McCullough Robertson

Attachments to Submissions by SEQ Water Grid Manager on 4 April 2011

In the matter of the Commissions of Inquiry Act 1950, Commissions of Inquiry Order (No 1) 2011

Queensland Floods Commission of Inquiry

Volume 2 of 3



SEQ WATER GRID MANAGER

SEQ Water Grid Manager Level 15 53 Albert Street BRISBANE QLD 4000

Acting FE:

Resp FE:

Intro FE:

Dated: 4 April 2011

Email: Ph: Fax:

2011 BRISBANE FLOODS

MMC

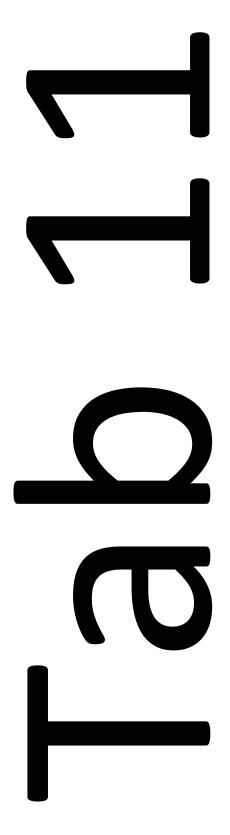
MMC

F: 0089 FD: Attachments to Submissions by SEQ Water Grid Manager on 4 April 2011 -Volume 2 of 3 MMC



Date Created: 27/01/2011

Level 11 Central Plaza Two 661 Telephone 07 3233 8888 [F



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Barry	Den	nien

From: Sent: To: Cc: Subject:

Mike Foster

Wednesday, 13 October 2010 5:40 PM Barry Dennien; Dan Spiller; Michael Lyons; SEQWGM Communications Staff Rob Drury; Peter Borrows; Jim Pruss Segwater response

Folks,

First up we should be telling Courier Mail to contact BOM. In our discussions with BOM they agreed the discharges from Wivenhoe will have an insignificant impact on flood levels on lower Brisbane River compared to the high tide impact.

Response for the Courier

- Releases from Wivenhoe and Somerset Dam are being made in accordance with the approved flood release manual. This flood management plan is signed off by the Dam Safety Regulator and gazette.
- Wivenhoe and Somerset Dam have provided significant flood mitigation for this event reducing the peak flow in Brisbane by between fifty to sixty percent.
- Current releases from Wivenhoe are approximately one-third of what would naturally come down the river without the dam in place to store flood water.
- As part of managing inflows over the past week Seqwater has held back 500,000-600,000 mega litres (equivalent of a Sydney harbor) which is now being discharged through controlled release.
- The current release was held back until the flood flows from the Bremer and Lockyer had subsided sufficiently
- The threshold for damaging floods in the Brisbane area is 3500 cubic metres per second and our current releases are well below (1200 cubic metres per second).
 - Sequater does not believe the current releases will have any significant impact in levels in the lower Brisbane River in the coming days.

Mike Foster

Manager Strategic Relations & Communication Queensland Bulk Water Supply Authority trading as Seqwater

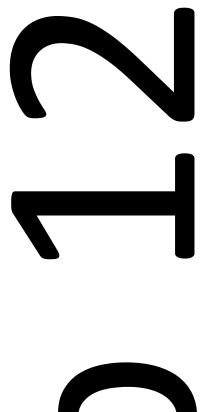


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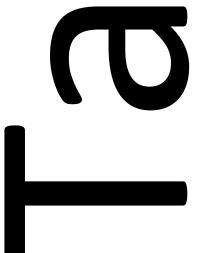
Level 3, 240 Margaret St. Brisbane City QLD 4000 PO Box 16146, City East QLD 4002 Website | <u>www.seqwater.com.au</u>

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From: Sent: To:	Geoff Stead Wednesday, 13 October 2010 6:45 PM Stephen Robertson
Cc: Subject: Attachments:	Nicole Scurrah; Bradley John; Lance McCallum; Tim Watts; Dan Spiller; Barry Dennien; Michael Lyons; Aleisha Coote, Shelley Banks; Premiers Office - Media Unit draft MR Water-Brisbane-Wivenhoe 131010.docx
should be sent di small mention on	here I am with the response to Brisbane flooding claims. I believe it rect to CM from SEQwater. There have been no other media enquiries only a Ch10 so far. go out more generally if needed in the morning. G
< <water-brisbane< th=""><th>-Wivenhoe 131010.docx>></th></water-brisbane<>	-Wivenhoe 131010.docx>>
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Bureau of Meteorology and SEQwater experts agree that Wivenhoe Dam releases will have almost no impact beyond normal high tide levels in the Brisbane River and its feeder creeks today.

In fact, Wivenhoe is protecting low-lying Brisbane suburbs with its flood mitigation capacity.

The dam reduced by one-third the natural flow into the Brisbane River from this week's downpour across the region.

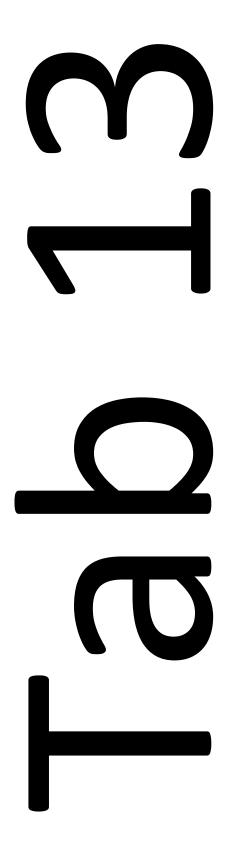
Current releases from Wivenhoe are approximately one-third of what would have naturally come down the river without the dam in place to store flood water.

Releases from Wivenhoe are being made in accordance with the approved flood release manual. This flood management plan is signed off by the Dam Safety Regulator and gazette.

The trigger levels and release procedures are the same as those used by SEQ Water was owned by councils and similar to those used to manage the last multi-gate release in 1999.

Prior to this week's opening of the spill gates at Wivenhoe, SEQwater was in regular contact with Council officers regarding the releases plans, including a teleconference with Brisbane City Council's emergency team on Sunday. No objections to the planned release were raised.

Levels in the Brisbane River today are expected to be within normal expectations on a high tide after a major wet weather event.



Barry Dennien

From: Sent: To: Cc: Subject: Peter Baddiley Wednesday, 13 October 2010 9:37 PM Barry Dennien 'Duty Engineer'; Peter Baddiley Water levels in the Brisbane River at Brisbane City [SEC=UNCLASSIFIED]

Barry and all

Further to our discussions this evening regarding water levels at Brisbane City, here is a summary of key facts:

1. The highest level reached at the Brisbane City gauge (at bottom end of Edward Street, and near Thornton St ferry on opposite bank of river) this week was about 1.6m AHD just after midday on Monday 11th. This level is just above the Highest Astronomical Tide (HAT or "king tide") of 1.55m AHD at this location.

(The higher than predicted tide will have been caused by a combination of meteorological factors (high onshore winds causing setup, atmospheric pressure etc) and hydrological factors (local inflows, incl creeks & parts of Bremer R flow).

nce Monday, the peak water level at the Brisbane City gauge has been getting slightly less each day.

The reason for this is the decreasing astronomical tide (dropping by about 0.1 metre each day) and the reducing local flood inflows which is outweighing the minimal increase associated with the arriving Wivenhoe Dam discharge.)

3. Today, Wednesday 13 Oct, the peak level had fallen to about 1.3m AHD which occurred at about 2pm. (i.e. about 0.3m less than Monday)

4. For tomorrow Thursday 14, based on flood modelling, the expected highest level is predicted to be quite similar to, and likely slightly less than, today's highest level.

(Current modelling indicates about 1.2m AHD at about 3pm, although this is sensitive to the timing of reductions of local flows compensating slight increases associated with arriving Wivenhoe Dam discharge.)

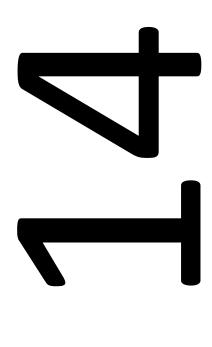
5. Current modelling indicates that a level of about 1.0 to 1.2 metres AHD will be reached at the Brisbane City gauge with each afternoon/evening high tide for the next few days as releases from Wivenhoe Dam continue.

For future occurrences, it seems that an improved communications strategy is needed to address the issues of prinformation appearing in the media and the associated suggestions of variances between agencies. It may require ily media release containing some technical information (in appropriate language). The Bureau's flood warning for Brisbane River is one vehicle for information regarding Brisbane City. For these "non-flood" events, the warning could include a statement (for example) that "flood levels will remain below minor flood level in Brisbane City" or "water levels will remain below normal highest tide levels".

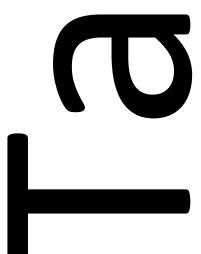
I feel though that an additional statement from an agency associated with the operation of Wivenhoe Dam is needed to ensure a strong, consistent unambiguous message to the media and public.

regards, peter

Peter Baddiley Regional Hydrology Manager Climate & Water Division Bureau of Meteorology Level 21, 69 Ann Street GPO Box 413, BRISBANE, QLD, AUSTRALIA 4001 Phone: (EMAIL: WWW : www.bom.gov.au







From:	Bradley John			
Sent: To:	Wednesday, 13 Octol Barry Dennien	ber 2010 10:29 PM		
Subject:	Re: Fwd: Water levels	s in the Brisbane River at Brisba	ane City [SEC=UNC	LASSIFIED]
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	e tomorrow from 7 a ken and nic into ne	m w info from bom etc/medi	a HIBs etc	
Well done in media				
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Thanks JB				
Original Mess				
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For future occurrences, it seems that an improved communications strategy is needed to address the issues of misinformation appearing in the media and the associated suggestions of variances between agencies. It may require a daily media release containing some technical information (in appropriate language). The Bureau's flood warning for the Brisbane River is one vehicle for information regarding Brisbane City. For these "nonflood" events, the warning could include a statement (for example) that "flood levels will remain below minor flood level in Brisbane City" or "water levels will remain below normal highest tide levels".

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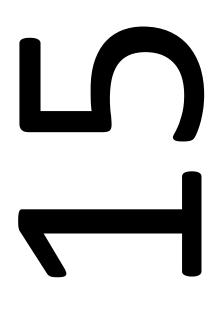
Peter Baddiley	
Regional Hydrology Manager	
Climate & Water Division	
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Level 21, 69 Ann Street	
GPO Box 413, BRISBANE, QLD,	AUSTRALIA 4001
Phone:	
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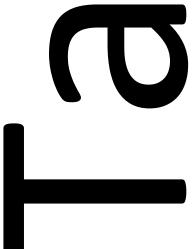
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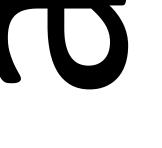
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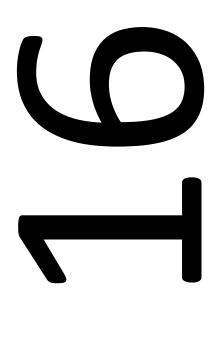




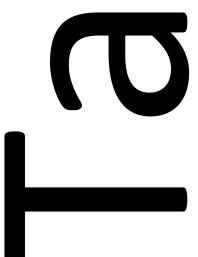




Barry Dennien From: Lance McCallum Thursday, 14 October 2010 8:25 AM Sent: Barry Dennien; Dan Spiller To: Cc: Tim Watts; Bradley John; Geoff Stead Subject: Q & As Importance: High Barry/Dan Further to questions put to you from Geoff can we please include the following in the Q&A. - apologies for any overlap: Who authorises release? Who determines how much to release? Are high tides taken into account in the decision to release? Would holding back the water have resulted in a worse situation ? or bigger flood risk? t is the modelling that Dam Safety Regulatory relies on BOM, BCC or their own - or a xture? Happy to discuss. Lance McCallum | Acting Principal Policy Advisor Office of the Hon Stephen Robertson MP Minister for Natural Resources, Mines and Energy Minister for Trade Queensland Government GPO Box 15216, Brisbane. Qld. 4001 * × P Please consider the environment before printing this email 1







Barry Dennien	

From: Sent: To: Subject: Geoff Stead

Thursday, 14 October 2010 8:33 AM Barry Dennien FW:

Barry, can I get a quick answer on this: G

From: Nicole Scurrah Sent: Thursday, 14 October 2010 8:20 AM To: Lance McCallum Cc: Geoff Stead; Tim Watts; Megan Saunders Subject: RE:

The Modelling – who has it what is the difference and why? What is the modelling that Dam Safety Regulatory reliese on BOM, BCC or their own?

m: Lance McCallum ent: Thursday, 14 October 2010 8:15 AM To: Nicole Scurrah Cc: Geoff Stead; Tim Watts Subject: RE:

We are onto it. Some of the questions can be answered by the release that has been drafted - see below.

A fresh Q&A is being prepared.

What exactly is the last question though?

From: Nicole Scurrah Sent: Thursday, 14 October 2010 8:01 AM To: Lance McCallum Subject: FW:

ic is really important that we get the answers to Megan's questions as soon as possible: Who authorises release?

Releases from Wivenhoe are being made in accordance with the approved flood release manual. This flood management plan is signed off by the Dam Safety Regulator and gazette.

Who determines how much to release?

The trigger levels and release procedures are the same as those used by SEQ Water was owned by councils and similar to those used to manage the last multi-gate release in 1999

Are high tides taken into account in the decision to release?

I think the short answer this is 'yes'. Will be confirmed. Advice thus far is Bureau of Meteorology and SEQwater experts agree that Wivenhoe Dam releases will have almost no impact beyond normal high tide levels

Would holding back the water have resulted in a worse situation ? or bigger flood risk? It's balancing against the risk of future rain – ie if there are further heavy rains and/or extreme weather (ie cyclone etc) over the weekend and enough water wasn't released beforehand then yes the risk is increased. This is what the science of the flood release plan takes into account – it's prepared by the technical experts. What is get us some more info on modelling?

From: Megan Saunders Sent: Thursday, 14 October 2010 7:32 AM To: Geoff Stead; Kimberley Gardiner; Nicole Scurrah Cc: Premiers Office - Media Unit; Lance McCallum; Tim Watts; 'John.Bradley@derm.qld.gov.au' Subject: Re:

Sit tight on release for now. Monitor radios closely and keep us posted. In the meantime we need some answers to some key qus: who authorises the release? Who determines how much to release? Are high tides taken into acct in that release? Would holding back the water have resulted in a worse situation? Also can you pls get us some more info on the modelling and what it says?

From: Geoff Stead To: Kimberley Gardiner; Megan Saunders; Nicole Scurrah Cc: Premiers Office - Media Unit; Lance McCallum; Tim Watts; Bradley John Sent: Thu Oct 14 07:23:12 2010 bject:

Hi all, I have spoken to Min R and SEQwater Barry Dennien this morning and they agree on this. A computer model exists that shows it could flood this afternoon. Our thoughts are we need to tread lightly at the moment. To say it won't flood this morning raises the risk of being slammed as not knowing what we are doing in the event it does flood. We can take the high ground this afternoon if it doesn't.

I have so far received no requests for media. BOM is saying a flood is unlikely which is good for us. If there is a belief that we need to put something out, I'm suggesting we can cast a version of the SEQwater release given to the CM that outlines the benefits of Wivenhoe for Brisbane and some of the technical data about river flows. Or we can just sit tight and wait. Thoughts?

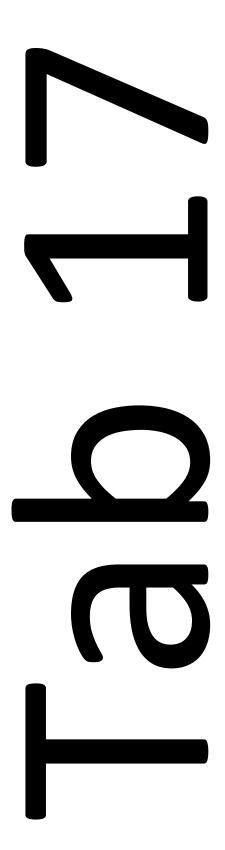
FYI – JPL has given a strong interview to ABC radio on electricity prices. The Min is responding. Expected to run on 7.45 bulletin

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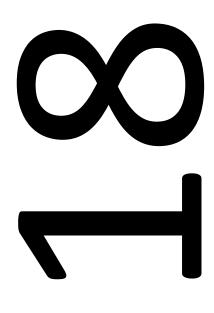
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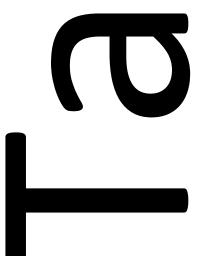
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Barry Dennien		
From: Sent: To: Subject:	Geoff Stead Thursday, 14 October 2010 8:33 AM Michael Lyons; Barry Dennien urgent request	
Hi guys, can you do a qu	ck Q and A to these questions below. Thanks Geoff	
From: Megan Saunders		
Sent: Thursday, 14 Octo		
	ey Gardiner; Nicole Scurrah dia Unit; Lance McCallum; Tim Watts;	
Subject: Re:		
Sit tight on release for no	w. Monitor radios closely and keep us posted. In the meantime we	e need some answers to
re key qus: who autho	prises the release? Who determines how much to release? Are hig ing back the water have resulted in a worse situation? Also can yo	gn tides taken into acct in ou ols get us some more
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From: Geoff Stead	Megan Saunders; Nicole Scurrah	
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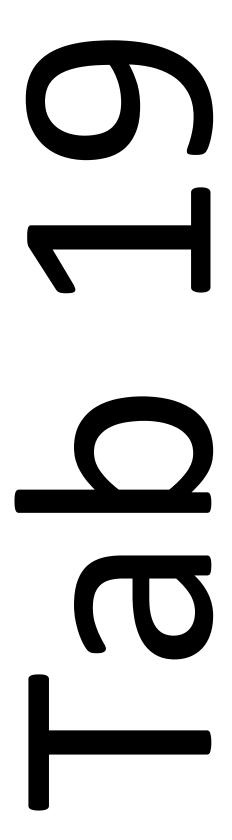






Barry Denn	en				· · · · · · · · · · · · · · · · · · ·
From: Sent: To: Cc: Subject:	Bradley Barry Do	ay, 14 October 201 ' John		al flood situation?	
John,					
EMQ is a mer	ber of the Brisb	cane Local Disa	aster Managemer	nt Group.	
				ot béen officiall g kept up to date	
EMQ will kee	p us up to date	if the situati	ion changes. We	e will let you kn	ow.
Dan Origir From: Megan	al Message	• • • • • • • • • • • • • • • • • • •			
To: Scott Ch	andler		· · · · · · · · · · · · · · · · · · ·		
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Thanks					
To: Megan Sa Cc: Nicole S	ay, 14 October 2	office - Medi		lood situation?	
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The BOM has	not issued any f	lood warnings	for the situat	ion as of yet.	
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Scott Chandl	er				
Phone:					•
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From: Megan Sent: Thursd	ay, 14 October 2				
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Think B4U Print 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere 3 sheets of A4 paper = 1 litre of water +------



Barry Dennien From: Geoff Stead Sent: Thursday, 14 October 2010 9:47 AM

To: Subiect:

Attachments:

Michael Lyons; Barry Dennien; Dan Spiller draft media release Water- draft seqwater 141010.docx

Hi guys, can you have a look at this, tweak where necessary and then prepare for you to send out asap. Can you send a final draft to me before it goes, thanks Geoff <<Water- draft seqwater 141010.docx>>

Geoff Stead Senior Media Advisor Office of the Hon Stephen Robertson MP Minister for Natural Resources, Mines and Energy and Trade

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 \mathcal{P}^{1} sase consider the environment before printing this email.

DRAFT RELEASE TO GO OUT FROM SEQWATER THIS MORNING

SEQwater is monitoring levels in the Brisbane River as this afternoon's high tide approaches.

Water Grid Manager CEO Barry Dennien said water has been released from Wivenhoe Dam in accordance with the approved flood release manual which is based on scientific and historical data.

The amount of water being released is the same as what was released when the spillway gates were last opened in 1999. No flooding in Brisbane resulted from that release.

Wivenhoe and Somerset Dam have provided significant flood mitigation during recent heavy rains, reducing the peak flow in the Brisbane River by at least 50 percent.

"As part of managing inflows over the past week SEQwater has held back 500,000 megalitres of water, one third of the flood storage capacity which is being discharged through controlled releases over the coming week," Mr Dennien said.

Water needs to be released to restore the dam's flood mitigation capacity. This flood buffer capacity is needed to handle any further major wet weather events over the coming months.

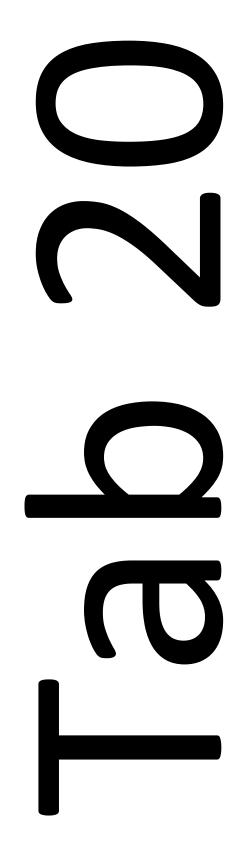
Since Monday, the peak water level of the Brisbane River has been reducing daily since last weekend's heavy downpours.

Today's peak level is likely to be similar to, or slightly less than, yesterday's highest level

The Bureau of Meteorology has advised that, based on its computer modelling, there will be minimal impact on the lower reaches of the Brisbane River.

SEQwater's modelling also suggests minimal downstream impacts from water released from Wivenhoe Dam.

The Bureau has not issued any flood warnings for that area.



Suzie Emery				
Subject:	FW: URGENT : Meeting with Minister Robertson and Water Grid CEO's, DG and CEO Water Commission			
Importance:	High			

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From: Hebblewhite Marie		On Behalf Of DLO NRMET	
Sent: Thursday, 14 Octobe	r 2010 9:53 AM		
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dan.spillar	: Barry Dennien; Jade Simmons; Oliver		
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Michael Lyons; Jade Simmo	ns; Hopper Karen; Robson Chris; Barry	Dennien; jpruss Arnou Prue	den;
Wall, Rebecca; Donna.Smith	h Stevenson Julia		
Cc: WD Office of DDG			
Subject: URGENT : Meetin	g with Minister Robertson and Water G	rid CEO's, DG and CEO Water Commission	
mportance: High			

Good Morning All

Please note the change of time - this meeting is to be held at 1pm today.

The Minister has asked that the focus of the meeting change to address the possibility of any flooding in Brisbane today, or while releases are being made from Wivenhoe. The agenda will be address if there is time.

Please ensure that you are ready to discuss:

what modelling has been done in relation to the water levels in Brisbane while releases occur from Wivenhoe?
 any agreed arrangements and processes that might be in place, between State, Council and Commonwealth bodies, for the flood management/warnings in the Brisbane City area.

A key question that will need to be answered is why are different bodies giving different advice about flood?

regards	
Marie	

Marie Hebblewhite Senior Departmental Liaison Officer (Resource Management) Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade Department of Environment and Resource Management

Telephone:	
Email:	

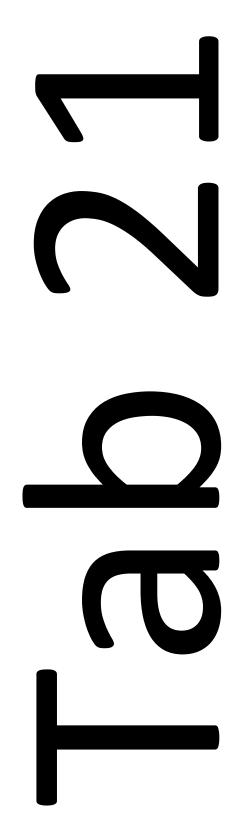
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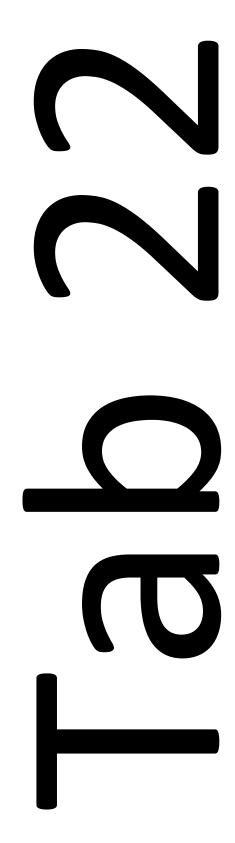
Barry Dennien			
rom:	Jeff Perkins		
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0: c:	Barry Dennien jtibałdi	Peter Baddiley	
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Jeff Perkins Supervising Hydrologist Seasonal Streamlow Forecasting, Extended Hydrological Prediction Climate and Water Division

Australian Government Bureau of Meteorology. Level 21, 69 Ann Street QLD 4001 Phone



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To: 'ken.smith

Cc: 'Dennien Barry'; Ellwood Dean; 'Tim Watts'; 'Peter Borrows'; Spiller Daniel (SEQWGM); Allen Peter

Subject: Flood Mitigation operational arrangements for Wivenhoe/Somerset Dams

Hi Ken

Dot points below:

Background

Wivenhoe and Somerset dams were designed as flood mitigation dams. In other words, they have a substantial storage capacity that is normally empty, and is used to store floodwaters. The aim is to release the flood waters gradually once the immediate downstream flooding impacts, (from floodwaters that come from streams/rivers other than the one on which the dam is located), have passed.

