARRISON DAM – FLOOD READINESS CHECKLIST

NOTE: Security keypad located at spillway control building.

Date: _____	**Time:_____**	**Duty Officer in Charge:_____**

Lake Level

Float: _____ Digital: _____ Intake Tower Gauge Board:_____

Main Switch Board

All circuit breakers ON? ❒Yes ❒No

Control Panel 1

Selector Switch **AUTO** ❒ Emergency Stop **UP** ❒ No Faults ❒

Control Panel 2

Selector Switch **AUTO** ❒ Emergency Stop **UP** ❒ No Faults ❒

Control Panel 3

Selector Switch **AUTO** ❒ Emergency Stop **UP** ❒ No Faults ❒

Control Panel 4

Selector Switch **AUTO** ❒ Emergency Stop **UP** ❒ No Faults ❒

Standby Generator

Test Operation ❒ _____ Fuel ❒ _____ Batteries ❒ _____

Charger ❒ _____ Change Over Switch ❒ _____

Hoist Gates Bridge Control Panel 1

Isolator **ON** ❒ Air Valve **OFF** ❒

Hoist Gates Bridge Control Panel 2

Isolator **ON** ❒ Air Valve **OFF** ❒

Hoist Gates Bridge Control Panel 3

Isolator **ON** ❒ Air Valve **OFF** ❒

Hoist Gates Bridge Control Panel 4

Isolator **ON** ❒ Air Valve **OFF** ❒

Air Compressor

Test Operation ❒ _____ Fuel ❒ _____ Batteries ❒ _____

Bleed System of Water Panel ❒ _____ Northern Pipe End ❒ _____