As Wivenhoe and Somerset dams are on the same river, they are effectively operated as one unit for flood management purposes.

The floodwater release strategy is a balance between releasing the water quickly enough so that the flood storage capacity is available if another major rain event occurs, versus minimising downstream flooding impacts (basically property damage) from the releases

The strategy is contained in a flood mitigation plan that is approved by DERM.

Key Issues

The current strategy for Wivenhoe was approved in 2009, but the basic water release strategies, which are still being used today, were approved in 1992. While the plan was submitted by the dam owner (now Seqwater, but then a council-controlled entity), it involved extensive negotiation and discussions with all of the Councils downstream of Somerset/Wivenhoe dams and Emergency Services. Brisbane City Council was included in these discussions.

A fundamental principle behind the plan is that all floodwater should be released from the dams within seven days. This ensures the dam can cope with another major rain event. (Because the dam has an auxiliary spillway, it is unlikely that it would collapse if the floodwaters were not released, but the flooding impacts would be worse because the floodwaters would be released in an uncontrolled manner).

The plan contains quite detailed flood release strategies which Seqwater is obliged to follow.

For releases such as is occurring at the moment, the approval strategy for individual releases is based on the levels in Wivenhoe and Somerset, and the discharges from downstream Lockyer Ck and Bremer River catchments. The aim is to limit total flows (including discharges from Wivenhoe) at Mt Crosby to less than 1900 cubic metres per second. In this instance, the total flows have not needed to go to the full 1900 cubic metres per second, and total flows (including the discharge from Wivenhoe Dam) at Mt Crosby is about 1500 cubic metres per second. (It is worth noting that flood damage in Brisbane commences at a total flow around 4,000 cubic metres per second.).

If the flood release strategies are followed, then the Queensland Government, rather than the dam owner, assumes legal liability for any consequences. (This is of little practical significance in this case, given the ownership of Seqwater).

Please let me know if I can be of further assistance.

Regards

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Telephone:

Email:

www.derm.qld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

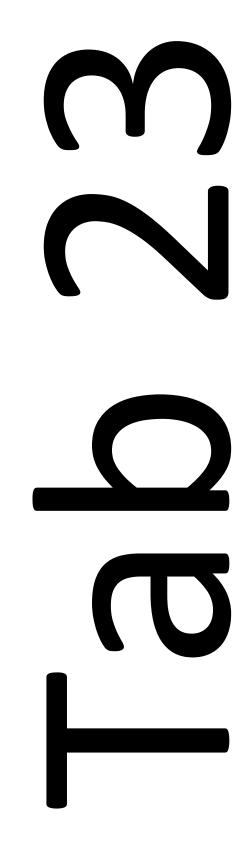
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1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

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3 sheets of A4 paper = 1 litre of water



Barry Dennien

From:		Peter Borrows	•
Sent:		Thursday, 14 October 2010 10:21 AM	•
To:	· .	ken smith	••
Cc:	••••	Barry Dennien; Tim Watts; Dan Spiller; Allen Peter; Reilly Bob	
Subject:	•	RE: Flood Mitigation operational arrangements for Wivenhoe/Somers	set Dams
Attachments:		Issues Brief - Seqwater - as at Oct 14.doc	

Info from Segwater as requested

Regards, Peter.

Peter Borrows

Chief Executive Officer Queensland Bulk Water Supply Authority trading as Sequater



Ph

Level 3, 240 Margaret St, Brisbane City QLD 4000 PO Box 16146, City East QLD 4002 Website | <u>www.seqwater.com.au</u>

From: Reilly Bob

Sent: Thursday, 14 October 2010 9:44 AM To: ken.smith

Cc: Dennien Barry; Ellwood Dean; Tim Watts; Peter Borrows; Spiller Daniel (SEQWGM); Allen Peter Subject: Flood Mitigation operational arrangements for Wivenhoe/Somerset Dams

Hi Ken

Dot points below:

Sackground

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Regards

Bob-

Bob Reilly

General Manager, Office of the Water Supply Regulator

lephone

Email:

www.derm.gld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

GPO Box 2454, Brisbane Q 4001

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1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

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HOT ISSUE BRIEFING NOTE

	water - as at 14 October 2010
Question Impa	ct of current Wivenhoe releases

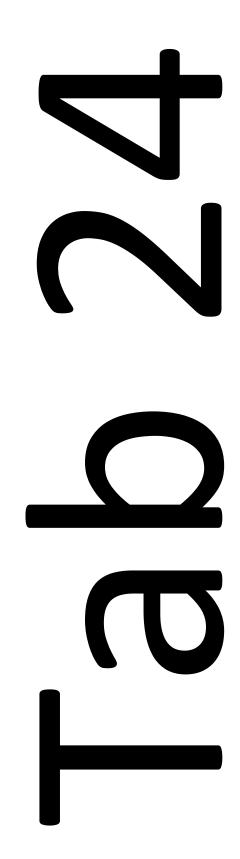
ssue:

- Impact of current Wivenhoe releases
- Development of Wivenhoe and Somerset Dam Flood Control Manual

Answer:

- Seqwater is required to develop a Manual of Operational Procedures for Flood Mitigation at Wivenhoe and Somerset Dam.
- Current releases from Wivenhoe and Somerset Dam are being made in accordance with the approved flood release manual. This flood management plan is signed off by the Dam Safety Regulator and gazette in accordance with the *Water Supply Act* 2008.. Sequater is required to release in accordance with the approved flood release procedures in this manual. The procedures may only be altered if warranted in the opinion of the Senior Flood Operations Engineer (SFOE). In exercising this discretion, must make a reasonable attempt to consult with the Chairperson of Seqwater and the DG, DERM.
- The current flood release manual was reviewed in during 2009 and finalised in January 2010. Sequater is required to provide relevant catchment councils with a copy of the flood manual and this occurred. Councils provided with copies include Somerset Regional Council, Ipswich City Council and Brisbane City Council.
- The trigger levels and release procedures are the same as those used to manage the last multi-gate release in 1999
- Wivenhoe and Somerset Dam have provided significant flood mitigation for this event reducing the peak flow in Brisbane by between fifty to sixty percent.
- Current releases from Wivenhoe are approximately one-third of what would naturally come down the river without the dam in place to store flood water.
- Wivenhoe Dam has a 1,450,000 megalitre 'flood compartment'. More than one third of the 'flood compartment' was full yesterday - holding about 500,000 ML. For comparison, this is more than the total storage capacities of North Pine (215,000 ML), Hinze (161,000 ML) and Baroon Pocket (61,000 ML) dams combined.
- The current release was held back until the flood flows from the Bremer and Lockyer had sufficiently subsided.
- The threshold for damaging floods in the Brisbane area is 3500 cubic metres per second and our current releases are well below (1500 cubic metres per second).

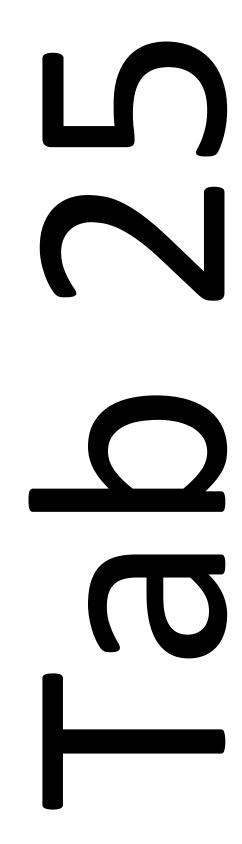
- The Bureau of Meteorology uses information from Seqwater to do modelling.
- BOM modelling predicts that today's high tide (just before 2:30) will be lower than yesterday's high tide.
- Based on advice from the BOM and its own modeling, Seqwater does not believe the current releases will have any significant impact in levels in the lower Brisbane River in the coming days.
- The release plan does take into account tidal information but not until releases reach the trigger level for damaging floods (3500 cubic metres per second)
- Seqwater's Flood Operations Centre was activated over the weekend and will
- operate 24 hours a day until the end of the event (expected around next Tuesday)
- The Flood Operations Centre will continue to advise local and emergency authorities on potential impacts downstream as a result of the gated dam releases.



Barry Denmien	
From: Sent: To: Subject:	Colin Jensen Thursday, 14 October 2010 11:45 AM Barry Dennien Fwd: URGENT - Proposed Community Service Announcement
Sorry Barry ! Colin Jensen Chief Executive Off Brisbane City Counc GPO Box 1434 Bris Level 23, Brisbane Phone:	$2\mathbf{i}\mathbf{i}$ and \mathbf{j} and \mathbf{j} and \mathbf{i} and \mathbf{i} and \mathbf{j} and \mathbf{j} and \mathbf{j} and \mathbf{j} and \mathbf{j} and \mathbf{j}
Email: >>> Colin Jensen 14 Barry & Peter	:/10/2010 11:38 am >>>
reduces the extent	Barry, I would like BCC to issue a Community Service Announcement that of the expected minor flooding as predicted by Council yesterday extent of that flooding
with our modelling	ng based on the actual releases from Wivenhoe overnight (as compared yesterday of 1500 m3/s release mence until 8.00 today) is predicting a 1.4AHD event (rather than
	ue this to make the noon news and seek your input urgently. I seek to tinues to puiblically support SEQWater's release strategies, show this
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TBÁ Residents can find out where flooding may occur from creeks, rivers and storm tides by downloading the Flood Flag map for their suburb. These maps are free for download and are available from Council's website at www.brisbane.gld.gov.au/floodwise Sandbags are available for residents to collect at the following locations today: Darra Works Depot, Shamrock Rd, Darra-Morningside Works Depot, Redfern Street, Morningside Newmarket SES Depot, Wilston Rd, Newmarket (in carpark off Erneton Street) Zillmere Works Depot, Jennings St, Zillmere For more information, phone Council on 3403 8888. -ENDS -Media Contact (not for publication): Lisa Martin Media Officer Colin Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Qld 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email: This message has passed through an insecure network. Please direct all enquiries to the message author.

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Barry Dennien From: Ken Smith Sent: Thursday, 14 October 2010 11:57 AM To: 'CEO Barry Dennien Subject: Re: Fwd: URGENT - Proposed Community Service Announcement Colin From discussions with SEO water, I think there is dispute that any less volume has been released from Wivenhoe. Can you get facts from Peter B on this? ---- Original Message -----From: Colin Jensen To: Ken Smith Sent: Thu Oct 14 11:49:20 2010 Subject: Fwd: URGENT - Proposed Community Service Announcement Ken irst Draft CSA follows. I discussed some suggestions with Barry for his consideration that are not in this draft. Happy for any urgent input you care to supply. Will supply the final to all when done Regards Colin Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Old 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email: >>> Colin Jensen 14/10/2010 11:44 am >>> Sorry Barry ! in Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Qld 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email: >>> Colin Jensen 14/10/2010 11:38 am >>> Barry & Peter As discussed with Barry, I would like BCC to issue a Community Service Announcement that reduces the extent of the expected minor flooding as predicted by Council yesterday afternoon, and the extent of that flooding Our updated modelling based on the actual releases from Wivenhoe overnight (as compared with our modelling yesterday of 1500 m3/s release - which did not commence until 8.00 today) is predicting a 1.4AHD event (rather than 1.7AHD) I would like to issue this to make the noon news and seek your input urgently. I seek to ensure that BCC continues to publically support SEQWater's release strategies, show this

as a proactive management plan, and possib;ly also state that the releases are necessary to maintain flood mitigation capacity for future rainfall (not yet added the last)

You response and input is appreciated

Regards

Colin

DRAFT CSA RELEASE FOLLOWS

Flooding risk reduced due to decreased water output October 14, 2010

Brisbane City Council has been advised that Sequater is continuing to monitor and manage the output of water being released from Wivenhoe Dam and its impact downstream.

As a result, less water was released overnight and this is expected to reduce the high le peak, which is due at Brisbane Bar at 2.23pm, by up to 300mm. This high tide is now xpected to be similar in height to a usual Spring Tide with the associated levels of minor flooding.

This will limit the possible flooding risk today to only a handful of locations across the city on the high tide peak. No flooding of habitable areas in residential properties is expected.

The revised list of locations that may possibly be impacted by minor street flooding are: • TBA

Residents can find out where flooding may occur from creeks, rivers and storm tides by downloading the Flood Flag map for their suburb. These maps are free for download and are available from Council's website at <u>www.brisbane.qld.gov.au/floodwise</u>

Sandbags are available for residents to collect at the following locations today:

• Darra Works Depot, Shamrock Rd, Darra

Morningside Works Depot, Redfern Street, Morningside

Zillmere Works Depot, Jennings St, Zillmere

For more information, phone Council on 3403 8888.

- ENDS -

Media Contact (not for publication): Lisa Martin Media Officer

Colin Jensen Chief Executive Officer

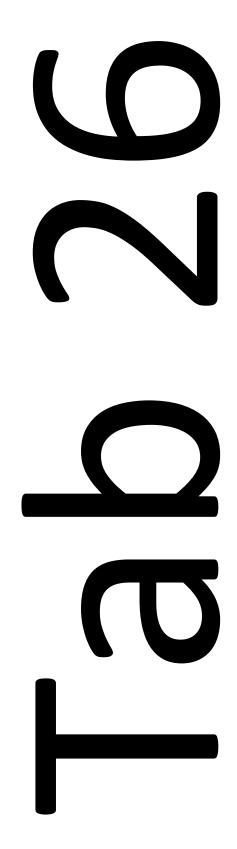
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Barry Dennien

From: Sent: To: Cc: Subject: Geoff Stead Thursday, 14 October 2010 12:02 PM Michael Lyons; Barry Dennien; Dan Spiller Megan Saunders; Lance McCallum; Tim Watts URGENT - MEDIA RELEASE HOLD

Hi all, I have been advised that SEQWater should not approve or send out any joint release on the river level this afternoon without prior approval from the Premier's Department or Minister Robertson's office. Thanks Geoff

From: Michael Lyons [mailto: Sent: Thursday, 14 October 2010 11:46 AM. To: Geoff Stead Subject: FW: Copy of media release Importance: High

From: SEQWGM Media Sent: Thursday, 14 October 2010 11:16 AM To: Dan Spiller; Barry Dennien; SEQWGM Communications Staff Subject: FW: Copy of media release Importance: High

Hi Aleisha,

As discussed, this was the wording we were looking at putting out - still confirming what locations may be affected now the risk is reduced. Below is my normal day to day contacts - but for the next couple of days, best number to get one of the media team on is

Brisbane City Council has been advised that Sequater is continuing to monitor the output of water being released from Wivenhoe Dam and its impact downstream.

a result, output has been reduced and this is expected to reduce the high tide peak, which is due at share Bar at 2.23pm, by up to 300mm.

This will reduce the possible flooding risk today to only a handful of locations across the city on the high tide peak.

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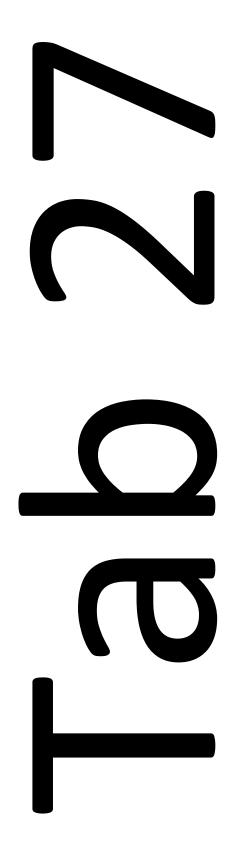
- Darra Works Depot, Shamrock Rd, Darra
- Morningside Works Depot, Redfern Street, Morningside
- Newmarket SES Depot, Wilston Rd, Newmarket (in carpark off Erneton Street)
- Zillmere Works Depot, Jennings St, Zillmere

For more information, phone Council on 3403 8888.

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isa Martin Iedia Officer Marketing	g and Communication Marketing an	d Communication Branch	
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	facebook.com/BrisbaneCityCouncil		
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leisha Coote			
enior Media Advisor			
Q Water Grid Commu	unications Unit		
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mail:	- Charlest Deligherers		
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Suzie Emery

Subject:

FW: URGENT - Proposed Community Service Announcement

From: Michael Lyons Sent: Thursday, 14 October 2010 12:09 PM To: Geoff Stead; ken.smith Cc: Barry Dennien Subject: FW: URGENT - Proposed Community Service Announcement

As reviewed by seqwater and SEQWGM

From: Peter Borrows Sent: Thursday, 14 October 2010 12:05 PM To: Michael Lyons; Barry Dennien Cc: Mike Foster; Peter Borrows Subject: RE: URGENT - Proposed Community Service Announcement

Regards, Peter.

Peter Borrows Chief Executive Officer Queensland Bulk Water Supply Authority *trading as* Sequater



Ph Level 3, 240 Margaret St, Brisbane City QLD 4000 PO Box 16146, City East QLD 4002 Website | <u>www.seqwater.com.au</u>

From: Michael Lyons
 Sent: Thursday, 14 October 2010 11:50 AM
 To: Barry Dennien
 Cc: Peter Borrows; Mike Foster
 Subject: RE: URGENT - Proposed Community Service Announcement

From: Barry Dennien Sent: Thursday, 14 October 2010 11:47 AM To: Michael Lyons Subject: Fwd: URGENT - Proposed Community Service Announcement

Regards Barry Dennien

Begin forwarded message:

From: Colin Jensen Date: 14 October 2010 11:44:54 AM AEST To: Barry Dennien Subject: Fwd: URGENT - Proposed Community Service Announcement

Sorry Barry !

Colin Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Qld 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email:

Colin Jensen 14/10/2010 11:38 am >>>

Barry & Peter

As discussed with Barry, I would like BCC to issue a Community Service Announcement that reduces the extent of the expected minor flooding as predicted by Council yesterday afternoon, and the extent of that flooding

Our updated modelling based on the actual releases from Wivenhoe overnight (as compared with our modelling yesterday of 1500 m3/s release - which did not commence until 8.00 today) is predicting a 1.4AHD event (rather than 1.7AHD)

I would like to issue this to make the noon news and seek your input urgently. I seek to ensure that BCC continues to publically support SEQWater's release strategies, show this as a proactive management plan, and possib;ly also state that the releases are necessary to maintain flood mitigation capacity for future rainfall (not yet added the last)

You response and input is appreciated

Regards

Colin

DRAFT CSA RELEASE FOLLOWS

Brisbane City Council has revised its flooding risk assessment.

Brisbane City Council, the Bureau of Meteorology and Sequater are continuing to monitor the output of water being released from Wivenhoe Dam and its impact downstream.

The most recent data available confirms earlier advice that the possible flooding risk today will be minimal.

The high tide is now expected to be similar in height to a usual Spring Tide with the associated levels of minor flooding.

This will limit the possible flooding risk today to only a handful of locations across the city on the high tide peak. No flooding of habitable areas in residential properties is expected.

The revised list of locations that may possibly be impacted by minor street flooding are:

TBA

Residents can find out where flooding may occur from creeks, rivers and storm tides by downloading the Flood Flag map for their suburb. These maps are free for download and are available from Council's website at <u>www.brisbane.qld.gov.au/floodwise</u>

Sandbags are available for residents to collect at the following locations today:

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- Newmarket SES Depot, Wilston Rd, Newmarket (in carpark off Erneton Street)
- Zillmere Works Depot, Jennings St, Zillmere

For more information, phone Council on 3403 8888.

-ENDS-

Media Contact (not for publication): Lisa Martin Media Officer

Colin Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Qld 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email:

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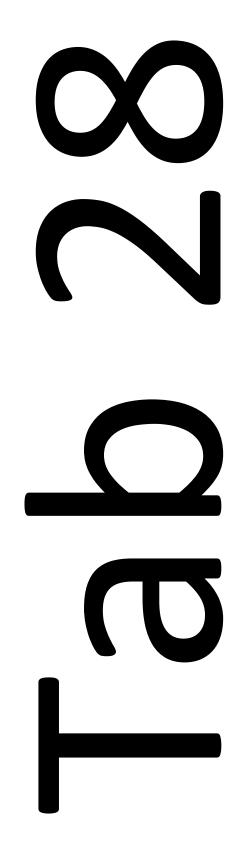
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EQ Water Grid Manager and/or the Queensland Government.



Barry Dennien

From: Sent: To: Subject: Geoff Stead Thursday, 14 October 2010 12:12 PM Michael Lyons; Barry Dennien FW: release figures

Hi, Mike mentioned this morning that output may have been increased from Wivenhoe today. Can I get the situation and figures please and the projection for tomorrow asap. Thanks, G

From: Megan Saunders Sent: Thursday, 14 October 2010 12:09 PM To: Geoff Stead Cc: Nicole Scurrah Subject: release figures

Hi,

Chelieve the BCC want to try and say flooding risk reduced due to creased water output.

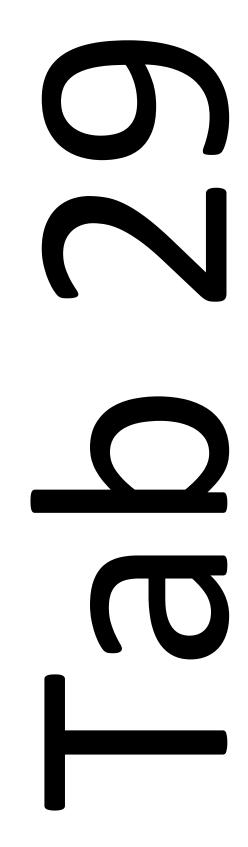
I understand that water output has not decreased?

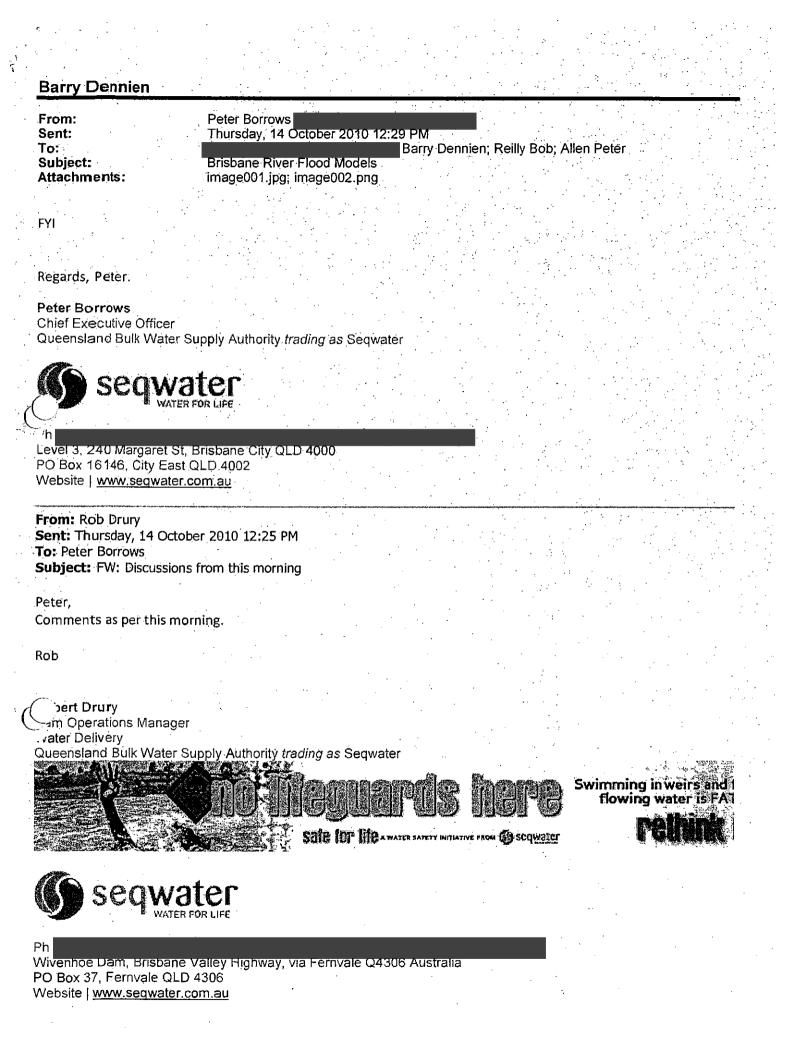
Can we get the figures asap to demonstrate? This email, together with any attachments, is intended for the named recipient(s) only; and may contain privileged and confidential information. If received in error, you are asked to inform the sender as quickly as possible and delete this email and any copies of this from your computer system network.

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From: Rob Drury Sent: Thursday, 14 October 2010 11:42 AM To: 'greg.scroope Cc: 'ken.morris' james.charalambous

Subject: Discussions from this morning

As we discussed this morning, we agreed on the following points

- Brisbane City Council, Sequater and the Bureau of Meteorology do not have any disagreement on the technical assessment of river levels or models to determine those levels
- Results of those assessments do not show that there should be any flooding in the Brisbane area however Brisbane City Council have undertaken precautionary actions to ensure procedures are in place in case of
- any unexpected impacts

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 BCC, Sequater and the BoM are continuing sharing of data and information and will continually improve this for future events.

Rob

Pobert Drury

n Operations Manager

Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and 1 flowing water is FA1



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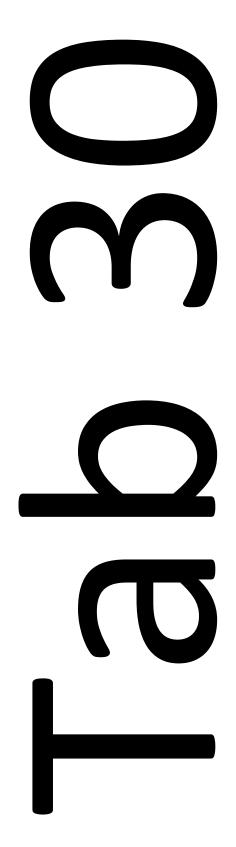
Ph Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale QLD 4306

Website | www.segwater.com.au

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WATER FOR LIFE

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Barry Dennien	
From:Geoff SteadSent:Thursday, 14 October 2010 12:32 PMTo:Barry Dennien; Michael LyonsSubject:FW: URGENT - Proposed Community S	ervice Announcement
Attachments: image001.png	
Hi guys, below is the direction from the Prem's media unit. The join	t release should not go ahead. G
From: Megan Saunders Sent: Thursday, 14 October 2010 12;29 PM To: Geoff Stead; Nicole Scurrah Cc: Lance McCallum; Tim Watts; Ken Smith Subject: RE: URGENT - Proposed Community Service Announcemer	bt.
There should be no joint release between BCC and SEQ water. BCC r	needs to issue it's own explanation. Cheers.
Megan	
Sent: Thursday, 14 October 2010 12:20 PM	
To: Nicole Scurrah; Megan Saunders Cc: Lance McCallum; Tim Watts Subject: FW: URGENT - Proposed Community Service Announcement Hi, SEQwater are in the belief that Ken Smith's involvement in the w approval. I have been advised by Megan and Lance that the Premier	ording of the release below is Prem's Dept
SEQwater are holding at the moment. Can I get direction please. G	
From: Michael Lyons Sent: Thursday, 14 October 2010 12:09 PM To: Geoff Stead; ken.smith Cc: Barry Dennien Subject: FW: URGENT - Proposed Community Service Announcemen	nt
As reviewed by seqwater and SEQWGM	
From: Peter Borrows Sent: Thursday, 14 October 2010 12:05 PM To: Michael Lyons; Barry Dennien Cc: Mike Foster; Peter Borrows Subject: RE: URGENT - Proposed Community Service Announcemen	t
Regards, Peter.	
Peter Borrows Chief Executive Officer Queensland Bulk Water Supply Authority <i>trading</i> as Seqwater	
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Level 3, 240 Margaret St, Brisbane City QLD 4000 PO Box 16146, City East QLD 4002 Website | <u>www.seqwater.com.au</u>

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gards Sarry Dennien

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2

flood mitigation capacity for future rainfall (not yet added the last)

You response and input is appreciated

Regards

Colin

DRAFT CSA RELEASE FOLLOWS

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• Darra Works Depot, Shamrock Rd, Darra

Morningside Works Depot, Redfern Street, Morningside

• Newmarket SES Depot, Wilston Rd, Newmarket (in carpark off Erneton Street)

3

• Zillmere Works Depot, Jennings St, Zillmere

For more information, phone Council on 3403 8888.

-ENDS-

Media Contact (not for publication): Lisa Martin Media Officer

Colin Jensen	
Chief Executive Officer	
Brisbane City Council	
GPO Box 1434 Brisbane Qld 4001	
Level 23, Brisbane Square 266 George S	treet, Brisbane, Qld 400
Phone	
Email	

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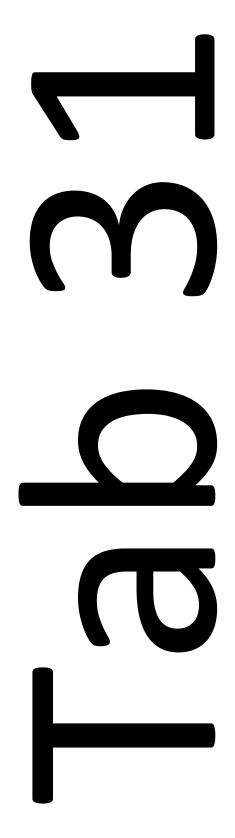
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Suzie Emery

Subject:

FW: URGENT - Proposed Community Service Announcement [MCR-W.FID1884529]

From: Ken Smith Sent: Thursday, 14 October 2010 12:51 PM To: Barry Dennien Subject: Fw: URGENT - Proposed Community Service Announcement

See below

 From: Megan Saunders

 To: Geoff Stead

 Cc: Lance McCallum

 Ken Smith

 Sent: Thu Oct 14 12:28:52 2010

 Jubject: RE: URGENT - Proposed Community Service Announcement

There should be no joint release between BCC and SEQ water. BCC needs to issue it's own explanation. Cheers, Megan

From: Geoff Stead
Sent: Thursday, 14 October 2010 12:20 PM
To: Nicole Scurrah; Megan Saunders
Cc: Lance McCallum; Tim Watts
Subject: FW: URGENT - Proposed Community Service Announcement

Hi, SEQwater are in the belief that Ken Smith's involvement in the wording of the release below is Prem's Dept approval. I have been advised by Megan and Lance that the Premier doesn't want any joint release to go out. SEQwater are holding at the moment. Can I get direction please. G

From: Michael Lyons Sent: Thursday, 14 October 2010 12:09 PM jo: Geoff Stead; ken.smith@premiers.qld.gov.au Cc: Barry Dennien Subject: FW: URGENT - Proposed Community Service Announcement

As reviewed by seqwater and SEQWGM

From: Peter Borrows
Sent: Thursday, 14 October 2010 12:05 PM
To: Michael Lyons; Barry Dennien
Cc: Mike Foster; Peter Borrows
Subject: RE: URGENT - Proposed Community Service Announcement

Regards, Peter.

Peter Borrows Chief Executive Officer Queensland Bulk Water Supply Authority *trading as* Seqwater



Level 3, 240 Margaret St, Brisbane City QLD 4000 PO Box 16146, City East QLD 4002 Website | <u>www.seqwater.com.au</u>

From: Michael Lyons Sent: Thursday, 14 October 2010 11:50 AM To: Barry Dennien Cc: Peter Borrows; Mike Foster Subject: RE: URGENT - Proposed Community Service Announcement

From: Barry Dennien Sent: Thursday, 14 October 2010 11:47 AM To: Michael Lyons Subject: Fwd: URGENT - Proposed Community Service Announcement

Regards Barry Dennien

Begin forwarded message:

From: Colin Jensen Date: 14 October 2010 11:44:54 AM AEST To: Barry Dennien Subject: Fwd: URGENT - Proposed Community Service Announcement

Sorry Barry !

Colin Jensen Chief Executive Officer Brisbane City Council GPO Box 1434 | Brisbane Qld 4001 Level 23, Brisbane Square | 266 George Street, Brisbane, Qld 4000 Phone: Email:

Colin Jensen 14/10/2010 11:38 am >>>

Barry & Peter

As discussed with Barry, I would like BCC to issue a Community Service Announcement that reduces the extent of the expected minor flooding as predicted by Council yesterday afternoon, and the extent of that flooding

Our updated modelling based on the actual releases from Wivenhoe overnight (as compared with our modelling yesterday of 1500 m3/s release - which did not commence until 8.00 today) is predicting a 1.4AHD event (rather than 1.7AHD) I would like to issue this to make the noon news and seek your input urgently. I seek to ensure that BCC continues to publically support SEQWater's release strategies, show this as a proactive management plan, and possib;ly also state that the releases are necessary to maintain flood mitigation capacity for future rainfall (not yet added the last)

You response and input is appreciated

Regards

Colin

DRAFT CSA RELEASE FOLLOWS

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For more information, phone Council on 3403 8888.

-ENDS-

Media Contact (not for publication):

Lisa Martin
Media Officer

Colin Jensen
Chief Executive Officer
Brisbane City Council
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Email:

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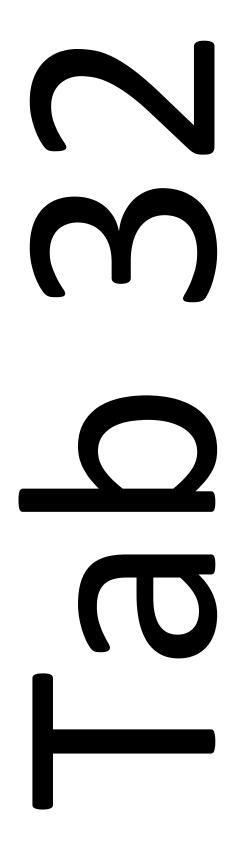
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Cc: Shane Wood Subject: WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

Update from EMQ Brisbane Region & Brisbane City Council

Brisbane City Council (BCC)

- Contingency plans have been put in place to address possible flooding issues at high tide today identified as 14.20 hrs.
- Summary of effort identified and plans in action / intentions
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- BCC LDCC closely monitoring BoM
- BCC CEO back-briefed on current situation and intentions at 10.00am

Updated Suburbs and Localities @ 1130 hrs by BCC LDCC that may be impacted:

- Newstead
- Albion
- Windsor

Minor road flooding only based on BCC modelling which is 200mm higher than SEQ Water predictions. No habitable floor flood impact

Future Intentions

- BCC LDCC to close (TBC after 1420hr tide,) at approx 1700hrs.
 - BCC LDCC to then adjust to Level 2 (monitoring)

current summary of BCC business arrangements.

Today 14 October 2010 (AM)

- Two BCC Rapid Response Groups Teams and 10 Community regulation officers will doorknock areas potentially affected by flooding this afternoon to offer advice and support.
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WIVENHOE DAM RELEASE DATA

- BCC Flood Information Centre (FIC) has confirmed with SEQ Water that at 8pm last night, the release from the dam was 1342m3/sec. This release was increased this morning 14 October at 8am to 1490m3/sec, with this release being maintained until 10pm Friday. After this time the gate closing strategy will be put into effect, with gates being fully closed by 10pm Sunday.
- Based on the above the FIC have revised their predictions from yesterday with a high tide now being estimated to be 1.4m AHD at approximately 2:30pm today (down from the 1.7m AHD). The risk of habitable floor flooding has significantly decreased

Confirmation has been received from SEQ Water that their modelling was based on a release of up to 1500m3/sec, which would provide a high tide of no greater than 1.7m AHD.

Tony Holm | Watch Desk Officer, State Disaster Coordination Centre Emergency Management Queensland | Department of Community Safety Level 2, Block E, Emergency Services Complex, Kedron, Queensland

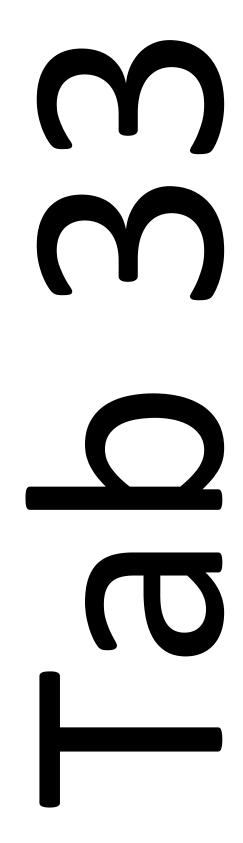
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Barry	1.100	nion	
	DEH	111611	

From:			Dan Spiller		• •
Sent:	· · ·		Thursday, 14 October 2010 2	25 PM	
To:			ken.smith		
Čc;	•		Barry Dennien; pborrows(I; Nicole Scurrah;	
	·	:	chris.taylor	Megan Saunders; Mike Foster	
Subject:	•		RE: WIVENHOE DAM RELEA	ASE UPDATE @ 11:30am 14 October 2	2010

Ken

The volumes quoted below accurate (as are the timings of the changes).

The planned increase in releases from 1300 m3/sec vesterday to 1500 m3/sec today was known to BCC vesterday (which is not clear from the statements below). The increase is in accordance with the flood manual. Sequater has not made any changes today on what it had already planned to do and advised BCC we would be doing. The below again gives the inference that Sequater made changes and that BCC was not aware of changes until this morning.

a more technical level:

- In terms of any flooding impact, there is no difference between 1300m3/sec and 1500m3/sec releases.
- Seqwater, BCC and BOM officers met this morning and agreed that there was no discrepancy between modelling.

A release is being prepared with information about releases over coming days, and the process to close the gates.

Please call let me if you require any further information.

Regards, Dan

Begin forwarded message:

From: Ken Smith			
Date: 14 October 2010 1:34:56 PM	AEST		
To: Barry Dennien		" <u>pborrows</u>	
< <u>pborrows</u>			
Cc: Nicole Scurrah < <u>Nicole.Scurrah</u>		, Chris Tay	ylor
< <u>Chris.Taylor</u>	, 'Megan Sau	nders'	
< <u>Megan.Saunders</u>	· ·		

Subject: FW: WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

Barry and Peter

See BCC SITREP, and in particular reference to Wivenhoe Dam Release data. This information doesn't gel with claims by Council that release of water had declined from information previously given>

Could you check and advise?

Regards

Ken Smith

Director-General Department of the Premier and Cabinet

Phone	
Mobile	
Email:	

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From: Bruce Grady Sent: Thursday, 14 October 2010 1:24 PM To: Ken Smith Subject: FW: WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

Regards

Bruce Grady

A/Chief Officer

Emergency Management Queensland



From: Anthony Holm On Behalf Of SDCC Sent: Thursday, 14 October 2010 12:11 PM To: Michael Shapland; Warren Bridson; Bruce Grady Cc: Shane Wood Subject: WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

WIVENHOE DAM RELEASE UPDATE @ 11:30am 14 October 2010

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- a release of up to 1500m3/sec, which would provide a high tide of no greater than 1.7m AHD.

Tony Holm | Watch Desk Officer, State Disaster Coordination Centre

Emergency Management Queensland | Department of Community Safety

Level 2, Block E, Emergency Services Complex, Kedron, Queensland

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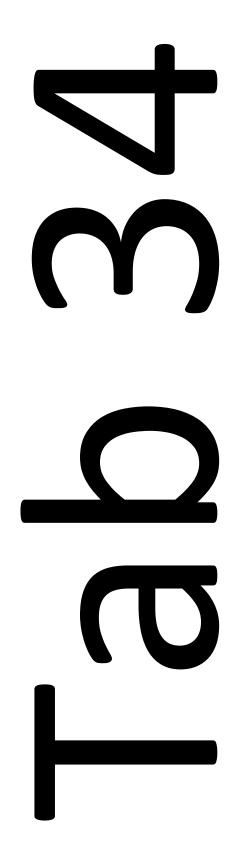
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Barry Dennien

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From:	Geoff Stead
Sent:	Thursday, 14 October 2010 3:39 PM
То:	Barry Dennien; Michael Lyons; SEQWGM Media
Attachments:	Water SEQW followup 141010.docx

Prems has ticked off, showing Min now, Can you have a quick check

<<Water SEQW followup 141010.docx>>

		:	
Geoff Stead	•		
Senior Media Advisor	•		
Office of the Hon Stephen Robe	rtson MP		
Minister for Natural Resources	, Mines	and Energy	and Trade
P:			

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Media Release



RIVER PEAK REACHED AS FORECAST

The Brisbane River peaked this afternoon within water levels forecast by the Water Grid and the Bureau of Meteorology.

No flooding was reported in Brisbane suburbs.

Water Grid Manager CEO Barry Dennien said the release rate from Wivenhoe Dam was in line with established water management plans and took into account information provided by BOM relating to the Brisbane River and flood risk.

There has been no reduction in the amount of water released from Wivenhoe.

Spills from the dam will continue through until early next week to ensure the dam retains it full flood mitigation capacity for any major wet weather events in the coming months.

Bureau of Meteorology (BOM) data indicates that, since Monday, the peak water level in the river at the Brisbane City measuring point has decreased each day this week – even though releases from Wivenhoe Dam were increased today to a peak 130,000 megalitres per day.

Around 34,000 megalitres per day began spilling from Wivenhoe last weekend when the first of the five flood gates was opened.

Following the initial release, the remaining four gates were progressively opened until 116,000 megalitres per day was spilling by late Tuesday night.

The output from Wivenhoe has been further increased gradually and by 8am this morning, the dam was releasing approximately 130,000 megalitres per day, or 1,500 tonnes per second.

Mr Dennien said releases are expected to stay at this volume until early Saturday morning, when the gradual closing of the gates will begin - subject to inflows from further rain.

In the absence of any significant rainfall, all gates are expected to be closed by early next week. The gates need to be closed gradually to minimise downstream impacts including the risk of bank slumping. The Flood Centre continues to monitor the situation on a 24-hour basis.

"The release of water from Wivenhoe Dam has been carefully managed to ensure absolute minimal impacts downstream," Mr Dennien said.

"With approval from the Flood Control Centre, we held back water in Wivenhoe Dam while waiting for the Bremer and Lockyer flows to subside, which they now have."

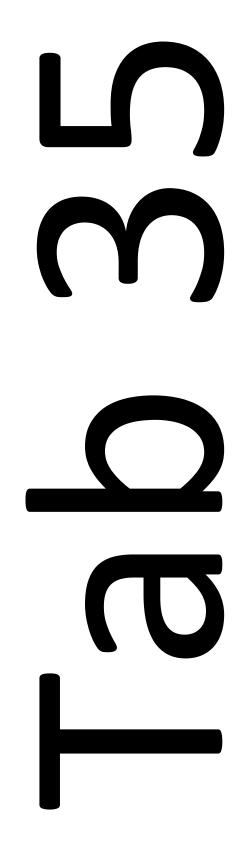
The amount of water currently being released from Wivenhoe Dam is less than what was released when the spillway gates were last opened in 1999. No flooding in Brisbane resulted from that release.

Wivenhoe and Somerset Dam provided significant flood mitigation during last weekend's heavy rain, reducing the peak flow in the Brisbane River by at least 50 percent.

ENDS

For further information visit www.seqwqm.com.au

For further details contact the SEQ Water Grid Communications Unit on: Ph:



	Barry Dennien
	From: Colin Jensen Sent: Thursday, 14 October 2010 4:05 PM To: Ken smith pborrows Subject: Fwd: Council committed to public safety Attachments: 20101014_Council committed to public safety_APPROVED.pdf
	Gentlemen
	FYI.
•	All clear downstream of the City. However, we have some park facilities being closed at Jindalee
	Regards
- - - -	Colin Jensen Chief Executive Officer sbane City Council o Box 1434 Brisbane Qld 4001 Level 23, Brisbane Square 266 George Street, Brisbane, Qld 4000 Phone: Email:
	<pre>>>> "Media Release" 14/10/2010 3:57 pm >>> ****BRISBANE CITY COUNCIL COMMUNITY SERVICE ANNOUNCEMENT*** October 14, 2010</pre>
	Brisbane City Council has reopened all roads at risk of flooding following high tide this afternoon.
	While street flooding did not occur in river and creek side locations this afternoon on the high tide peak, Council stands by its decision to alert residents to the potential for flooding.
•.	Residents have a right to know if flooding is possible to give them the opportunity to undertake the necessary precautions.
	Grisbane City Council has products available, such as the Floodwise Property Report, Flood Flag Maps and the Early Warning Alert Service, to give residents the opportunity to find out their flooding risk and be alerted to severe weather.
	Council's flooding information products are free and available on Council's website.
	Flood Flag Maps alert residents to where flooding may occur from creeks, rivers and storm tides in all suburbs across Brisbane. These maps are free for download and are available from Council's website at <u>www.brisbane.qld.gov.au/floodwise</u>
	The Early Warning Alert Service provides weather warnings on events such as flooding, storms and king tides and are based on a person's residential address. Residents can choose to receive free warnings by SMS, email or a recorded phone message to their landline.
	-ENDS- Media Contact (not for publication): Kate Haddan Media Officer

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Dedicated to a better Brisbane

Council committed to public safety

October 14, 2010

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Brisbane City Council has products available to give residents the opportunity to find out their flooding risk and be alerted to severe weather, such as the Floodwise Property Report, Flood Flag Maps and the Early Warning Alert Service,

Council's flooding information products are free and available on Council's website.

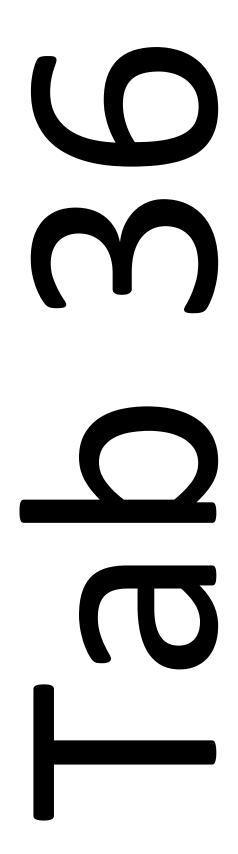
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-ENDS-

1

Media Contact (not for publication): Kate Haddan Media Officer



Barry Dennien

From: Sent: To: Subject: Reilly Bob Friday, 15 October 2010 10:30 AM Barry Dennien FW: Outcomes of Flood Information/Communications Protocol meeting of 15 October 2010

Bob Reilly

General Manager, Office of the Water Supply Regulator

Telephone:

Email:

www.derm.qld.gov.au

Dartment of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

GPO Box 2454, Brisbane Q 4001

From: Reilly Bob	· · ·				
Sent: Friday, 15 October	2010 10:24 A	м			
To: 'michael.shapland		'brad.smith		'owens.	petert
'rdrury	; 'p.baddiley		; 'b.dennien	· · · · · · · · · · · · · · · · · · ·	
Cc: Allen Peter; 'irina.sta	nkovska				
Subjects Outcomes of El	and Informatio	n/Communic	ations Drotoss	I monting of 1E (Actobor 2010

Subject: Outcomes of Flood Information/Communications Protocol meeting of 15 October 2010

Hi everyone

Outcome of the meeting were:

DPC (Brad Smith) will seek direction on whether the protocol should cover all Councils affected by releases from Wivenhoe dam, and whether the focus should be solely on Wivenhoe releases or flooding more generally. Brad will also advise when the Premier's letter is sent and provide an electronic copy of it to the people in this email group. (Subsequently, Brad has advised that: all councils affected by Wivenhoe releases should be covered, and that the protocol should only cover releases from Wivenhoe, not flooding generally)

2. BOM (Peter Baddiley) will advise whether BOM wishes to be a signatory to the protocol, or whether their role will be primarily described in an Appendix. Drafting of the protocol will proceed on the basis that it will be primarily in an Appendix.

3. EMQ (Mike Shapland/Irina Stankovska) will draft the protocol. They will circulate a revised version by 1pm Monday (18 October 2010), with comments back to EMQ by 4pm Monday (18 October 2010). EMQ will then circulate a revised draft Monday (18 October 2010) night for discussion at the group's next meeting at 8am on Tuesday 19 October 2010.

Next meeting: Floor 3 Mineral House Conference Room, 8am, 19 October 2010. (The meeting's aim will be to refine the draft protocol so that it is sufficiently advanced for discussion with Council(s) on 20 October 2010, if needed).

(Please circulate these minutes to other members of your organisation, as appropriate. Please note that I will not be in the office on Monday 18 October 2010, but any queries can be directed to Peter Allen)

Thanks for coming at short notice and a special thanks to Irina/Mike for having a draft protocol for us to make some preliminary comments on today.

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Email:

www.derm.gld.gov.au

ephone:

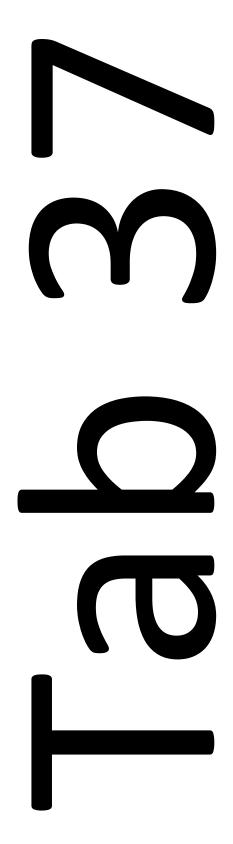
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3 sheets of A4 paper = 1 litre of water

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Barry Dennien		·····	
From: Sent: To:	Reilly Bob [Bob.Reilly Friday, 15 October 2010 12:11 PM irina.stankovska p.baddiley	Barry Dennien	
Cc: Subject: Attachments:	Michael Shapland; Brad Smith; Peter Borrows Letter to Lord Mayor from Premier re Protocol doc20101015095646.pdf		

• •

Colleagues

·)

Attached is a letter from the Premier to the Lord Mayor. It has been faxed to him today. Brad Smith, from DPC, is following up within DPC as to how Somerset and Ipswich Councils will be asked to become parties to this protocol.

Regards

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Bob Reilly General Manager, Office of the Water Supply Regulator Telepho Email: www.derm.gld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001



For reply please quote: SB/ODG - TF/10/24671 - DOC/10/136546

1 5 OCT 2010

The Right Honourable Lord Mayor Councillor Campbell Newman Office of the Lord Mayor GPO Box 2287 BRISBANE QLD 4001 Executive Building 100 George Street Brisbane PO Box 15185 City East Queensland 4002 Australia Telephone +617 3224 4500 Facsimile +617 3221 3631 Email ThePremier@premiers.qld.gov.au Website www.thepremier.qld.gov.au

Dear Councillor Newman

I refer to recent advice from the Brisbane City Council to the Brisbane community in relation to possible flooding impacts associated with the release of water from the Wivenhoe Dam.

Regrettably, when the community is in need of important information that impacts their wellbeing, conflicting institutional advice, such as differential flood modelling by Seqwater, the Bureau of Meteorology and the Brisbane City Council, is of great concern.

As your are aware, as we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

I therefore believe it is essential to develop a Protocol between the Bureau of Meteorology, State Government and the SEQ Mayors, to ensure a process for the development of consistent and robust information which the community can rely upon in times of such emergencies. For example, during major events, we could agree upon a process to issue joint media and community information to the community, following consultation between our technical experts.

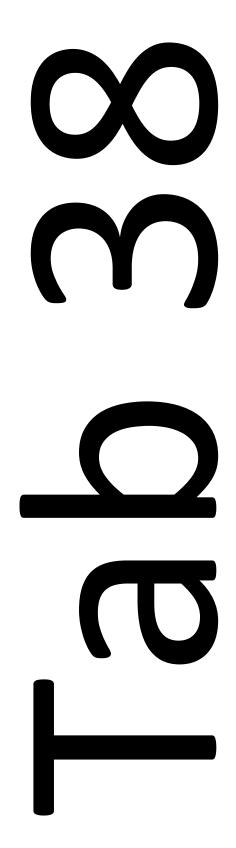
I seek your urgent nomination of a senior officer to work with the Department of Community Safety (Emergency Management Queensland), the Department of Environment and Resource Management, Seqwater, the Bureau of Meteorology and other water entities to develop and finalise the Protocol.



I expect this group to meet early next week and provide a draft Protocol for our consideration by the end of next week. Should you or your officers require further information, please contact Mr Ken Smith, Director-General, Department of the Premier and Cabinet on

Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND



Barry Dennien		
From:	Reilly Bob	
Sent:	Monday, 18 October 2010 3:30 PM	
To:	Barry Dennien; pborrows	michael.shapland
Cc:	Allen Peter	
Subject:	Fw: Friendly Reminder: Release of v	vater from Wivenhoe Dam Protocol
Attachments:	Letter from the Premier to Councilor	Pis~alise a protocol on the release of water from
	Wivenhoe dam and flooding impacts	s.docx; letter from Premier to Councilor
	Lenmann~rotocol concerning the rel	ease of water from Wivenhoe dam and possible
		Incilor Clark, Gol~ning the release of water from
		ng impacts.docx; letter - Premier to Councilor Parke orage facilities and possible flooding impacts.docx;
	letter - Premier to Councilor, Iones, I	.oc~ning the release of water from storage facilities
		letter - Premier to Councilor Hobson, Re~ning the
		es and possible flooding impacts.DOCX; letter -
÷		g the release of water from storage facilities and
•	possible flooding impacts.DOCX; let	ter - Premier to Councilor Abbot, Sun~ning the
	release of water from storage facilitie	es and possible flooding impacts DOCX; letter -
	Premier to Councilor Taylor, To~ning	the release of water from storage facilities and
	possible flooding impacts.DOCX; let	ter - Premier to Councilor Sutherland~ning the
	release of water from storage facilitie	es and possible flooding impacts.DOCX
Fyiwe should c	oncentrate on wivenhoe first	
Regards		
Bob		
Original M	essage	
From: Brad Smith		
<u> </u>		

To: Reilly Bob Sent: Mon Oct 18 14:35:50 2010 Subject: RE: Friendly Reminder: Release of water from Wivenhoe Dam Protocol

Hi Bob

The D-G's office has confirmed that the Premier has signed the letter to Ipswich and Somerset and that they have been faxed through. I have been waiting to receive the signed receive the signed of the working group. While I have asked for them, I ven't received them.

In the interim, please find an unsigned copy in word version of these letters. The Premier has also requested that all other Mayors in SEQ be engaged with the protocol and receive a letter. We have managed to separate the 2 issues with the Wivenhoe protocol being the first (as discussed previously), followed by other protocols relating to specific councils and release of water from storage facilities that affect their authority. Unsigned copies of the letters to the other Mayors are also attached for your information. I am advised that these have also been signed and faxed. Ken may send copies of the signed letters directly to relevant D-G's and yourself to action. If not, I will keep on chasing.

Regards

Brad Smith Manager, Executive Support Department of the Premier and Cabinet Ph: Mobi

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· · ·		
Original Message		
From: Reilly Bob Sent: Monday, 18 October 2010		
To: Brad Smith	U 2.10 PM	
	er: Release of water from Wivenho	e Dam Protocol
Hi brad		
Have we resolved who is goin	g to contact the other two counci.	ls?
Thanks		
Bob		
Original Message		
From: Brad Smith		anal Chanland
To: 'Irina Stankovska'	Reilly Bob	nael Shapland
Sent: Mon Oct 18 13:11:00 20		
<pre>piect: RE: Friendly Reminde</pre>	er: Release of water from Wivenho	e Dam Protocol
Good afternoon		
	comments tracked in the origina (to be agreed by all parties)	
public record when the author	rity that initially issued the in	Formation refuses to do so.
Perhaps it could become a mat	tter that is escalated under the d	lisaster management
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Good Afternoon

This is just a friendly reminder that the comments for the 'Release of water from Wivenhoe Dam' Protocol are due by 1pm today.

Thank you to everyone who provided their feedback.

Kind Regards

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Sent: Friday, 15 October 2010 13:04	
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'brad.smith; 'mfoster	
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b.dennien owens.peterf	
'peter.allen	
Cc: Eddie Bennet; Shane Wood; 'j.perkins	'morganti.davidj
_Subject: Release of water from Wivenhoe Dam	Protocol

Good Afternoon Gentlemen

Further to the meeting this morning, please find attached the 'Release of water from Wivenhoe Dam' Protocol.

Please provide your comments and input by 1pm Monday 18 October 2010.

Kind Regards

Irina Stankovska I A/Program Officer (SDCG, DDMG & LDMG) I Disaster Management Governance Unit I Emergency Management Queensland I Department of Community Safety I I : I GPO Box 1425 BRISBANE QLD 4001 I State Disaster Management Group Email:

Coordination Group Email: <BLOCKED::BLOCKED::mailto: before printing this e-mail I

I P Please consider the environment

State Disaster

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For reply please quote: SB/ODG - TF/10/24671 - DOC/10/136812

Councillor Paul Pisasale Mayor, Ipswich City Council PO Box 191 IPSWICH QLD 4305

Dear Councillor Pisasale

Concerns were recently raised following advice from the Brisbane City Council to the Brisbane community in relation to possible flooding impacts associated with the release of water from the Wivenhoe Dam.

Unfortunately, this advice was not consistent with the flood modelling undertaken by Seqwater in conjunction with the Bureau of Meteorology, resulting in a degree of community alarm that was not consistent with the actual risk.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

I therefore believe it is essential to develop a Protocol between the Bureau of Meteorology, State Government and the SEQ Mayors affected by water release from the Wivenhoe Dam, to ensure a process for the development of consistent and robust information which the community can rely upon in times of such emergencies. For example, during major events, we could agree upon a process to issue joint media and community information to the community, following consultation between our technical experts.

I seek your urgent nomination of a senior officer to work with the Department of Community Safety (Emergency Management Queensland), the Department of Environment and Resource Management, Seqwater, the Bureau of Meteorology, other water entities and affected local governments to develop and finalise the Protocol. I expect this group to meet early next week and provide a draft Protocol for our consideration by the end of next week. Should you or your officers require further information, please contact Mr Ken Smith, Director-General, Department of the Premier and Cabinet on

Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

For reply please quote: SB/ODG - TF/10/24671 - DOC/10/136821

Councillor Graeme Lehmann Mayor, Somerset Regional Council PO Box 117 ESK QLD 4312

Dear Councillor Lehmann

Concerns were recently raised following advice from the Brisbane City Council to the Brisbane community in relation to possible flooding impacts associated with the release of water from the Wivenhoe Dam.

Unfortunately, this advice was not consistent with the flood modelling undertaken by Seqwater in conjunction with the Bureau of Meteorology, resulting in a degree of community alarm that was not consistent with the actual risk.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

For reply please quote: SB/ODG - TF/10/24671 - DOC/10/137270

Councillor Ron Clarke Mayor, Gold Coast City Council PO Box 5042 GOLD COAST MC QLD 9729

Dear Councillor Clarke

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

While a protocol is being developed this week between the Bureau of Meteorology, State Government and those local governments directly affected by controlled water release from the Wivenhoe Dam, I believe it is timely that similar protocols also be developed in respect to other water storage facilities in South East Queensland.

The proposed protocols should provide a process for the development of consistent and robust information which the community can rely upon. For example, during major events, we could agree upon a process to issue joint media and community information, following consultation between our technical experts to enable appropriate preparations to be made for either possible flooding or provide community with an assurance that no flooding is anticipated to occur.

I seek your nomination of a senior officer to work with the Department of Community Safety (Emergency Management Queensland), the Department of Environment and Resource Management, Seqwater, the Bureau of Meteorology, other water entities and affected local governments to develop and finalise a suitable protocol in respect to water storage facilities that impact on your local government area.

Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Councillor Pam Parker Mayor, Logan City Council PO Box 3226 LOGAN CITY DC QLD 4114

Dear Councillor Parker

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Page 2 of 2

Councillor Steve Jones Mayor, Lockyer Valley Regional Council PO Box 82 GATTON QLD 4343

Dear Councillor Jones

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Councillor Melva Hobson Mayor, Redland City Council PO Box 21 CLEVELAND QLD 4163

Dear Councillor Hobson

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Councillor John Brent Mayor, Scenic Rim Regional Council PO Box 25 BEAUDESERT QLD 4285

Dear Councillor Brent

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Page 2 of 2

Councillor Bob Abbot Mayor, Sunshine Coast Regional Council Locked Bag 72 SUNSHINE COAST MAIL CENTRE QLD 4560

Dear Councillor Abbot

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Page 2 of 2

Councillor Peter Taylor Mayor, Toowoomba Regional Council PO Box 3021 - Village Fair TOOWOOMBA QLD 4350

Dear Councillor Taylor

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

Councillor Allan Sutherland Mayor, Moreton Bay Regional Council PO Box 159 CABOOLTURE QLD 4510

Dear Councillor Sutherland

Concerns were recently raised regarding inconsistent advice provided in respect to possible flooding in the Brisbane metropolitan area associated with the release of flood waters from Wivenhoe Dam.

As we are in a La Nina weather pattern, there is likely to be significant rainfall across Queensland including southeast Queensland, over the summer months. This may be exacerbated by cyclones which have the potential to generate storm surges and disperse huge volumes of rainfall in very short periods of time.

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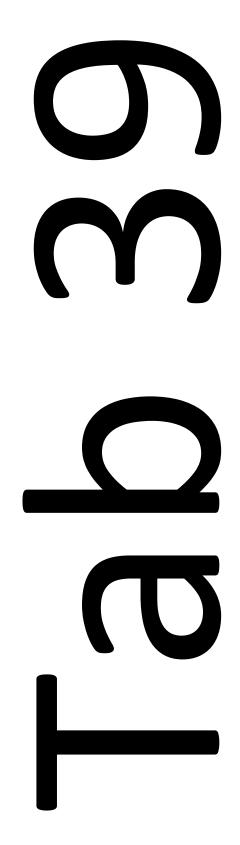
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Yours sincerely

ANNA BLIGH MP PREMIER OF QUEENSLAND

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Page 2 of 2



Barry Dennien

From:	
Sent:	
To: Cc:	÷
Subject:	•

Barry Dennien Tuesday, 19 October 2010 5:20 PM 'Bradley John' Dan Spiller Actions

John

- Letter from the Minister to Peter Borrows requesting some analysis of the flood risk benefits of reducing water supply levels below full supply level as a pre-emptive action for this wet season. The analysis should include:
 - various reductions in water levels and measures of flood impact benefit taking into account the variability of rainfall patterns.
 - options on release rates, le fast rates over several days close to imminent events, slow releases over several weeks months and downstream impacts.
- Letter out by end of week.
 - 2. Contact WaterSecure for an assessment on the impacts of the desalination plant being put on hot standby over the coming wet season. The analysis is to include:
 - Veolia staff issues including EBA or union
 - Veolia contractual issues
 - What is required to have the plant on hot standby
 - Can / is commission completed
 - Analysis completed in 48hours (John I have spoken to Sam this is underway)
 - Further analysis on the Recycled Scheme mothballing and water treatment plant mothballing. This analysis will be included in the advice from the QWC, SEQWGM and Water Secure due in three/four weeks.

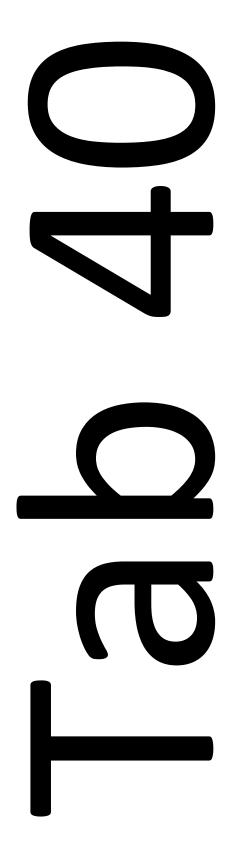
Dan Spiller is coordinating this advice and feeding any savings into the bulk price modelling and CBRC mission

I am away tomorrow Dam is now across all the issues.

Regards

Barry I	Dennien	
	xecutive Officer	
	ater Grid Manager	
Phone		Í
Email:		
Visit:	Level 15, 53 Albert Street, Brisbane	
Post:	PO Box 16205, City East Qld 4002	
ABN:	14783 317 630	

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Suzie Emery

Subject:	
Attachments	:

FW: Protocols - final drafts [MCR-W.FID1884529] Protocol_Release of water from dams (2).doc

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From: Rob Drury			
Sent: Tuesday, 19 Octob	er 2010 10:06 PM		
To: Michael Shapland; Iri	na Stankovska; Michael Lyons; Mi <u>ke</u>	Foster; Barry Dennien; Reilly Bob;	
brad.smith	Scott Denner; P.Baddiley	Barry Dennien;	
owens.petert	peter allen	Bruce Grady	
Cc: j.perkins	morganti.davidj	Peter Borrows; Jim Pruss	
Subject: RE: Protocols -	final drafts		

Michael,

I realise it is last minute but can you adjust before our meeting tomorrow morning as there were a few things that came from our meeting today that are not quite reflected in this document.

At the meeting we agreed that Seqwater did NOT have the responsibility for getting agreement by the parties on .neir predictions or actions, hence the change in Item 8 of the Monitoring and Assessment section to something that says Seqwater will provide a situation report to the Grid Manager.

We also agreed towards the end of the meeting that the Situation Report from Seqwater would just be a summary of our assessments and proposed releases and details of our discussions with BoM and BCC. It was discussed and agreed that we could not re responsible for getting sign off by BoM (they would provide information on their assessments somehow). Nor did we have the authority or capability to get signoff by BCC. Our only responsibility is to operate under the manual and discuss and advise BoM and BCC of our plans. This was agreed by the Dam Safety Regulator that it was not within our scope under the regulations to get involved in getting sign off by BCC. Indeed it may in some way conflict with our duties under the regulations.

Also, during an event we will consult with BoM and BCC but getting sign off could take time. BCC may even have to go away and do considerable work deciding the implications. We cannot allow this to interfere with our core responsibilities.

However, although Seqwater does not have the authority or ability to coordinate such responses, if it is considered necessary, an extra item under Monitoring and Assessment could be that BCC provides a Situation Report direct to the Grid Manager same as us. This would put in the protocol a responsibility for them. Unlikely they would agree but then if they didn't, they certainly wouldn't agree to give us one either.

I have attached a version that reflects what we discussed at the meeting. The Item 9 relating to BCC is only there if it considered feasible.

Rob

Dam Operations Manager Water Delivery Queensland Bulk Water Supply Authority <i>trading as</i> Seqwater
Sequater for Life
Ph Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale QLD 4306 Website <u>www.seqwater.com.au</u>
From: Michael Shapland Sent: Tuesday, 19 October 2010 6:52 PM To: Michael Shapland; Irina Stankovska; michael.Lyons Mike Foster; Barry.dennien Reilly Bob; brad.smith Scott Denner; Rob Drury; P.Baddiley Barry.dennien owens.petert peter.allen Bruce Grady Cc: j.perkins morganti.davidj Subject: RE: Protocols - final drafts
Please find attached slightly updated protocols following discussions with Seqwater. Changes are small and will be covered in the 0800 meeting tomorrow.
Mike
Mike Shapland MBE Director, Disaster Management Emergency Management Queensland Department of Community Safety Level 3, Block E, Emergency Services Complex, Kedron, Queensland T:
From: Michael Shapland Sent: Tuesday, 19 October 2010 16:32 To: Irina Stankovska; 'michael.Lyons 'mfoster 'Barry.dennien 'Reilly Bob'; 'brad.smith ; 'Scott Denner'; 'Rob Drury'; 'P.Baddiley ; 'Barry.dennien 'owens.petert 'peter.allen Bruce Grady Cc: 'j.perkins 'morganti.davidj Subject: Protocols - final drafts

Please find attached two draft protocols on the issue of communication of;

- A flooding information from releases Wivenhoe and Somerset Dams,
- B natural hazards affecting the community.

Final checks will be made here this afternoon.

Mike

Mike Shapland MBE | Director, Disaster Management Emergency Management Queensland | Department of Community Safety Level 3, Block E, Emergency Services Complex, Kedron, Queensland

From: Irina Stankovska			
Sent: Monday, 18 Octob	per 2010 17:30		
To: Michael Shapland; m	nichael.Lyons	mfoster	
Barry.dennien	Reilly Bob; brad.smith		Scott Denner; Rob Drury;
P.Baddiley	Barry.dennien	; owens.petert	
peter.allen			
Cc: j.perkins	morganti.davidj		

Subject: Release of Water from Wivenhoe Dam' protocol - final draft

Good Afternoon Gentlemen

Please find attached the final draft of the 'Release of Water from Wivenhoe Dam' protocol, for tomorrow's meeting.

Kind Regards

In Stankovska I A/Program Officer (SDCG, DDMG & LDMG) I Disaster Management Governance Unit I Emergency Management Queensland I Department of Community Safety I I GPO Box 1425 BRISBANE QLD 4001 I State Disaster Management Group Email: I State Disaster Coordination Group Email: I State Disaster Management I State Consider the environment before printing this email I

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Protocol for the Communication of Flooding Information from Releases - Wivenhoe and Somerset Dams

OBJECTIVE

The purpose of this protocol is to outline the processes to be followed by the Brisbane, Ipswich and Somerset Councils, relevant Queensland Government agencies, South East Queensland Water and the Bureau of Meteorology, which will ensure the provision of consistent and robust information to the community, concerning potential flooding impact during release of floodwater from Wivenhoe and Somerset Dams.

The intent is to ensure that consistent, harmonised information, based on an agreed single point of truth, is communicated to the public in a way that contributes to disaster resilient communities.

BACKGROUND

Wivenhoe Dam controls only half of the Brisbane River catchment above Brisbane City. Other factors will influence inundation levels from the river.

The operational strategy for water release from Wivenhoe and Somerset Dams is governed by the *Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam*, henceforth referred to as the Flood Mitigation Manual.

The Flood Mitigation Manual is approved and gazetted by the Department of Environment and Resource Management (DERM), in accordance with the provisions of the *Water Supply (Safety and Reliability) Act 2008.*

The Flood Mitigation Manual was developed to ensure that operational decisions at Wivenhoe and Somerset Dams are based on sound engineering principles, which ascertain the structural safety of the dam while minimising downstream impacts.

In the event of a major impact on communities, whole-of-government disaster management arrangements in Queensland ensure the collaborative and effective coordination of planning, services, resources and information for all hazards. The Queensland arrangements are based on disaster management groups at local, district and state level, supported by disaster coordination centres.

Local, district and state disaster management and hazard-specific plans document how a community or group intends to deal with disasters. They outline arrangements and structures for disaster management, or the hazard, identify the need for appropriate resourcing, and provide direction on coordination and communications.

This protocol adds to such plans by outlining specific arrangements necessary when advice to the community needs to be based on technical assessments from hazardspecific primary agencies, and other complementary stakeholders across differing levels of government.

GENERAL DECISION MAKING - GUIDING PRINCIPLES

- Protection of public safety is paramount throughout both the Flood Mitigation Manual and this Protocol;
- The Flood Mitigation Manual is used to determine how Wivenhoe and Somerset Dams will be operated during flood events;
- Public inconvenience is a legitimate consideration of any risk assessment;
- Agreed regular communications within government and to the public, in relation to the impacts of floodwater releases from Wivenhoe Dam, are essential;
- Decision-making chains regarding the communications strategy and disaster management should remain flexible;
- If the flood release strategies are followed, then the Queensland Government, rather than the dam owner, assumes legal liability for any consequences.

PROCESS OF COMMUNICATION

There are three stages in the process of communication

- Monitoring and Assessment
- Briefing and Activation
- Public Communications

Monitoring and Assessment

The floodwater release strategy is a balance between releasing the water quickly enough so that the flood storage capacity is available if another major rain event occurs, versus minimising downstream flooding impacts (human safety and property damage) from the releases.

A fundamental principle is that all floodwater should be released from the dams within seven days of the flood event peaking in Wivenhoe or Somerset Dam. This ensures the dams can cope with closely spaced major rain events.

The process is as follows:

- 1. Routine monitoring of weather events and dam levels by relevant agencies via established systems and procedures;
- 2. The Bureau of Meteorology (BoM) provides weather forecasts and warnings (e.g. Tropical Cyclone, Severe Weather, Severe Thunderstorm, Flood). In the event of heavy rain and runoff in the Wivenhoe and/or Somerset Dam catchments, BoM and the Queensland Bulk Water Supply Authority (Seqwater) discuss modelled inflows to Wivenhoe and/or Somerset Dam and downstream flood levels.
- 3. Seqwater discusses and models implications of the necessary water release from Wivenhoe Dam and/or Somerset Dam in accordance with the Flood Mitigation Manual.
- 4. Seqwater calculates the releases according to dam levels and predicted weather events.
- 5. BoM undertakes modelling of the Brisbane River catchment and its river systems using Seqwater advice of actual and projected Wivenhoe Dam and/or Somerset Dam releases when these are, or are expected, to occur.

- 6. BoM participates in technical discussions with Seqwater, Brisbane City Council, Ipswich City Council and Somerset Regional Council as necessary, to share modelling results and establish agreement on predicted flood levels and timing, to be released to the public in Flood Warnings.
- 7. Councils identify flood inundation areas and assess impacts for their communities.
- 8. Following agreement on pre-agreed triggers, Seqwater provides Part A of the coordinates the completion of the Flood Release Operations and Impact Report (FROIR Appendix C) to the and advises the SEQ Water Grid Manager of the results, according to their Emergency Response Plan at certain pre-agreed triggers.

Only if considered necessary

8-9. BCC provides Part C of a Flood Release Operations and Impact Report (FROIR - Appendix C) to the SEQ Water Grid Manager.

If, during this continuous process, there is agreement that the situation is likely to result in significant public safety issues, the SEQ Water Grid Manager will commence briefing and activation of disaster management arrangements as appropriate.

Briefing and Activation

Once the FROIR has been issued, the Disaster Management arrangements will be activated in the following way:

- 1. SEQ Water Grid Manager will alert the Director-General (DG) of the Department of Community Safety (DCS), DG DERM, and the local governments;
- 2. DG DCS will inform the State Disaster Management Group (SDMG), and it will activate the State Disaster Coordination Centre (SDCC);
- 3. Councils will activate their Local Disaster Management Groups (LDMGs);
- 4. The SDCC and LDMGs will inform the relevant District Disaster Coordinators (DDCs);
- 5. The Queensland Police Service (QPS) will consider initiating disaster management actions as provided for under the *Disaster Management Act* 2003;
- 6. DG DERM will inform the Ministers for Natural Resources, Mines and Energy;
- 7. In the case of a disaster event, the Crisis Communications Network, chaired by the Department of Premier and Cabinet (DPC), may be activated at the direction of the SDMG Chair to coordinate public messaging agreed by BoM, Seqwater, SEQ Water Grid Manager, QPS, relevant Councils and DCS as per this protocol.

Public Communications Issues

SEQ Water Grid Communications Unit will coordinate the input and liaise with the following, or their representatives over pubic safety messages (depending on the severity of the event):

- BoM;
- Seqwater;
- Councils' Media Directors.
- QPS Media Director; and
- DCS Media Director.

The BoM, Seqwater and Local Governments are to maintain continual discussions, to ensure that conflicting predictions are not released to the public at any time. Where differences arise, officers of the agencies concerned will liaise and consult to ensure that the information released to the public by all agencies is consistent. Before the information is released to the public, it must be ascertained that agencies share technical information and agree in principal not to differ. Agencies must exchange public releases.

After confirmation, harmonised public communications messages will be released by agreed spokesperson from the following agencies:

- **Bureau of Meteorology** concentrating on Flood Warnings which are widely disseminated to the BoM website, agencies and the media. BoM also participates in media (radio, television, newspaper) interviews to provide factual information regarding observed and forecast weather conditions, rainfalls and water levels;
- SEQ Water Grid Manager concentrating on the technical aspects of release timings and duration of effects. SEQ Water operational staff are to ensure that technical information is communicated to the SEQ Water Grid Emergency Response Team (if activated) and the SEQ Water Grid Communications Unit;
- Local Governments /Local Disaster Management Groups concentrating on the effects of release and safety for residents;

If necessary these will be augmented by:

- **Queensland Police Service** concentrating on specific community safety messaging during operations.
- **Department of Community Safety** concentrating on general safety matters regarding flooding;
- Department of Premier and Cabinet (extreme events only) concentrating on uniting front and filtering consistent information to media and agencies concerned.

Event-specific information will be released to the public as frequently as required by the severity and scope of the event. Timings of media releases will be dependent on the event and may range from once a day to once an hour.

Questions from the Public

All questions from the public should be directed to the relevant local government. Any questions relating to the release of water should be directed to the SEQ Water Grid Manager Communications Unit. Any queries about disaster management should be addressed by the relevant local and district disaster management groups.

Protocol Maintenance

This protocol will be reviewed annually by agencies involved and exercised, during

the years when operational floodwater release does not occur, under DDMG arrangements.

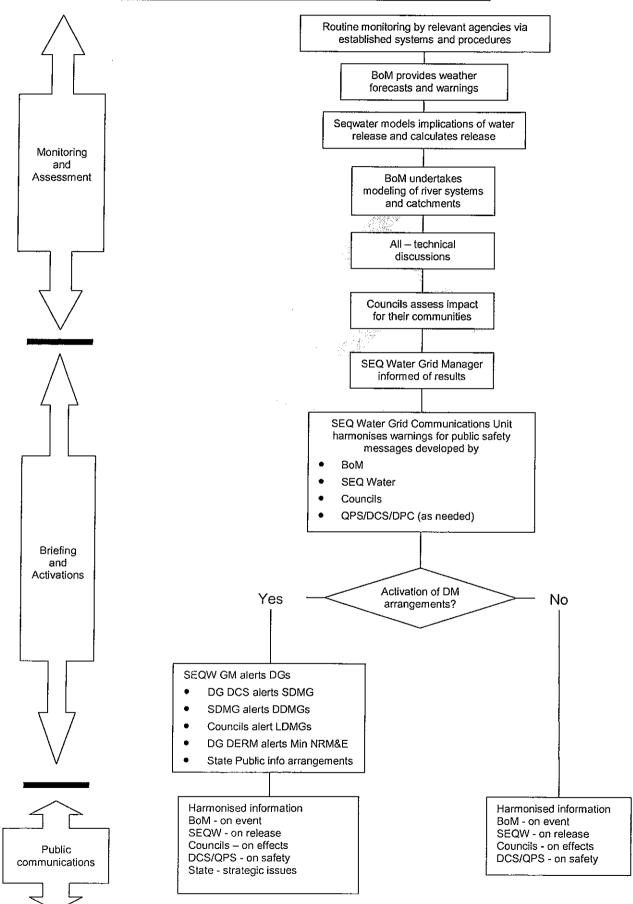
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Release of water from Wivenhoe and Somerset Dams

Appendix B

ROLES AND RESPONSIBILITIES

• <u>The Bureau of Meteorology (BoM)</u> is the agency responsible for issuing flood warnings for the Brisbane River and its major tributaries. These, when required, include rainfall forecasts for the Brisbane catchment and predicted river heights for Brisbane City, Ipswich, Jindalee and Moggill according to established procedures.

River height predictions are agreed in consultation with South East Queensland Water (Seqwater), Brisbane City Council (BCC), Ipswich City Council (ICC) and Somerset Regional Council (SRC), as required.

• <u>Seqwater (Queensland Bulk Water Supply Authority)</u> operates Wivenhoe and Somerset Dams in accordance with the Flood Mitigation Manual. It provides dam outflow information to BoM, to allow the development of Flood Warnings and to local authorities, to assist them in quantifying likely impacts within their areas.

It informs BoM and other agencies on the status of dams, and actual and projected releases from Wivenhoe Dam.

It consults BoM regarding inflows to Wivenhoe Dam and expected flood heights along the Brisbane River downstream of Wivenhoe Dam.

Sequater initiates proposed changes to the Flood Mitigation Manual, undertaking consultation with Councils and other stakeholders.

- Brisbane City Council (BCC), Ipswich City Council (ICC) and Somerset Regional Council (SRC) distribute consistent, detailed local flood level information, both to their respective operational units, and their broader communities. This should include the interpretation of BoM flood warnings and river height forecasts into expected areas and depths of inundation. Councils are responsible for activating their respective Local Disaster Management Groups (LDMGs), which then undertake the disaster management responsibility for response in the community.
- <u>DERM</u> consults with the stakeholders prior to the approval of any updates to the Flood Mitigation Manual. DERM also approves any necessary variations to the strategies in the manual if required during the course of a flood event.
- <u>Queensland Police Service (QPS)</u> assumes a legislative role, as per the Disaster Management system, to provide disaster management at a district level during an event, including provision of necessary community advice for public safety.
- <u>Emergency Management Queensland (EMQ)</u> provides support and general community safety advice on flooding issues, during non-operational times.
- <u>SEQ Water Grid Communications Unit</u> coordinates the general harmonisation, but not specific detail of public messaging with BoM, SEQ Water Grid, BCC and DCS, as required. It does this by ensuring that each agency understands the extent of the release and that there is a general consensus as to the level of potential impacts.

Appendix C

FLOOD RELEASE OPERATIONS AND IMPACT REPORT

OPREP Number	Date of OPREP release	Time of OPRE release	P
Issue of SITREPs			
Next OPREP due	Date	Time	
	ibuted by Seqwater		
Seqwater Contact Offi	cersignature		
Seqwater Contact Offi Seqwater Contact Offi	eer signature eer name		
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Part A - Seqwater assessment

(to include details of the current and predicted levels within the flood storage compartment and the agreed release strategy with assessment as governed under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam)

Includes details of discussions with BoM and BCC.

Seqwater Technical Officer signature	
Seqwater Technical Officer name	
Seqwater Technical Officer position title	
Date and time of signature	

Part B - BoM assessment

(to include prediction of further inflows to Wivenhoe and Somerset Dams, and details of the predicted river heights and flood warnings for Brisbane City, Ipswich, Jindalee and Moggill based on natural events in combination with the agreed release strategy outlined in Part A)

oM Technical Officer signature
oM Technical Officer name
oM Technical Officer position title
ate and time of signature

Part C - BCC assessment

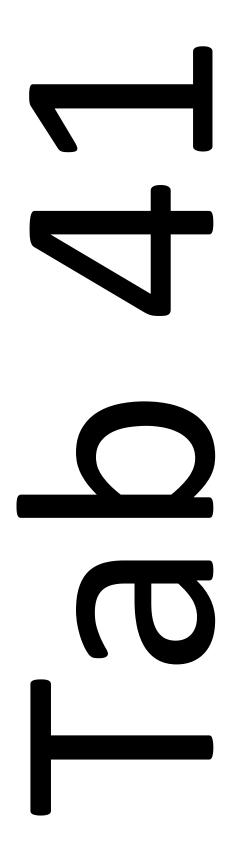
(to include predicted local inundation areas and depths of inundation based on the information outlined in Part B)

BCC Technical Officer signature	
BCC Technical Officer name	
BCC Technical Officer position title	
Date and time of signature	

Part D - ICC assessment (if required)

Part E - SRC assessment (if required)

(both part D and part E requirements are the same as part C)



Barry Dennien

From: Sent: To: Subject: Barry Dennien Wednesday, 20 October 2010 5:36 AM Rob Drury; Peter Borrows; Michael Lyons; Scott Denner; Bob Fwd: Protocols - final drafts

Rob

I note your comments about who should coordinate the operational report

It does must need someone to do it

We can do it and will if need be however the gig is about the flood operations of wivenhoe this report is the output of the technical step it needs an owner. I regard this a key core activity of Sequater and recommend you take it on

Regards

Begin forwarded message:

From: "Rob Drury" < <u>rdrury</u>		
To: "Michael Shapland" < <u>Mi</u>	chael.Shapland	, "Irina Stankovska"
< <u>Irina.Stankovska</u>	>, "Michael Lyons" <	Michael.Lyons
"Mike Foster" < <u>mfoster</u>	, "Barry Der	mien"
< <u>Barry Dennien</u>	, "Reilly Bob" < <u>Bob</u>	Reilly
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" <u>morganti.davidj</u>	< <u>morganti.davidj</u>	"Peter
Borrows" < <u>pborrows</u>	, "Jim Pruss" <	ipruss
Subject: RE: Protocols - fin	al drafts	

Michael.

I realise it is last minute but can you adjust before our meeting tomorrow morning as there were a few things that came from our meeting today that are not quite reflected in this document.

At the meeting we agreed that Sequater did NOT have the responsibility for getting agreement by the parties on their predictions or actions, hence the change in Item 8 of the Monitoring and Assessment section to something that says Sequater will provide a situation report to the Grid Manager.

We also agreed towards the end of the meeting that the Situation Report from Seqwater would just be a summary of our assessments and proposed releases and details of our discussions with BoM and BCC. It was discussed and agreed that we could not re responsible for getting sign off by BoM (they would provide information on their assessments somehow). Nor did we have the authority or capability to get signoff by BCC. Our only responsibility is to operate under the manual and discuss and advise BoM and BCC of our plans. This was agreed by the Dam Safety Regulator that it was not within our scope under the regulations to get involved in getting sign off by BCC. Indeed it may in some way conflict with our duties under the regulations.

Also, during an event we will consult with BoM and BCC but getting sign off could take time. BCC may even have to go away and do considerable work deciding the implications. We cannot allow this to interfere with our core responsibilities.

Hence the Situation Report cannot be coordinated by Seqwater as it states, we can only provide Part A of the report. Part A would be just our proposed releases and a record of our discussions to ensure there is a clear record of discussions and information transfer. Again this was what we discussed towards the end of the meeting. The other parts of the report would need to be collected from BoM or BCC directly or removed from the report. This matches with what was discussed earlier that the main impetus was getting communications and tracking of discussions right and not getting sign off by BCC on how they interpret the Seqwater and BoM data. Which is unlikely to happen.

However, although Sequater does not have the authority or ability to coordinate such responses, if it is considered necessary, an extra item under Monitoring and Assessment could be that BCC provides a Situation Report direct to the Grid Manager same as us. This would put in the protocol a responsibility for them. Unlikely they would agree but then if they didn't, they certainly wouldn't agree to give us one either.

I have attached a version that reflects what we discussed at the meeting. The Item 9 relating to BCC is only there if it considered feasible.

Rob

Robert Drury	
Dam Operations Manager	
Water Delivery	
Queensland Bulk Water Supply Authority trading as Sequences	water
[cid:image001.jpg@01CB6FD4.21002A80]	
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Ph	E

Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale QLD 4306

Website | www.seqwater.com.au<http://www.seqwater.com.au/>

From: Michael Shapland [mailt	o:Michael.Shay	oland			
Sent: Tuesday, 19 October 2010) 6:52 PM		. :	· · · · · ·	
To: Michael Shapland; Irina Sta	nkovska; <u>mich</u>	ael.Lyons		Mike Foster;	
Barry.dennien	Reilly Bob;	brad.smith		Scott	.:
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owens.petert	peter.allen		Bruce Grady	•	
Cc: j.perkins mo	rganti.davidj				. •
Subject: RE: Protocols - final du	afts		•		

Please find attached slightly updated protocols following discussions with Seqwater.

Changes are small and will be covered in the 0800 meeting tomorrow.

Mike

Mike Shapland MBE | Director, Disaster Management Emergency Management Queensland | Department of Community Safety Level 3, Block E, Emergency Services Complex, Kedron, Queensland

From: Michael Shapland			<u>.</u> .
Sent: Tuesday, 19 October 2010	16:32		
To: Irina Stankovska; 'michael.Ly	yons ;	<u>'mfoster</u>	
'Barry.dennien	; 'Reilly Bob'; 'brad.smith('Scott
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Sent: Monday, 18 October 2	2010 17:30			
To: Michael Shapland; mich	hael.Lyons		mfoster	
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Cc: <u>j.perkins</u>	morganti.davidj			
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Subject: Release of Water from Wivenhoe Dam' protocol - final draft

Good Afternoon Gentlemen

Please find attached the final draft of the 'Release of Water from Wivenhoe Dam' protocol, for tomorrow's meeting.

Kind Regards

Irina Stankovska I A/Program Officer (SDCG, DDMG & LDMG) I Disaster Management Governance Unit I Emergency Management Queensland I Department of Community Safety • I GPO Box 1425 BRISBANE QLD 4001 I State Disaster

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Disaster Coordination Group Email:

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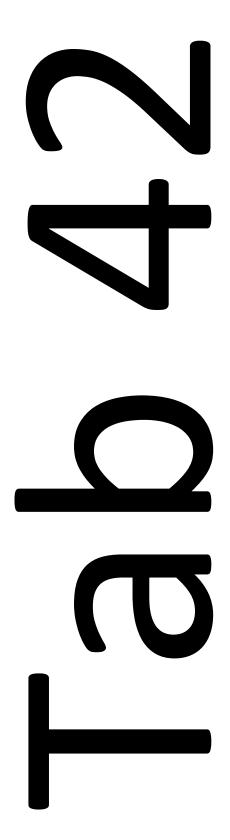
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Barry	Dennien						
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Scott Denner <<u>Scott.Denner</u> Subject: Fwd: Protocols - final drafts

Bob <<u>Reilly</u>

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We can do it and will if need be however the gig is about the flood operations of wivenhoe this report is the output of the technical step it needs an owner. I regard this a key core activity of Sequater and recommend you take it on

Regards

Barry Dennien

Begin forwarded message:

From: "Rob Drury" < <u>rdrury</u>	
To: "Michael Shapland" < <u>M</u>	lichael.Shapland , "Irina
Stankovska" < Irina. Stankovs	ska "Michael Lyons"
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< <u>pborrows</u>	, "Jim Pruss"
< <u>jpruss</u>	— ·

Subject: RE: Protocols - final drafts

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Robert Drury Dam Operations Manager Water Delivery Queensland Bulk Water Supply Authority trading as Seqwater [cid:image001.jpg@01CB6FD4.21002A80] [cid:image002.png@01CB6FD4.21002A80]

Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale QLD 4306

Website | www.seqwater.com.au < http://www.seqwater.com.au/>

3

From: Michael Shapland	l [mailto:Michael.Shapland	
Sent: Tuesday, 19 Octob	er 2010 6:52 PM	
To: Michael Shapland; I	rina Stankovska;	
michael.Lyons	Mike Foster;	
Barry.dennien	Reilly Bob;	
brad.smith	Scott Denner; Rob D	rury;
P.Baddiley	Barry.dennien	
owens.petert	; peter.allen	Bruce
Grady		
Cc: j.perkins	morganti.davidj	

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Mike

Mike Shapland MBE | Director, Disaster Management Emergency Management Queensland | Department of Community Safety

Level 3, Block E, Emergency Services Complex, Kedron, Queensland

.gov.au>

 From: Michael Shapland

 Sent: Tuesday, 19 October 2010 16:32

 To: Irina Stankovska; 'michael.Lyons

 'mfoster
 'Barry.dennien

 'mfoster
 'Barry.dennien

 'Bob'; 'brad.smith
 'Scott Denner'; 'Rob Drury';

 'P.Baddiley
 'Barry.dennien

 'owens.petert
 'peter.allen

 Bruce Grady
 'morganti.davidj

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A flooding information from releases - Wivenhoe and Somerset Dams,

B natural hazards affecting the community.

Final checks will be made here this afternoon.

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Mike Shapland MBE | Director, Disaster Management Emergency Management Queensland | Department of Community Safety

Level 3, Block E, Emergency Services Complex, Kedron, Queensland

 From: Irina Stankovska

 Sent: Monday, 18 October 2010 17:30

 To: Michael Shapland; michael.Lyons

 mfoster
 Barry.dennien

 Reilly

 Bob; brad.smith
 Scott Denner; Rob Drury;

 P.Baddiley
 Barry.dennien

 owens.petert
 peter.allen

 Cc: j.perkins
 morganti.davidj

Subject: Release of Water from Wivenhoe Dam' protocol - final draft

Good Afternoon Gentlemen

Please find attached the final draft of the 'Release of Water from Wivenhoe Dam' protocol, for tomorrow's meeting.

Kind Regards

Irina Stankovska I A/Program Officer (SDCG, DDMG & LDMG) I Disaster Management Governance Unit I Emergency Management Queensland I Department of Community Safety I

I • I GPO Box 1425 BRISBANE QLD 4001 I State Disaster Management Group Email:

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ooq nator ji

<image001.jpg>

<image002.png>

<Protocol_Release of water from dams (2).doc>

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3 sheets of A4 paper = 1 litre of water

Barry Dennien From: Michael Lyons Sent: Wednesday, 20 October 2010 10:44 AM To: Barry Dennien Subject: Re: Protocols - final drafts Still in this meeting - seqwater owns form. All good so far. Sent from my iPhone On 20/10/2010, at 6:35 AM, "Barry Dennien" < Barry Dennien</td>

Rob

I note your comments about who should coordinate the operational report

It does must need someone to do it

We can do it and will if need be however the gig is about the flood operations of wivenhoe this report is the output of the technical step it needs an owner. I regard this a key core activity of Sequater and recommend you take it on

Regards Barry Dennien

Barry Dennien

Begin forwarded message:

From: "Rob Drury"	
To: "Michael Shapland"	, "Irina
Stankovska"	"Michael Lyons"
	, "Mike Foster"
	"Barry Dennien"
	<u>n.au</u> >, "Reilly Bob"
	>, " <u>brad.smith</u>
< <u>brad.smith@premiers.qld.g</u>	ov.au>, "Scott Denner"
	" <u>P.Baddiley</u>
< <u>P.Baddiley</u>	"Barry Dennien"
	"owens.peter
< <u>owens.petert(</u>	, " <u>peter.allen</u>
<pre>peter.allen</pre>	"Bruce Grady"
Cc: "j.perkins	< <u>i.perkins</u>
" <u>morganti.davidj</u>	< <u>morganti.david</u>
"Peter Borrows" < <u>pborrows</u>	"Jim Pruss"
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Queensland Bulk Water Supply Authority trading as Seqwater [cid:image001.jpg@01CB6FD4.21002A80] [cid:image002.png@01CB6FD4.21002A80]

2

Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale OLD 4306 Website | www.seqwater.com.au<http://www.seqwater.com.au/>

From: Michael Shapland Sent: Tuesday, 19 October 2010 6:52 PM To: Michael Shapland; Irina Stankovska; michael.Lyons Mike Foster: Barry.dennien Reilly Bob; brad.smith Scott Denner; Rob Drury; P.Baddiley Barry.dennien peter.allen owens.petert(; Bruce Grady Cc: j.perkins morganti.davidi Subject: RE: Protocols - final drafts

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To: Michael Shapland; <u>michael Lyons</u> <u>mfoster</u> <u>Barry.dennien</u>

brad.smithScott Denner; Rob Drury;P.BaddileyBarry.dennienowens.petertpeter.allenCc: j.perkinsmorganti.davidj

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Reilly Bob:

Kind Regards

Irina Stankovska I A/Program Officer (SDCG, DDMG & LDMG) I Disaster Management Governance Unit I Emergency Management Queensland I Department of Community Safety I ' 3247 8419 I ' 94419 I • I GPO Box I425 BRISBANE QLD 4001 I State Disaster Management Group Email:

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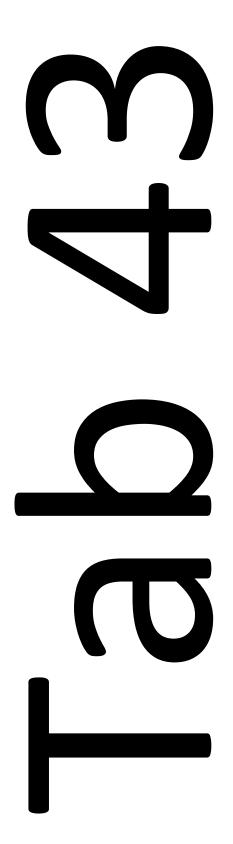
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<image001.jpg>

<image002.png>

<Protocol_Release of water from dams (2).doc>



Barry	Dennien	

•	Barry Dennien	
•	Wednesday, 20 October 2010 7:35 AM	
	Reilly Bob	•
	Re: Wivenhoe/Somerset flood protocol: Responsibilities for Technical Assessmer	ńſ
	component	

Ta bob my thoughts as well

ėn

Regards	•
Barry Den	ni

From: Sent: To: Subject:

On 20/10/2010, at 7:30 AM, "Reilly Bob"

> wrote:

Hi everyone

I have discussed this matter with the DG of DERM.

While there is no perfect solution, his firm view is that Seqwater is responsible for this component, including the completion of the Template containing the comments of BOM, Councils etc. I accept that there needs to be some safeguards put around timings of inputs and the like e.g. exactly what Seqwater is responsible for, but he was quite clear that he saw this as Seqwater's role.

While I am happy to discuss the matter between the three of us, this is the position, due to time constraints, that will need to be reflected in today's meeting at 8am, and I will be advising the group accordingly.

I will try to ring you before today's meeting, but may not be able to do so.

Regards

Bob

Bob Reilly
General Manager, Office of the Water Supply Regulator
Teleph
Email:
www.derm.gld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

> From: Barry Dennien Sent: Wednesday, 20 October 2010 5:42 AM To: Reilly Bob Subject: Fwd: Protocols - final drafts

Regards

Barry Dennien

Begin forwarded message:

From: Barry Dennien	· · · · · · · · · · · · · · · · · · ·	
Date: 20 October 2010 5:35:	53 AM AEST	
To: Rob Drury	, Peter Borrows	
	Michael Lyons	
	, Scott Denner	
	<u>u</u> >, Bob	

Subject: Fwd: Protocols - final drafts

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From: "Rob Drury" To: "Michael Shapland"	
	, "Irina
Stankovska"	
"Michael Lyons"	
"Mike Foster"	"Barry
Dennien"	"Reilly
Bob" <	
< <u>brad.smith</u>	"Scott Denner"
D Daddilar	
< <u>P.Baddiley</u>	"Barry Dennien"
<owens.petert< th=""><th></th></owens.petert<>	
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<pre> peter.allen</pre>	, "Bruce Grady"
	, <u> </u>
Cc:	<i.perkins< th=""></i.perkins<>
< <u>morganti.davidi</u>	"Peter Borrows"
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 protocol - final draft

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<Protocol_Release of water from dams (2).doc>

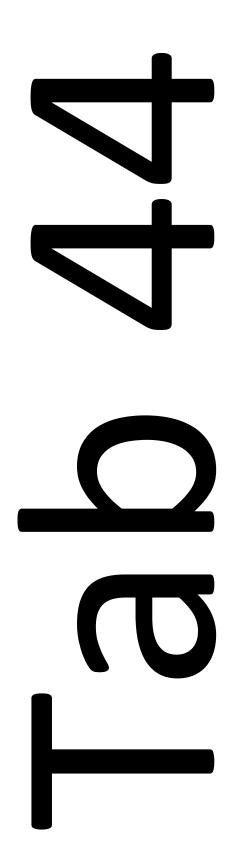
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3 sheets of A4 paper = 1 litre of water

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Barry Dennien

From:	Reilly Bob
Sent:	Thursday, 21 October 2010 10:05 AM
То:	Robson Chris
Cc:	Peter Borrows; Barry Dennien
Subject:	Protocol for release of flood waters from Wivenhoe and Somerset dams
Attachments:	Protocol_Release of water from dams 21 Oct.doc

Hi Chris

DPC has asked EMQ to lead the engagement with Councils on this matter. As indicated in the email below, a copy of the draft Protocol will shortly be sent to the Ipswich, Somerset and Brisbane City Councils with a request that we meet tomorrow (Friday) with them. The Premier has asked for a copy of the draft Protocol, so you may wish to advise the DG.

Regards

Bob Reilly General Manager, Office of the Water Supply Regulator Telepl Email: www.derm.gld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Michael Shapland [mailto Sent: Thursday, 21 October 2010 9:59 AM To: Peta Robertson Cc: Irina Stankovska; Reilly Bob Subject: Protocol for release of flood waters from Wivenhoe and Somerset dams

ta, As discussed, can we send the email below plus attachment from Bruce's email to the ddresses of those council representative below, copy to Bob Reilly and myself?

Mike

You will know of the recent debate over a protocol on information for the release of water from Wivenhoe and Somerset dams.

Attached is draft protocol that covers both technical and public communication aspects.

In view of the interest in the subject I would appreciate an indication of council's response on Friday 2 October.

Officers from the Department of Community Safety, Environment and Resource Management and Seqwater will be available to respond to points of clarification from 8 am. Friday 22 October. Should you wish to meet to discuss the protocol, the conference room on level 3, 41 George Street has be made available at 0800.

I would be grateful if you would copy Bob Reilly and Mike Shapland into any reply.

Regards,

Bruce Grady.

Mike Shapland MBE | Director, Disaster Management

Emergency Management Queensland | Department of Community Safety Level 2, Block E, Emergency Services Complex, Kedron, Queensland

Brisbane City Council	Vicki	Pethybridge
	· · · · · · · ·	
Ipswich City Council	Tony	Trace
· · · · · · · · · · · · · · · · · · ·	•	<u> </u>
Somerset Regional Council	Tony	Jacobs

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Protocol for the Communication of Flooding Information during Floodwater Releases - Wivenhoe and Somerset Dams

OBJECTIVE

The purpose of this protocol is to outline the processes to be followed by the Brisbane, Ipswich and Somerset Councils, relevant Queensland Government agencies and the Bureau of Meteorology, which will ensure the provision of consistent and robust information to the community, concerning potential flooding impact during release of floodwater from Wivenhoe and Somerset Dams.

The intent is to ensure that consistent, harmonised information, based on an agreed single point of truth, is communicated to the public in a way that contributes to disaster resilient communities.

BACKGROUND

Wivenhoe Dam controls approximately half of the Brisbane River catchment above Brisbane City. Other factors such as storm surges, tides, creek flooding, flooding from Brisbane River below Wivenhoe Dam, including Pockyer Creek and the Bremer River, will influence inundation levels in Brisbane,

The operational strategy for water release from Wivenhoe and Somerset Dams is governed by the *Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam*, henceforth referred bas the Flood Mitigation Manual.

The Flood Mitigation (Manual) is approved and gazetted by the Department of Environment and Resource Management (DERM), in accordance with the provisions of the Water Supply (Safety and Reliability) Act 2008.

The Flood Mitigation Manual was developed to ensure that operational decisions at Wivenhoe and Somerset Dams are based on sound engineering principles, which ensure the structural safety of the dam, while minimising downstream impacts.

In the event of a major impact of communities, Queensland disaster management arrangements, based on disaster management groups at local, district and state level, ensure the collaborative and effective coordination of information for all hazards.

Local, district and state disaster management and hazard-specific plans outline arrangements and structures for disaster management, or the hazard, and amongst other things, identify the need for coordination of public communications.

This protocol adds to such plans by outlining specific arrangements necessary when advice to the community needs to be based on technical assessments from hazardspecific primary agencies and other complementary stakeholders across federal, state and local governments.

GENERAL DECISION MAKING - GUIDING PRINCIPLES

- Protection of public safety is paramount throughout both the Flood Mitigation Manual and this Protocol;
- The Flood Mitigation Manual is used to determine how Wivenhoe and Somerset Dams will be operated during flood events;
- Impact on the community upstream or downstream is a legitimate consideration of any risk assessment;
- Agreed regular and consistent communications within government and to the public, in relation to the impacts of floodwater releases from Wivenhoe Dam, are essential;
- Decision-making chains regarding the communications strategy and disaster management should remain flexible;

PROCESS OF COMMUNICATION

There are three stages in the process of communication: "

- Monitoring and Assessment
- Briefing and Activation
- Public Communications

Monitoring and Assessment

The floodwater release strategy is a palance between releasing the water quickly enough so that the flood storage capacity is available if another major rain event occurs, versus minimising downstream flooding impacts (human safety and property damage) from the releases.

A fundamental principle is that all floodwater should be released from the dams within seven days of the flood event peaking in Wivenhoe or Somerset Dam. This ensures the dams can cope with closely spaced major rain events.

Communications with the public on floodwater releases are based on a continuous process of technical assessment. The process is dynamic and evolves according to the event, but will normally contain the following steps:

- Routine, monitoring of weather events and dam levels by relevant agencies via established systems and procedures;
- The Bureau of Meteorology (BoM) provides weather forecasts and warnings (e.g. Tropical Gyclone, Severe Weather, Severe Thunderstorm, Flood). In the event of heavy rain and runoff in the Wivenhoe and/or Somerset Dam catchments, BoM and the Queensland Bulk Water Supply Authority (Seqwater) discuss modelled inflows to Wivenhoe and/or Somerset Dam, and downstream flood levels.
- Seqwater discusses and models implications of the inflows on the necessary floodwater release from Wivenhoe Dam and/or Somerset Dam.
- Sequater calculates the releases according to dam levels and predicted weather events in accordance with the Flood Mitigation Manual. Sequater shares predicted floodwater releases with BoM and with the Councils.
- BoM undertakes modelling of the Brisbane River catchment and its river systems using Sequater advice of actual and projected Wivenhoe Dam and/or

Somerset Dam releases when these are, or are expected, to occur.

- BoM participates in technical discussions with Seqwater, Brisbane City Council, Ipswich City Council and Somerset Regional Council as necessary, to share modelling results. The discussions aim to establish an agreement on what to tell the public about predicted flood levels and timings.
- Councils identify flood inundation areas and assess impacts for their communities and regularly share this information with all relevant parties.
- Following a decision to release floodwater, or a significant change in the severity and scope of the event, Seqwater coordinates the completion of the *Flood Release Operations and Impact Report* (FROIR - Appendix C) and provides the Report to the SEQ Water Grid Manager according to their Emergency Response Plan, in order to inform the public communications process.

If, during this continuous process, it becomes apparent to either BoM, local governments or Sequater that the situation is likely to result in significant public safety issues, the SEQ Water Grid Manager, based on the Report, will commence the public communications process and engage with the disaster management arrangements as appropriate.

Briefing and Activation

Consideration will be given to the activation of the Disaster Management arrangements, if not already activated 1. SEQ Water Grid Manager Will alergithe Director-General (DG) of the

- 1. SEQ Water Grid Manager Will alertithe Director-General (DG) of the Department of Community Safety (DCS), DG DERM, and the local governments;
- DG DCS will inform the DG of the Department of Premier and Cabinet (DPC)

 the Chair of the State Disaster (Management Group (SDMG), and will activate the State Disaster Coordination Centre (SDCC). DG DCS will also inform the Minister for Police, Corrective Services and Emergency Services;
 (1)
- 3. Councils will consider activating their Local Disaster Management Groups
- 4. The SDCC and LDMGs will inform the relevant District Disaster Coordinators (DDCS)
- The Queensiand Police Service (QPS) will consider initiating disaster managementilactions as provided for under the *Disaster Management Act* 2003;
- 6. DG DERM will inform the Minister for Natural Resources, Mines and Energy;
- 7. DG DPC will inform the Premier;
- 8. In the case of an extreme event, the Crisis Communications Network, chaired by the Department of Premier and Cabinet (DPC), may be activated at the direction of the SDMG Chair to coordinate public messaging agreed by BoM, Seqwater, SEQ Water Grid Manager, QPS, relevant Councils and DCS as per this protocol;
- 9. In the case of a non-disaster, public communications will be in accordance

with this protocol.

Public Communications Issues

SEQ Water Grid Communications Unit will coordinate the input and liaise with the following or their representatives over pubic safety messages:

- BoM;
- Seqwater;
- Councils' Media Directors.
- QPS Media Director; and
- DCS Media Director.

The BoM, Sequater and Local Governments are to maintain continual discussions, to ensure that conflicting information is not released to the public at any time. Where differences arise, officers of the agencies concerned will liaise and consult to ensure that the information released to the public by all agencies is consistent. Agencies must exchange public releases.

Harmonised public communications messages will be released from the following agencies:

- Bureau of Meteorology concentrating on Flood Warnings which are widely disseminated to the BoM website, agencies and the media. BoM also participates in media (radio, television, newspaper) interviews to provide factual information regarding observed and forecast weather conditions, rainfalls and water levels;
- SEQ Water Grid Manager concentrating on the technical aspects of release timings and duration of effects as lead technical agency on floodwater release. Sequater operational staff are to rensure that technical information is communicated to the SEQ Water Grid Emergency Response Team (if activated) and the SEQ Water Grid Communications Unit;
- Local Governments /Local Disaster Management Groups concentrating on the effects of release and safety for their local communities and residents.

If necessary these will be augmented by:

- Queensland Police Service concentrating on specific community safety messaging during operations;
- Department of Community Safety concentrating on general safety matters regarding flooding;
- Department of Premier and Cabinet (extreme events only) concentrating on consistent messages to media and agencies concerned.

Event-specific information will be released to the public as frequently as required by the severity and scope of the event. Timings of media releases will be dependent on the event and may range from once a day to once an hour.

Questions from the Public

All questions from the public should be directed to the relevant local government in the first instance. Any questions relating to the release of water should be directed to the SEQ Water Grid Manager Communications Unit. Any queries about disaster management should be addressed by the relevant local and district disaster management groups.

Protocol Maintenance

This protocol will be reviewed annually by agencies involved and exercised, during the years when operational floodwater release does not occur, under DDMG arrangements.

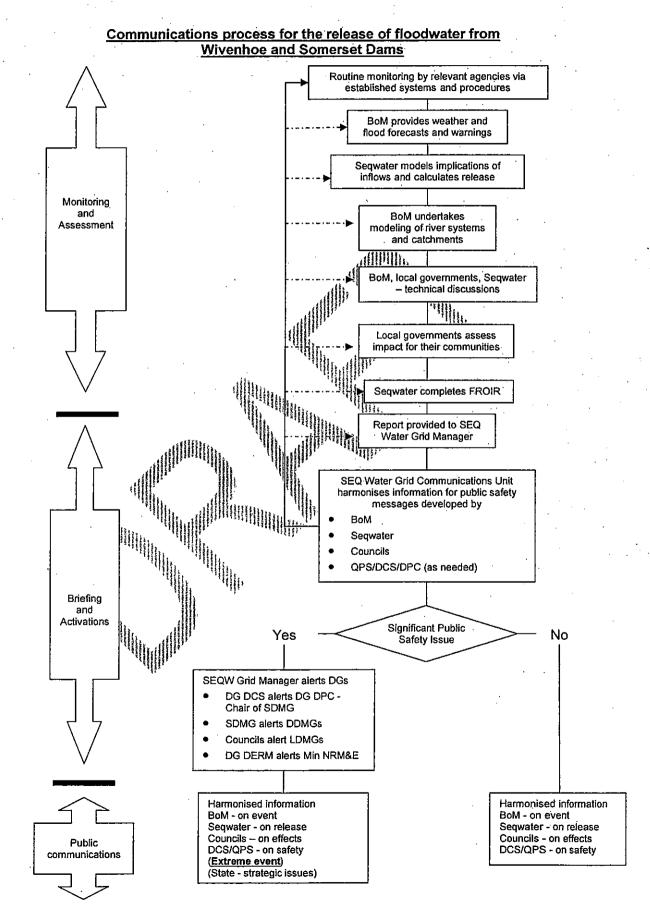
The protocol should provide for a review after each event of what worked and could be improved for management of future events, to be led by DCS.

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Appendix A



Appendix B

ROLES AND RESPONSIBILITIES

The Bureau of Meteorology (BoM) is the agency responsible for issuing flood warnings for the Brisbane River and its major tributaries. These, when required, include rainfall forecasts for the Brisbane catchment and predicted river heights for Brisbane City, Ipswich, Jindalee and Moggill according to established procedures.

River height predictions are agreed in consultation with South East Queensland Water (Seqwater), Brisbane City Council (BCC), Ipswich City Council (ICC) and Somerset Regional Council (SRC), as required.

- Queensland Bulk Water Supply Authority (Seqwater) operates Wivenhoe and Somerset Dams in accordance with the Flood Mitigation Manual IIt provides dam outflow information to BoM, to allow the development of Flood Warnings and to local authorities, to assist them in quantifying likely impacts within their areas.
 - It informs BoM and other agencies on the status, of dams, and actual and projected releases from Wivenhoe Dam.

It consults BoM regarding inflows to Wive noe Dam and expected flood heights along the Brisbane River downstream of Wivenhoeld

Sequater initiates proposed changes to the flood Mitigation Manual, undertaking consultation with Councils and other Stakeholders.

Seqwater coordinates the production of the

- Brisbane City Council (BCC), Illpswich City Council (ICC) and Somerset Regional Council (SRC) distribute consistent, detailed local flood level information, both to their respective operational units, their senior management and their broader communities. This should include the interpretation of BoM flood warnings and river height forecasts into expected areas and depths of inundation. Councils are responsible for activating their respective Local Disaster Management Groups (LDMGs), which then undertake the disaster management responsibility for response in the community.
- <u>DERMICO</u> DERMICONSULTS with the stakeholders prior to the approval of any updates to the Flood Mitigation Manual. DERMI also approves any necessary variations to the strategies in the manual frequired during the course of a flood event.
- Oueensland Police Service (OPS) assumes a legislative role, as per the Disaster Management system is provide disaster management at a district level during an event, including provision of necessary community advice for public safety.
- Emergency Management Queensland (EMQ) provides support and general community safety advice on flooding issues, during non-operational times.
- SEQ Water Grid Communications Unit coordinates the general harmonisation, but not specific detail of public messaging with BoM, SEQ Water Grid, BCC and DCS, as required. It does this by ensuring that each agency understands the extent of the release and that there is a general consensus as to the level of potential impacts.

Appendix C

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FLOOD RELEASE OPERATIONS AND IMPACT REPORT

OPREP	Date of OPREP	Time of OPREP	
Number	release	release	
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Next OPREP due	Date	Time	or Event	
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This report is as at the time of assessment, and may be out of date quickly, depending on current events. It relies on timely information provided by Seqwater, BoM and Councils. A reply will be required by a specified time and if not received by that time no information will be included. If any information is not provided, the section will remain blank, there will be no follow up requests.

Each Authority will provide an email and telephone contact for all communications. If an event escalates, there may be less time to respond or it may not be possible to respond to requests.

The initial step in the process is for Seqwater to email advices on releases to the organisations email address provided. Once a flood event is initiated, at any time a Council or agency can contact Seqwater to discuss if they have a serious concern regarding the information on releases provided, this would normally be by phone and followed by email. However the ability to respond to any queries depends on the event. The frequency of advices will depend on the severity of the event and the needs of each agency.

Sequater will also request at that time; a situation Assessment from each agency as per details outlined in this document. Each agency will then email in return the requested information if possible or advice that it has not changed. If it is not received in the time specified, it is assumed it is not being provided.

Seqwater status of inflows and dam operations

(to include information on the current and/or predicted levels of Somerset and Wivenhoe Dams and the probable or planned release strategy with assessment as governed under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam)

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This is Sequaters status report on the dam levels, probable inflows and planned releases.

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This has been supplied to BCC on ICC on SRC on

Issues raised by Councils were

Actions taken were

Seqwater Technical Officer name

Seqwater Technical Officer position title

Segwater Technical Officer contact details

BoM assessment

(consisting of references to latest Flood Warning for the Brisbane River and other relevant Bureau forecasts and warnings (eg weather/rain forecasts) Tropical Cyclone Warning etc) and other updates/comments if needed)

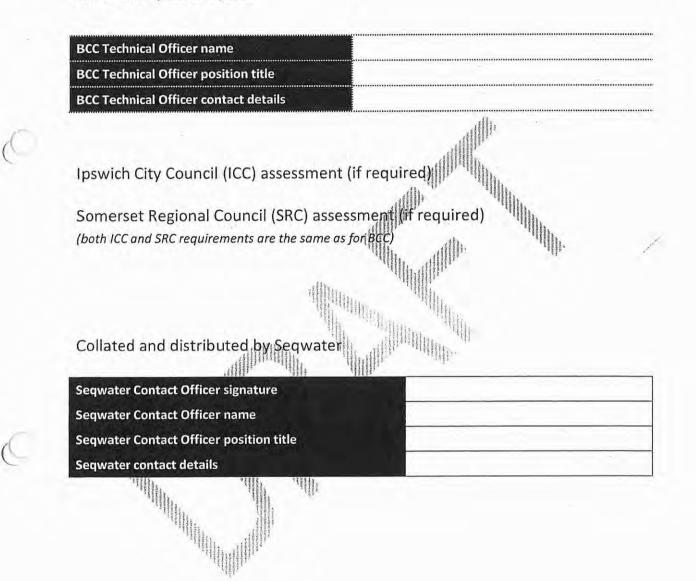
BoM is to provide either a copy of, or links to, their current information and other updates or comments if needed. This will be their current set of warnings and may be updated or changed at any time.

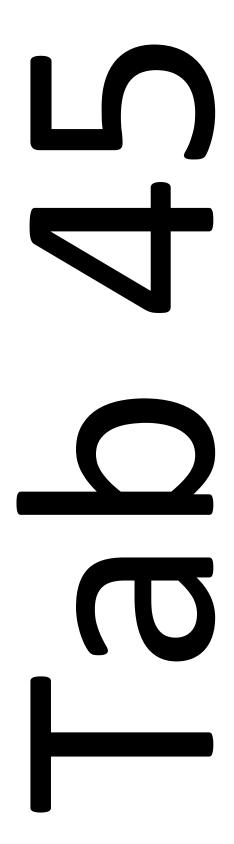
s s s s s s s s s s s s s s s s s s s	
BoM Technical Officer name	
BoM Technical Officer position title	
BoM Technical Officer contact details	

Brisbane City Council (BCC) assessment

(to include predicted local inundation areas and depths of inundation based on the information)

This is an assessment as above provided by BCC. A request for this information will be sent to the email address provided by BCC.





Barry Dennien		···	
From: Sent: To:	peter.ailen Brud	M a; Michael Lyons; mfoster Scott nnien; owens.petert ce Grady	Barry Denner; Rob Drury;
Cc: Subject: Attachments:	j.perkins morganti.d RE: Protocol on release of water fr Protocol_Weather related events 2	om Dams	
Please find attached a draf	t Public Communications Protocol for	or Natural Events affecting	the Community.
	ended to replace the specific protoc Wivenhoe and Somerset dams.	ol circulated to Brisbane Ip	swich and Somerset
Mike			
'Barry.dennier	a Stankovska; 'michael.Lyons 'Reilly Bob'; 'brad.smith Barry.dennien Bruce Grady 'morganti.davidj	'mfoster 'Scott D wens.petert	enner'; 'Rob Drury';
Attached please find the lat	est draft.		
Mike			
	ctor, Disaster Management Ensland Department of Community S Services Complex, Kedron, Queensland	afety	
relay on any part of opinions expressed in sender expressly, and	is for the named persons on on or both. No confidential . If you receive this corre- ediately and notify the set this correspondence, if you n this message are those of d with the authority, state ity Safety, Queensland.	lity or privilege is espondence in error nder. You must not d ou are not the inten the individual sen	waived or lost by please delete it lisclose, copy or ded recipient. Any der except where the

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All reasonable precautions will be taken to respect the privacy of individuals in accordance with the Information Privacy Act 2009 (Qld). Details on how personal information may be used or disclosed by the Department of Community Safety, Queensland are available from www.communitysafety.qld.gov.au/info/privacy.htm

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Public Communications Protocol for Natural Hazards affecting the Community

OBJECTIVE

The purpose of this protocol is to outline the processes to be followed by local governments, relevant Queensland Government agencies, the Bureau of Meteorology and other key stakeholders, which will ensure the provision of consistent and robust information to the community, concerning impacts of weather related events.

The intent is to ensure that consistent, harmonised information, based on an agreed single point of truth, is communicated to the public in a way that contributes to disaster resilient communities.

BACKGROUND

In the event of a major impact on communities, the Queensland, disaster management arrangements, based on disaster management groups at local, district and state level, ensure the collaborative and effective coordination of information for all hazards.

Local, district and state disaster management and hazard-specific plans outline arrangements and structures for disaster management or the hazard, and amongst other things, identify the need for coordination of public communications.

This protocol adds to such plans by outlining specific arrangements necessary when advice to the community needs to be based on technical assessments from hazard-specific primary agencies and other complementary stakeholders across federal, state and local governments. Such specific arrangements are shown in aginexes.

GENERAL DECISION AKING -**GUIDING** PRINCIPLES

- Protection of public safety is paramount throughout this Protocol; Impact on the community is a legitimate consideration of any risk assessment; Agreed regular and consistent communications within government and to the public, in relation to the impact, are essential;
- Decision making chains, regarding the communications strategy and disaster management should remain flexible.

PROCESS OF COMMUNICATION

There are three stages the process of communication:

- Monitoring and Assessment
- Briefing and Activation
- Public communications

Monitoring and Assessment

Communications with the public are based on a continuous process of technical assessment. The process is dynamic and evolves according to the event, but will normally contain the following steps:

All relevant agencies routinely monitor weather events via established systems and procedures.

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- BoM provides weather forecasts and warnings (e.g. Tropical Cyclone, Severe Weather, Severe Thunderstorm, Flood).
- In the instance of a potential natural hazard event, BoM, the hazard-specific primary agency and local governments, individually and together, will:
 - model the potential event; 0
 - assess the potential consequences; 0
 - agree on the situation; 0
 - continuously re-assess the situation; and 0
 - provide a Technical Situation Report (TSR annex A) in order to inform the public communications process.

If, during this continuous process, it becomes apparent that the situation is likely to result in significant public safety issues, the hazard-specific primary agency will commence the public communications process and engage with the disaster management arrangements in significant public safety issues, the magnet of the disaster public communications process and engage with the disaster

Briefing and Activation

Once the TSR has been issued, consideration will be given to the activation of the disaster management arrangements, if not already act ŕed.

- The hazard-specific primary agency will alert:
 - local governments;
 - the Director-General (DG) of the nmunity Safety (DCS); and 0 artment of
 - other appropriate DGs. o.
- <u>çons</u>ider acti Local governments will Disaster Management Groups (LDMGs);
- DG DCS will:

antiment of Premier and Cabinet (DPC) – the Chair of the inform the DG dd he Depa

- 0
- lice, Corrective Services and Emergency Services. o
- informithe relevant District Disaster Coordinators (DDCs). The S and LDMGs
- Service (QPS) will consider initiating disaster management The Queens land Police actions as provided for under the Disaster Management Act 2003.
- If warranted by the ale of the event, respective DGs will inform Ministers, and DG DPC will inform the Premier.
- In the case of an extreme event, the Crisis Communications Network, chaired by DPC, may be activated at the direction of the SDMG Chair to coordinate public messaging.

Public Communications

At levels below the activation of the Crisis Communications Network, the hazard-specific primary agency will arrange appropriate media-specific discussions with public communications officials from relevant agencies.

These discussions will ensure that:

agencies share technical information;

- conflicting information is not released to the public at any time;
- the information released to the public by all agencies is consistent; and
- agencies exchange public releases.

Harmonised public communications messages will be released by:

- Bureau of Meteorology concentrating on Warnings, together with factual information on observed and forecast weather conditions, disseminated to the BoM website, agencies and the media.
- The hazard specific primary agency concentrating on the technical aspects of the hazard and duration of effects.
- Local Governments /Local Disaster Management Groups concentrating on the effects of the hazard and safety issues for their local communities and residents.

If necessary these will be augmented by:

- Queensland Police Service concentrating on specific community safety messaging during operations;
- Department of Community Safety concentrating of general safety matters;
- Department of Premier and Cabinet (extreme events only) concentrating on consistent messages to the media and agencies concerned.

Event-specific information will be released to the public as frequently as required by the severity and scope of the event. Timings of mean releases will be dependent on the event, and may range from longer and a to once an hour state.

Questions from the Publi

All questions from the public should be initially directed to the relevant local government.

Any hazard specific questions should be directed to the hazard-specific primary agency.

Any queries about disaster management should be addressed by the relevant local and district disaster management groups.

Protocol Maintenance

This protocol will be reviewed annually by agencies involved and exercised, during the years when operational use does not occur, under DDMG arrangements.

The protocol should provide for a review after each event, of what worked and what could be improved, for management of future events, to be led by DCS.

Annex A – Technical Situation Report Template Annex B – Specific arrangements for the release of floodwater from Wivenhoe and Somerset Flood Mitigation Dams

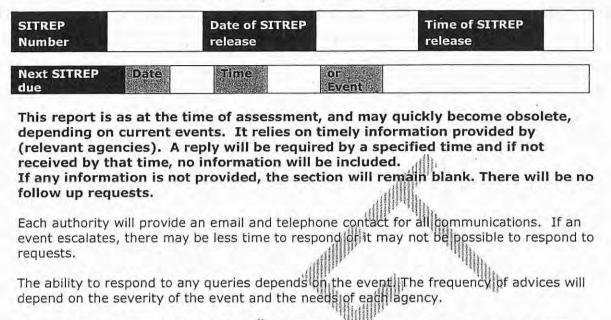
Appendix 1 – Flowchart

Appendix 2 – Roles and Responsibilities

Appendix 3 - Flood Release Operations and Impact Report

Annex A

TECHNICAL SITUATION REPORT (OUTLINE)



The primary technical agency will also request a situation assessment from each agency as per details outlined in this document. Each agency will then email the requested information, if possible, or an advice that it has not changed. If it is not received within the specified timeframe, it is assumed it is not being provided.

Part A – Hazard-specific Primary Agency assessment

(to include information on the current and/or predicted impacts, with assessment as governed under their legislation // operational procedures)

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issues raised by (earchiggeneres) in

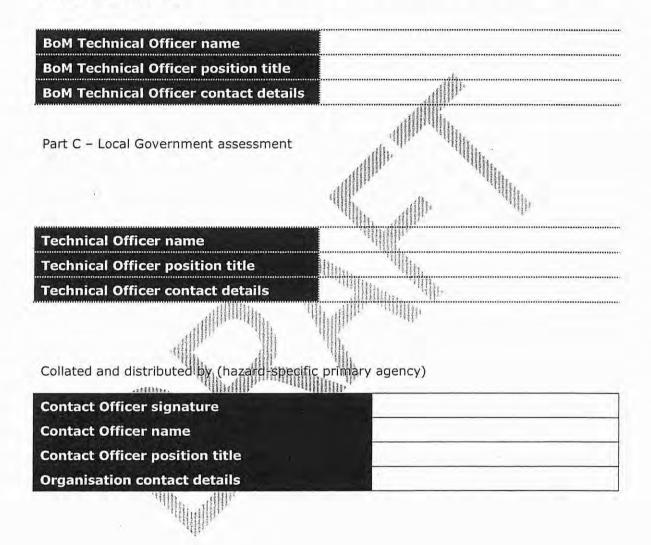
Actions taken were

Technical Officer name Technical Officer position title Technical Officer contact details

Part B - BoM assessment

(Consisting of references to latest event – specific Warning, other relevant BoM forecasts and warnings and other updates/comments if needed)

BoM is to provide either a copy of, or links to, their current information and other updates or comments if needed. This will be their current set of warnings and may be updated or changed at any time.



Annex B

Specific arrangements for the release of floodwater from Wivenhoe and Somerset Flood Mitigation Dams

General

Wivenhoe Dam controls approximately half of the Brisbane River catchment above Brisbane City. Other factors such as storm surges, tides, creek flooding, flooding from Brisbane River below Wivenhoe Dam, including Lockyer Creek and the Bremer River, will influence inundation levels in Brisbane.

The operational strategy for water release from Wivenhoe and Somerset Dams is governed by the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam, henceforth referred to as the Flood Mitigation Manual.

The Flood Mitigation Manual is approved and gazetted by the Department of Environment and Resource Management (DERM), in accordance with the provisions of the *Water Supply* (Safety and Reliability) Act 2008.

The Flood Mitigation Manual was developed to ensure that operational decisions at Wivenhoe and Somerset Dams are based on sound engineering principles; which ensure the structural safety of the dam, while minimising coversure am impacts.

Technical Assessment

The floodwater release strategy is a balance between releasing the water quickly enough so that the flood storage capacity is available if another major rain event occurs, versus minimising downstream flooding impacts (muman safety and property damage) from the releases.

A fundamental principle is that all flood water should be released from the dams within seven days of the flood event peaking millivenhoe or Somerset Dam. This ensures the dams can cope with closely spaced major rain events.

Communications with the public on floodwater releases are based on a continuous process of technical assessment. The process is dynamic and evolves according to the event, but will normally contain the following steps:

- Routine monitoring of weather events and dam levels by relevant agencies via established systems and procedures;
- The Bureau of Meteorology (BoM) provides weather forecasts and warnings (e.g. Tropical Cyclone, Severe Weather, Severe Thunderstorm, Flood). In the event of heavy rain and runoff in the Wivenhoe and/or Somerset Dam catchments, BoM and the Queensland Bulk Water Supply Authority (Seqwater) discuss modelled inflows to Wivenhoe and/or Somerset Dam, and downstream flood levels.
- Seqwater discusses and models implications of the inflows on the necessary floodwater release from Wivenhoe Dam and/or Somerset Dam.
- Seqwater calculates the releases according to dam levels and predicted weather events in accordance with the Flood Mitigation Manual. Seqwater shares predicted floodwater releases with BoM and with the Councils.

- BoM undertakes modelling of the Brisbane River catchment and its river systems using Seqwater advice of actual and projected Wivenhoe Dam and/or Somerset Dam releases when these are, or are expected, to occur.
- BoM participates in technical discussions with Seqwater, Brisbane City Council, Ipswich City Council and Somerset Regional Council as necessary, to share modelling results. The discussions aim to establish an agreement on what to tell the public about predicted flood levels and timings.
- Councils identify flood inundation areas and assess impacts for their communities and regularly share this information with all relevant parties.
- Following a decision to release floodwater, or a significant change in the severity and scope of the event, Seqwater coordinates the completion of the *Flood Release Operations and Impact Report* (FROIR – Appendix 3) and provides the Report to the SEQ Water Grid Manager according to their Emergency Response Plan, in order to inform the public communications process.

If, during this continuous process, it becomes apparent to either Boy, local governments or Sequater that the situation is likely to result in significant public safety issues, the SEQ Water Grid Manager, based on the Report will commence the public pommunications process and engage with the disaster management arrangements as appropriate.

Activation of Disaster Management Alrangements

Consideration will be given to the activation of the Disaster Management arrangements, if not already activated.

SEQ Water Grid Manager will alert the Director-General (DG) of the Department of Community Safety (DCS).

DG DERM will inform the Minister for Natural Resources, Mines and Energy.

Other activations will take place according to the main protocol.

Public Communication Issues

SEQ Water Grid Communications Unit will coordinate the input and liaise with the following or their representatives overigubic safety messages:

- BoM;
- Seqwater;
- Councils' Media Directors.
- QPS Media Director; and
- DCS Media Director.

The BoM, Seqwater and Local Governments are to maintain continual discussions, to ensure that conflicting information is not released to the public at any time. Where differences arise, officers of the agencies concerned will liaise and consult to ensure that the information released to the public by all agencies is consistent. Agencies must exchange public releases.

Harmonised public communications messages will be released according to the main protocol.

SEQ Water Grid Manager will act as the hazard-specific primary agency and will concentrate on the technical aspects of release timings and duration of effects. Seqwater operational staff are to ensure that technical information is communicated to the SEQ Water Grid Emergency Response Team (if activated) and the SEQ Water Grid Communications Unit;

Questions from the Public

Any questions relating to the release of water should be directed to the SEQ Water Grid Manager Communications Unit.

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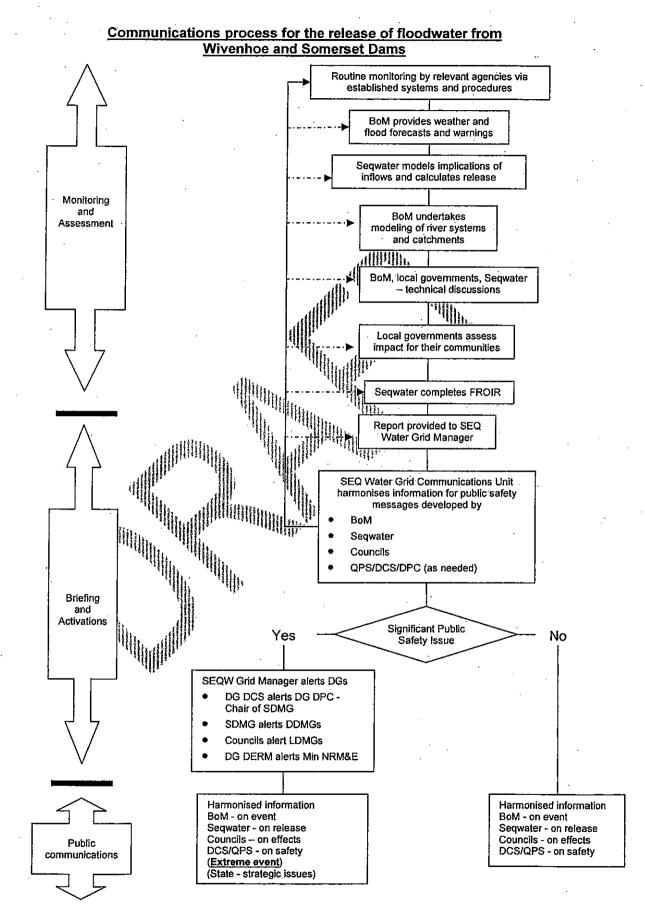
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Appendix 1



Appendix 2

ROLES AND RESPONSIBILITIES

<u>The Bureau of Meteorology (BoM)</u> is the agency responsible for issuing flood warnings for the Brisbane River and its major tributaries. These, when required, include rainfall forecasts for the Brisbane catchment and predicted river heights for Brisbane City, Ipswich, Jindalee and Moggill according to established procedures.

River height predictions are agreed in consultation with South East Queensland Water (Seqwater), Brisbane City Council (BCC), Ipswich City Council (ICC) and Somerset Regional Council (SRC), as required.

• <u>Queensland Bulk Water Supply Authority (Seqwater)</u> operates Wivenhoe and Somerset Dams in accordance with the Flood Mitigation Manual. It provides dam outflow information to BoM, to allow the development of Flood Warnings and to local authorities, to assist them in quantifying likely impacts within their areas.

It informs BoM and other agencies on the status of dams, and actual and projected releases from Wivenhoe Dam.

It consults BoM regarding inflows to Wivenhoe Dam and expected flood heights along the Brisbane River downstream of Wivenhoe Dam and

Seqwater initiates proposed changes to the Flood Mitigation Manual, undertaking consultation with Councils and other staken olders.

Seqwater coordinates the production of the from the from

- Brisbane City Council (BCC), Ipswich City Council (ICC) and Somerset Regional Council (SRC) distribute(consistent, detailed local flood level information, both to their respective operational units, their senior management and their broader communities. This should include the interpretation of BoM flood warnings and river height forecasts into expected lateas and depths of inundation. Councils are responsible for activating their respective local Disaster Management Groups (LDMGs), which then undertake the disaster management responsibility for response in the community.
- <u>DERM</u> consults with the stakeholders prior to the approval of any updates to the Flood Mitigation Manual. DERMigiso approves any necessary variations to the strategies in the manual integrited during the course of a flood event.
- <u>Queensland Policeliservice (QPS)</u> assumes a legislative role, as per the Disaster Management system, to provide disaster management at a district level during an event, including provision of necessary community advice for public safety.
- <u>Emergency Management Queensland (EMQ)</u> provides support and general community safety advice on flooding issues, during non-operational times.
- <u>SEQ Water Grid Communications Unit</u> coordinates the general harmonisation, but not specific detail of public messaging with BoM, SEQ Water Grid, BCC and DCS, as required. It does this by ensuring that each agency understands the extent of the release and that there is a general consensus as to the level of potential impacts.

Appendix 3

FLOOD RELEASE OPERATIONS AND IMPACT REPORT

OPREP	Date of OPREP	Time of OPREP
Number	release	release
Number	Telease	Telease

Next OPREP due	Date	Time	or Event	

This report is as at the time of assessment, and may be out of date quickly, depending on current events. It relies on timely information provided by Seqwater, BoM and Councils. A reply will be required by a specified time and if not received by that time no information will be included. If any information is not provided, the section will remain blank. There will be no follow up requests.

Each Authority will provide an email and telephone contact for all communications. If an event escalates, there may be less time to respond or it may not be possible to respond to requests.

The initial step in the process is for Seqwater to email advices on releases to the organisations email address provided. Once a flood event is initiated, at any time a Council or agency can contact Seqwater to discuss if they have a serious concern regarding the information on releases provided, this would normally be by phone and followed by email. However the ability to respond to any queries depends on the event. The frequency of advices will depend on the severity of the event and the needs of each agency.

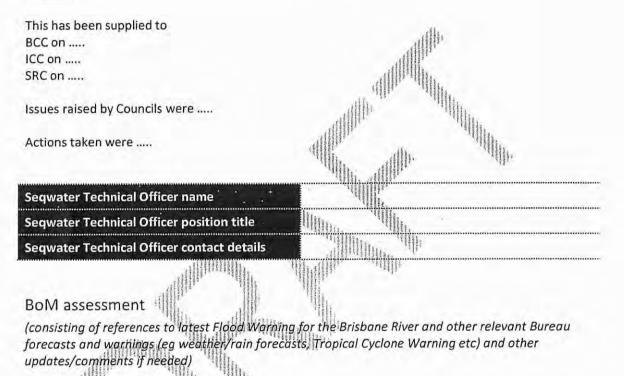
Sequater will also request at that time, a situation Assessment from each agency as per details outlined in this document. Each agency will then email in return the requested information if possible or advice that it has not changed. If it is not received in the time specified, it is assumed it is not being provided.

Seqwater status of inflows and dam operations

(to include information on the current and/or predicted levels of Somerset and Wivenhoe Dams and the probable or planned release strategy with assessment as governed under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam)

This is Sequaters status report on the dam levels, probable inflows and planned releases.

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BoM is to provide either a copy of, or links to, their current information and other updates or comments if needed. This will be their current set of warnings and may be updated or changed at any time.

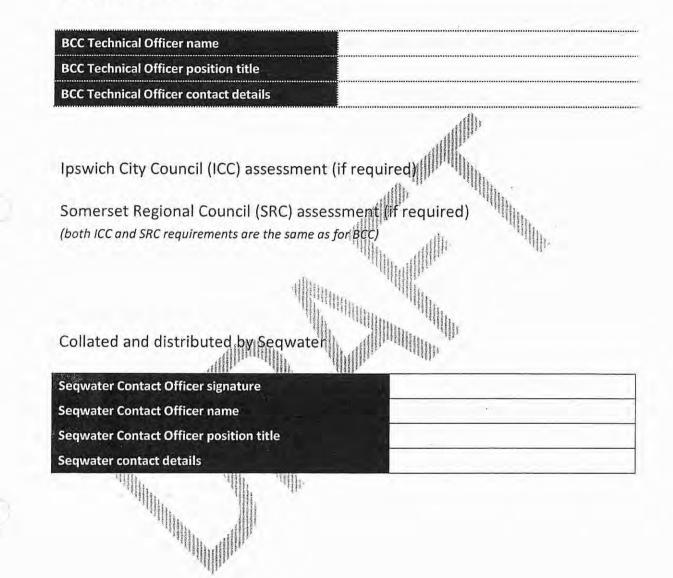
BoM Technical Officer name BoM Technical Officer position title

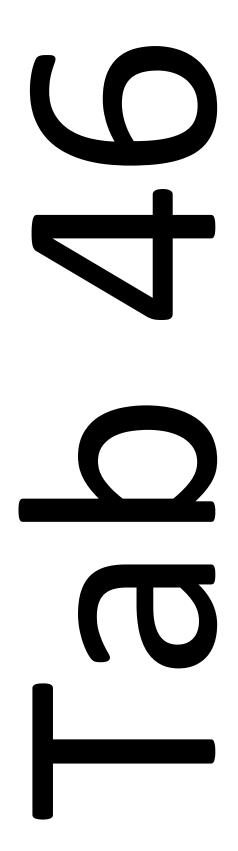
BoM Technical Officer contact details

Brisbane City Council (BCC) assessment

(to include predicted local inundation areas and depths of inundation based on the information)

This is an assessment as above provided by BCC. A request for this information will be sent to the email address provided by BCC.





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Barry Dennien)				· · · · ·	فيوقنا الكرون
From: Sent: To: Cc: Subject:	Dan Spiller Bradley John; I	October 2010 6:15 PM Barry Dennien; Lance er to note - cabinet in	McCallum		· · · · · · · · · · · · · · · · · · ·	
	and a brief outling supply levels to im					
Tim Watts		· · · ·				
Phone	Minister for Natura	l Resources, Mine	es and Ener	gy and Mini	ster for Trade	
Mobil Fax:				-		·
From: Dan Spil Sent: Thursday To: Tim Watts	, 21 October 2010 6			• •		
	hn; Barry Dennien; l esal matter to note		fidence	•		
Γim,						•
-	u want it to provide	e à few points on) dam level	s and operat	tions also?	
-	u want it to provide	e a few points on) dam level	s and operat	tions also?	
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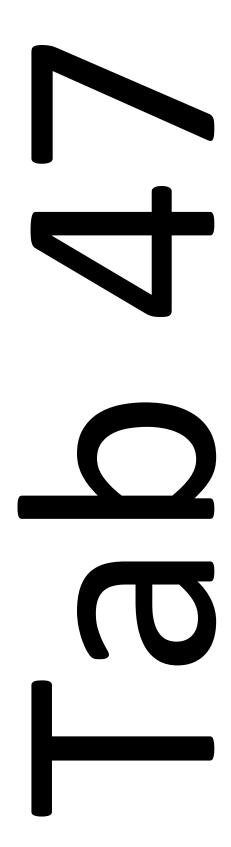
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Barry Dennien

From:Dan SpillerSent:Friday, 22 October 2010 7:50 AMTo:Bradley JohnCc:Barry Dennien; Reilly BobSubject:Matter to noteAttachments:Matter to note_Desalination and dam levels v2.docx

John,

Proposed matter to note attached. It has gone over one page.

Bob has contributed to the dam level and protocol notes.

Please call me if you need any clarification. We are working on the releases and letters (and supporting detail with WaterSecure).

Daniel Spiller Director, Operations SEQ Water Grid Manager Phone Email:

Visit: Level 15, 53 Albert Street Brisbane Post: PO Box 16205, City East QLD 4002 ABN: 14783 317 630

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MATTERS FOR CABINET TO NOTE

å	Department	Department of Environment and Resource Management	ource Management		
and	Responsible Minister	Minister for Natural Resources, Mines	Mines and Energy and Minister for Trade	de	
Ď	Description of Matter		Head of Power (if applicable)	Public Presentation	Timing
-	Operation of Tugun desalination facility	nation facility			
	With this security, the desalination facility will imm transition to 'hot standby' mode. It will typically operate at about 3% of capacity, sic costs and energy consumption. However, it will be and operated such that it is available to produce ver notice, as a response to water quality incidents of assets are unavailable. The operating mode will be reviewed after two ye purchasing new membranes. Savings in 2010/11 are estimated at \$5 million co continued operation at one-third of capacity, incre million in 2011/12. Savings will be incorporated in the bulk water price path, contributing towards lov increases than have previously been announced. The plant is operated under contract by Veolia, w undertaken by separate contractors. Veolia staff required to undertake the maintenance also, avoi	With this security, the desalination facility will immediately transition to 'hot standby' mode. It will typically operate at about 3% of capacity, saving operating costs and energy consumption. However, it will be maintained and operated such that it is available to produce water at short notice, as a response to water quality incidents or when other assets are unavailable. The operating mode will be reviewed after two years, prior to purchasing new membranes. Savings in 2010/11 are estimated at \$5 million compared to continued operation at one-third of capacity, increasing to \$10 million in 2011/12. Savings will be incorporated into the review of the bulk water price path, contributing towards lower price increases than have previously been announced. The plant is operated under contract by Veolia, with maintenance undertaken by separate contractors. Veolia staff will now be	Water Grid Manager's Operating Strategy and Grid Instructions. Queensland Water Commission to urgently amend its System Operating Plan to enable these instructions to be issued.	 this initiative as part of a package of measures being taken in view of summer weather forecasts. Option to also announce that options to reduce bulk water costs are being investigated, and the review of the bulk water price path brought forward in order to pass on some of these savings to consumers. Future price increases will be less than under the current price path. 	consideration and 25 October 2010 Implementation within a week
•	contractors. Over time, Veolia staff may also be leader advice will be provided to responsible November 2010 regarding the Western Corridor Scheme and other opportunities to reduce costs.	contractors. Over time, Veolia staff may also be reduced. Separate advice will be provided to responsible Ministers in November 2010 regarding the Western Corridor Recycled Water Scheme and other opportunities to reduce costs.			
N	Review of dam operating levels	evels			
•	1000	In view of the summer weather outlook, the Minister will write to the Water Grid Manager requesting that it consider options to pre-emptively reduce storage volumes in order to help manage low-level downstream flooding impacts.	NA	 Part of same media release announcing measures being taken in view of summer weather forecasts. 	 Announcement as above. Technical review to
•	At a minimum, it is expec Leslie Harrison Dams wil order to minimise the free	At a minimum, it is expected that Wivenhoe, North Pine and Leslie Harrison Dams will be reduced to about 95% of capacity in order to minimise the frequency of major gate releases. In turn,			commence immediately.

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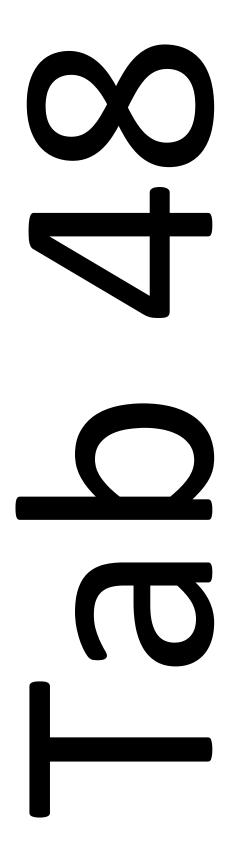
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this will reduce the frequency of flooding crossings near the dam, which isolates some residents and inconveniences others. Operating arrangements may also be considered to marginally reduce downstream risks in some circumstances. The release will have little or no impact on water security. It is likely that dams will refill over the coming wet season. If not, the probability of dams falling to 40% of capacity over the next 10 years will increase from 2:1 to 2.6%. The Dam Safety Regulator (DERM) will also write to all large water supply dam owners, requesting that they ensure that their Emergency Action Plans are current. These plans are developed with Local governments so as to assist them to manage flooding impacts downstream from the dam Protocol is being developed between relevant Queensland Government agencies, the Bureau of Meteorology, and the Brisbane, Somerst and Ipswich Councils to ensure the provision of robust and consistent communications concerning
--

Director-General Department of Environment and Resource Management Date:

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Stephen Robertson Minister for Natural Resources, Mines and Energy and Minister for Trade Date:



Barry Dennien

⁼ rom:	Bradley John [John.Bradley
Sent:	Friday, 22 October 2010 8:06 AM
Го:	Dan Spiller; Tim Watts; Reilly Bob; Barry Dennien
Subject:	FW: Matter to note
Attachments:	Matter to note_Desalination and dam levels v2.docx

This looks excellent to me - tim is it what you think Minister is expecting?

John Bradley Director-General Department of Environment and Resource Management Telept Email: www.derm.gld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 C Box 2454, Brisbane Q 4001

From: Dan Spiller Sent: Friday, 22 October 2010 7:50 AM To: Bradley John Cc: Dennien Barry @ SEQWGM; Reilly Bob Subject: Matter to note

John,

Proposed matter to note attached. It has gone over one page.

Bob has contributed to the dam level and protocol notes.

Please call me if you need any clarification. We are working on the releases and letters (and supporting detail with WaterSecure).

Dan

niel Spiller
Director, Operations
SEQ Water Grid Manager
Phone

Email:

Visit: Level 15, 53 Albert Street Brisbane Post: PO Box 16205, City East QLD 4002 ABN: 14783 317 630

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3 sheets of A4 paper = 1 litre of water

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MATTERS FOR CABINET TO NOTE

Responsible Minister	Minister for Natural Resources, Mines	Mines and Energy and Minister for Trade	ge	
Description of Matter		Head of Power (If applicable)	Public Presentation	Timing
1. Operation of Tugun desalination facility	nation facility			
	Water sumby for South East Oueensland is now secure	Implemented through the	Media release announcing	Cahinet
-	Mith this security the desalination facility will immediately	Water Grid Manager's	this initiative as hart of a	consideration
transition to 'hot standhy' mode	annauon taoiny win innrealaiciy mode	Oberating Strategy and	nackade of measures beind	, and
It will typically operate at a	It will tvoically operate at about 3% of capacity. saving operating	Grid Instructions,	taken in view of summer	announcement
costs and energy consum	costs and energy consumption. However, it will be maintained	Queensland Water	weather forecasts.	25 October
and operated such that it	and operated such that it is available to produce water at short	Commission to urgently	Option to also announce that	2010
notice, as a response to v	notice, as a response to water quality incidents or when other	amend its System	options to reduce bulk water	Implementation
assets are unavailable.			cosis are pellig livestigated,	WILTIN A WEEK
The operating mode will t	The operating mode will be reviewed after two years, prior to	these instructions to be	and the review of the bulk	
purchasing new membranes.	nes.	issued.	water price path brought	
Savings in 2010/11 are et	Savings in 2010/11 are estimated at \$5 million compared to		forward in order to pass on	
continued operation at on	continued operation at one-third of capacity, increasing to \$10		some of these savings to	
million in 2011/12. Saving	million in 2011/12. Savings will be incorporated into the review of		consumers. Future price	
the bulk water price path,	the bulk water price path, contributing towards lower price		increases will be less than	
increases than have previously been announced.	viously been announced.		under the current price path.	
The plant is operated unc	The plant is operated under contract by Veolia, with maintenance			
undertaken by separate o	undertaken by separate contractors. Veolia staff will now be			
required to undertake the	required to undertake the maintenance also, avoiding the cost of			
contractors. Over time, V	contractors. Over time, Veolia staff may also be reduced.			
Separate advice will be p	Separate advice will be provided to responsible Ministers in			
November 2010 regardin	November 2010 regarding the Vvestern Corridor Recycled Vvater			
	tunities to reduce costs.	*		
2. Review of dam operating levels	levels			
In view of the summer we	In view of the summer weather outlook, the Minister will write to	NA	Part of same media release	Announcement
the Water Grid Manager	the Water Grid Manager requesting that it consider options to		announcing measures being	as above.
pre-emptively reduce sto	pre-emptively reduce storage volumes in order to help manage		taken in view of summer	Technical
low-level downstream flooding impacts.	oding impacts.		weather forecasts.	review to
At a minimum, it is expect	At a minimum, it is expected that Wivenhoe, North Pine and			commence
Leslie Harrison Dams wil	Leslie Harrison Dams will be reduced to about 95% of capacity in			immediately.
	erder to minimice the frequency of major acts releaced in turn			

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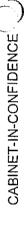
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• Cp • The pro-	Operating arrangements may also be considered to marginally reduce downstream risks in some circumstances. The release will have little or no impact on water security. It is likely that dams will refill over the coming wet season. If not, the			
• The like	iuce downstream risks in some circumstances. e release will have little or no impact on water security. It is ely that dams will refill over the coming wet season. If not, the			
• Like	e release will have little or no impact on water security. It is ely that dams will refill over the coming wet season. If not, the			
bro				
	probability of dams falling to 40% of capacity over the next 10			
yea	years will increase from 2.1 to 2.6%.			
• The	The Dam Safety Regulator (DERM) will also write to all large			
wat	water supply dam owners, requesting that they ensure that their			
ш ш	Emergency Action Plans are current. These plans are developed			
witt	with Local governments so as to assist them to manage flooding			
imr	impacts downstream from the dam			
3. Prot	Protocol for Wivenhoe Dam floodwater release communications			
• A p	A protocol is being developed between relevant Queensland	NA	 The intention to develop the 	Already
<u>ල</u>	Government agencies, the Bureau of Meteorology, and the		protocol has already been	announced
Bri	Brisbane, Somerset and Ipswich Councils to ensure the		announced by the Premier	
pro	provision of robust and consistent communications concerning			
rele	releases.			

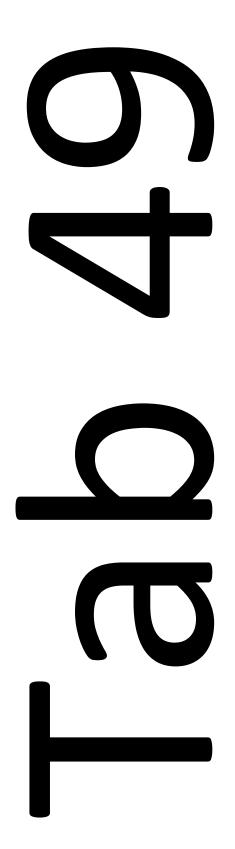
Director-General Department of Environment and Resource Management Date:

Stephen Robertson Minister for Natural Resources, Mines and Energy and Minister for Trade Date:

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	Barry Dennien	· 		·	
•	From: Sent: To: Subject: Attachments:	Dan Spiller Friday, 22 October 2010 8:41 AM Dan Spiller; Bradley John; Tim W RE: Matter to note Matter to note_Desalination and c	atts; Reilly Bob; Barry Dennie	n	
	Apologies – my version co	ntrol failed	· ·		
	Attached is the final version	on with note on the status of the pr	otocol.	:	
	Dan				
·(From: Dan Spiller Sent: Friday, 22 October 2 To: 'Bradley John'; Tim Wa Subject: RE: Matter to no	atts; Reilly Bob; Barry Dennien			<i>.</i>
	Updated version following	discussion with Tim.			
	Dan				
	From: Bradley John [mailt Sent: Friday, 22 October 2 To: Dan Spiller; Tim Watts Subject: FW: Matter to no	2010 8:06 AM ; Reilly Bob; Barry Dennien			
	This looks excellent to me	- tim is it what you think Minister is	expecting?		
(John Bradley Director-General Department of Environmer Teleph ail: w.derm.qld.gov.au	t and Resource Management			
	Department of Environmen 400 George Street, Brisbar GPO Box 2454, Brisbane (· .	·
	From: Dan Spiller Sent: Friday, 22 October 2 To: Bradley John Cc: Dennien Barry @ SEQV Subject: Matter to note			Auf 1992 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1	
	John,				·
	Proposed matter to note a	ttached. It has gone over one page			
	Bob has contributed to the	dam level and protocol notes.			

Please call me if you need any clarification. We are working on the releases and letters (and supporting detail with WaterSecure).

Dan

i,

Daniel Spiller						
Director, Operations		•				
SEQ Water Grid Manager						
Phone			· ·			
Email:						
Visit: Level 15, 53 Albert Street Brisbane	-	1. A.				
Post: PO Box 16205, City East QLD 4002						
ABN: 14783 317 630			:			
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and/or the Queensland Government.	· · · · · · · · · · · · · · · · · · ·					ing the Period
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and/or publication of this email is also prohibited, While all care has been taken, the SEQ Water Grid Manager infected by a computer virus or other contamination. Unless s SEQ Water Grid Manager and/or the Queensland Governmer	tated otherwise,					
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# MATTERS FOR CABINET TO NOTE

De	Department	Department of Environment and Resource Management	urce Management				
Re	Responsible Minister	Minister for Natural Resources, Mines	s, Mines and Energy and Minister for Trade	Trade	÷	-	
De	Description of Matter		Head of Power (if applicable)	, Bu	Public Presentation	Timing	
-	Review of dam operating levels	g levels					a to a first furth statistical strategy
•	In view of the summer weather outlook, the Water Grid Manager requesting that pre-emptively reduce storage volumes i low-level downstream flooding impacts.	In view of the summer weather outlook, the Minister will write to the Water Grid Manager requesting that it consider options to pre-emptively reduce storage volumes in order to help manage low-level downstream flooding impacts.	NA	•	Media release announcing this initiative as one of a the measures being taken in view of summer weather forecasts	Cabinet conside 25 Nove 2010.	Cabinet consideration 25 November 2010.
•	At a minimum, it is expt Leslie Harrison Dams w order to minimise the fr this will reduce the frequential the solution of the the solution of the the solution of the the solution of the solution soluti	At a minimum, it is expected that wivemoe, North Prite and Leslie Harrison Dams will be reduced to about 95% of capacity in order to minimise the frequency of major gate releases. In turn, this will reduce the frequency of flooding crossings near the dams, which isolates some residents and inconveniences others.				optic com imm	review of options to commence immediately.
•	Operating arrangements may also margin downstream risks in some circumstances.	Operating arrangements may also marginally reduce downstream risks in some circumstances.					
•	The release will have lit likely that dams will refil advice is that the proba	The release will have little or no impact on water security. It is likely that dams will refill over the coming wet season. If not, advice is that the probability of dams falling to 40% of capacity					
	over the next 10 years in	over the next 10 years will increase from 2.1 to 2.6%. The Dam Sefety Boundator (DEBM) will also write to all large					
	water supply dam owne Emergency Action Plan	while Datit Safety regulator (DEAM) will also write to an large water supply dam owners, requesting that they ensure that their Emergency Action Plans are current. These plans are developed		-			
	with Local governments so as to as impacts downstream from the dam	with Local governments so as to assist them to manage flooding impacts downstream from the dam					
N	Operation of Tugun desalination facility	alination facility					
• •	Water supply for South Within this context, rest	Water supply for South East Queensland is now secure. Within this context, responsible Ministers have requested advice	<ul> <li>Agreed operational changes will be</li> </ul>	•	Announcement as part of the review of the bulk water	• Adv	Advice due mid November
	regarding the optimal operation of the desal Western Corridor Recycled Water Scheme.		implemented through the Water Grid Manager's	he	price path, as one of a range of cost savings measures.	2010	-
•	Advice is expected to b	Advice is expected to be received in mid November 2010.	Operating Strategy and Grid Instructions	P	With the review, future price		
•	standby mode and mothballing.	For the desaintration facility, options being considered include standby mode and mothballing.			under the current price path.		
•	It is understood that the recommended. Under t	It is understood that the standby option is likely to be recommended. Under this option, the plant would typically					

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CABINET-IN-CONFIDENCE	be maintained water at short	r when other	e, it is	t least one site	vater treatment	sumed savings	ter price path,	ave previously	munications	Queenstand NA • The intention to develop the • Already	protocol has already been	announced by the Premier			ane City,	
CAB	operate at about 3% of capacity. However, it will be maintained and operated such that it is available to produce water at short	notice, as a response to water quality incidents or when other	assets are unavailable due to maintenance or rallure. For the Western Corridor Recycled Water Scheme, it is	understood that the advice will recommend that at least one site be mothballed.	Options to mothball or demolish small and aged water treatment plants are also being investigated.	These operational changes will reduce costs. Assumed savings	will be incorporated into the review of the bulk water price path,	contributing towards tower price increases than have previously	Protocol for Wivenhoe Dam floodwater release communications	A protocol is being developed between relevant Queensland	Government agencies, the Bureau of Meteorology, and the	Brisbane, Somerset and Ipswich Councils to ensure the	provision of robust and consistent communications concerning	releases.	A draft protocol has been distributed to the Brisbane City,	Somerset and Lockver Valtey Councils for review.

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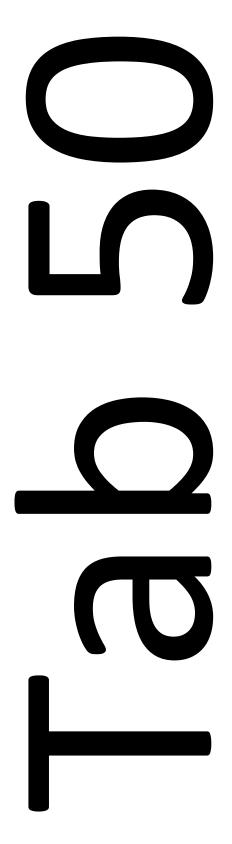
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Director-General Department of Environment and Resource Management Date:

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Stephen Robertson Minister for Natural Resources, Mines and Energy and Minister for Trade Date:



Barry Dennien	
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From: Sent: To: Subject: Reilly Bob Friday, 22 October 2010 11:49 AM Barry Dennien Flood Protocol-role of Grid Manager

Hi Barry, Peter

In the Public Relations section of the version of the protocol circulated yesterday, the Grid Manager is referred to as "... concentrating on the technical aspects of release timings and the duration of effects as lead technical agency on floodwater release..."

This is somewhat misleading as the lead agency for the technical aspects of the floodwater releases is clearly Seqwater. EMQ and I consider that the Grid Manager's role would be best described by substituting the word "communication" for "technical" in both spots in the sentence above.

Lase let me know if you have any concerns about this approach. Seqwater is seeking this Shange.

Regards

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Telept

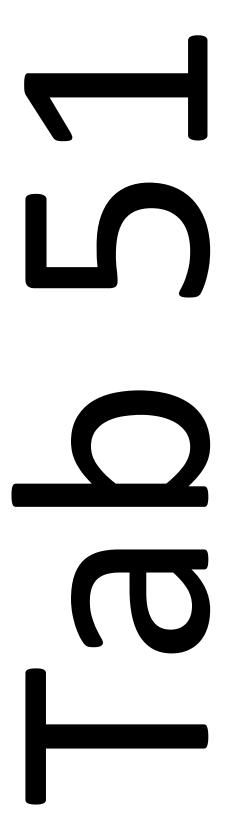
Email:

v.derm.gld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

GPO Box 2454, Brisbane Q 4001



# Barry Dennien

From: Sent: To: Subject: Reilly Bob Friday, 22 October 2010 11:59 AM Barry Dennien RE: Flood Protocol-role of Grid Manager

Hi Barry

Thanks

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Teleph Email: www.derm.gld.gov.au

Separtment of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

> From: Barry Dennien Sent: Friday, 22 October 2010 11:59 AM To: Reiliy Bob Cc: Lyons Michael @ SEQWGM; Denner Scott @ SEQWGM Subject: Re: Flood Protocol-role of Grid Manager

Bob

All ok by me

Regards Barry Dennien

On 22/10/2010, at 11:48 AM, "Reilly Bob"

wrote:

Hi Barry, Peter

In the Public Relations section of the version of the protocol circulated yesterday, the Grid Manager is referred to as "... concentrating on the technical aspects of release timings and the duration of effects as lead technical agency on floodwater release..."

This is somewhat misleading as the lead agency for the technical aspects of the floodwater releases is clearly Seqwater. EMQ and I consider that the Grid Manager's role would be best described by substituting the word "communication" for "technical" in both spots in the sentence above.

Please let me know if you have any concerns about this approach. Seqwater is seeking this change.

### Regards

Bob

**Bob Reilly** 

General Manager, Office of the Water Supply Regulator

Teleph

Email:

www.derm.qld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

GPO Box 2454, Brisbane Q 4001

Think B4U Print

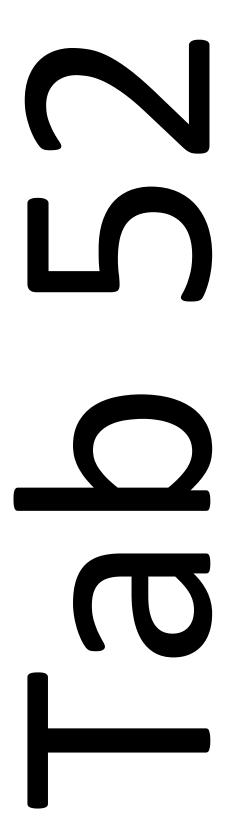
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere

3 sheets of A4 paper = 1 litre of water

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Barry Dennien		. •	:			,
From: Sent: To: Cc:	Dan Spiller Friday, 22 October 2010 3:32 PM stephenie.hogan Reilly Bob; Bradley John; tim.watt			Barry Denr	ien	
Subject: Attachments:	Letter WGMletter.docx; Dam level draft		DCX			

Steph,

Draft letter attached.

We have also drafted what a media release would look like, should there be any interest in an announcement (I understand Michael may have spoken to Geoff about it).

Apologies for the delay.

Daniel Spiller Director, Operations SEQ Water Grid Manager Phone Email:

Visit: Level 15, 53 Albert Street Brisbane Post: PO Box 16205, City East QLD 4002 ABN: 14783 317 630

Please consider the environment before printing this email. It takes 10 litres of water to make one sheet of A4 paper.

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Mr Gary Humphrys Chair SEQ Water Grid Manager PO Box 16205 CITY EAST QLD 4002

#### Dear Mr Humphrys

I write in relation to seeking advice regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the coming summer.

I understand that the key Water Grid storages are at 100 per cent of storage capacity going into the traditional wet season, with forecasts of higher than median rainfall and the prospect of multiple flood events.

i am also advised that our water supply is more secure than ever before, due to storages being full, key Water Grid projects completed and ongoing water efficiency.

I seek your urgent advice about whether this water security provides an opportunity to reduce the volume stored in key dams as a means of reducing the severity, frequency and duration of flooding in downstream areas.

In doing so, I note that recent releases from Wivenhoe Dam have resulted in significant inconvenience and isolation for residents in some downstream areas. With the catchments saturated, I understand that even quite minor rainfall events will result in further water releases and further inconvenience for these residents.

By end November 2010, I would appreciate your advice as to the available options and the likely benefits. At a minimum, you should review the operation of Wivenhoe, North Pine and Leslie Harrison dams. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

I also seek your confirmation that these options would not significantly impact upon our current water security, measured as the probability of needing to reintroduce Medium Level Restrictions over the next five to ten years.

I emphasise that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season. I expect that your advice will include a clear date or trigger beyond which dams will be allowed to fill to their full supply level.

Thank you in advance for your assistance.

Should you have any further enquiries, please feel welcome to contact Mr Jon Bradley, Director General, Department of Environment and Resource Management on

Yours sincerely

#### Stephen Robertson MP

#### **DRAFT ONLY**

#### SEQ Water Grid prepares for summer big wet

The Minister for Natural Resources Stephen Robertson MP today announced measures to configure the Grid for improved flood mitigation in preparation for a forecast bigger than usual wet season.

Our water supply is now more secure than ever before. The Grid 12 are at 100 per cent of storage capacity, going into the traditional wet season with forecasts of higher than median rainfall and the prospect of multiple flood events.

With this security, we have the opportunity to make sure we are prepared as possible for the prospect of minor and major flooding.

Recent heavy rains which saw a flood water volume the size of Sydney Harbour – or the equivalent to 122,000 Olympic sized swimming pools – added to and released safely from Wivenhoe Dam in less than 7 days.

Minister Robertson said that while Wivenhoe is designed to handle even more water, it was prudent to consider options to increase the dam's storage compartment for the coming season. This would be achieved by temporarily decreasing its drinking water storage capacity.

"Wivenhoe Dam no longer stands alone. Because the dams are full and we've hooked them up across the Grid, we can actually rely on Wivenhoe Dam less for drinking water and more for flood mitigation which gives us a powerful advantage."

"Let's remember, Wivenhoe Dam was built to hold back flood water from Brisbane and Ipswich. This temporary move may give it even more capacity to help keep us dry, just in case we really get a huge season." Mr Robertson said.

At the very least, we expect it to reduce the frequency and duration of major dam releases, which flood crossings near the dam – isolating some residents and significantly inconveniencing others.

The operation of North Pine and Leslie Harrison dams will also be reviewed. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

We have analysed water security for South East Queensland over five years, taking into account differing levels of flows and demand. Our analysis indicates that lowering the combined storage level of Grid 12 storages to 95 per cent of capacity presents a low risk of adversely effecting regional or sub-regional water security.

Sequater and the Water Grid Manager are reviewing the operations of the dams and will provide detailed advice on the changes to operations for this summer.

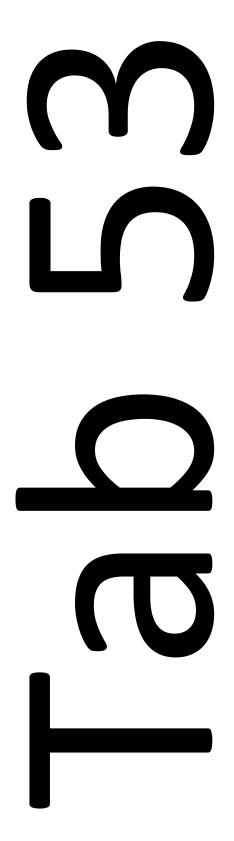
Mr Robertson emphasised that this is only a temporary measure, reflecting that dams are full.

Mr Robertson also announced that the \$395 million upgrade of Hinze Dam remains on track to be completed by the end of year, providing much improved flood protection for parts of the Gold Coast.

"While we have all been focussed on water security, the improved flood management capacity is every bit as important."

"South East Queensland has a water grid for all seasons not just for drought. Being able to move water means an unprecedented level of management to direct and control our water supplies. These prudent decisions simply reflect the Grid's world class ability to respond to a changing environment in the interest of all South east Queenslanders."

Ends



## Gina O'Driscoll

From: Sent: To: Subject: Reilly Bob [Bob Reilly Sunday, 24 October 2010 5:47 AM Barry Dennien; Dan Spiller Fw: Proposed temporary reduction in full supply level of Wivenhoe dam

----- Original Message -----From: Kathy Reilly To: Reilly Bob Sent: Sun Oct 24 05:38:57 2010 Subject: Proposed temporary reduction in full supply level of Wivenhoe dam

Hi Barry, Dan

may have already thought of this, in which I case I apologise for raising it.

If we temporarily drop the full supply level e.g to 95%, for the next few months, then Toowoomba will argue that they should be able to access that water for nothing if they want it.

Separately, and perhaps more importantly, their position on this matter may also influence how fast we can drop the level to 95% i.e depending upon the release strategy, we could get it to 95% a lot faster than if we were solely relying on Toowoomba to drop the level by pumping it up to Cressbrook.

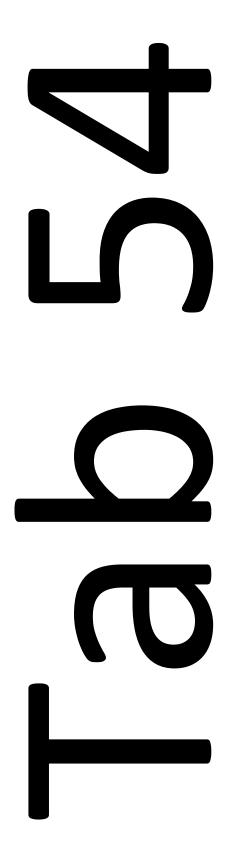
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Regards

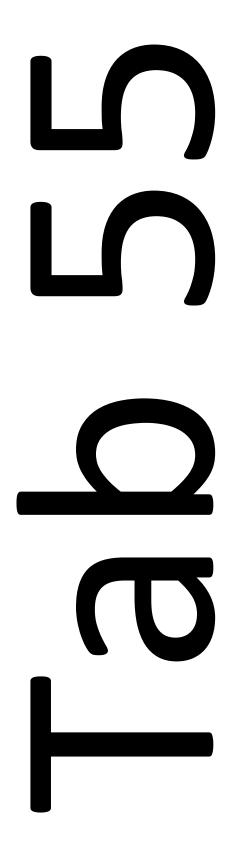
Bob

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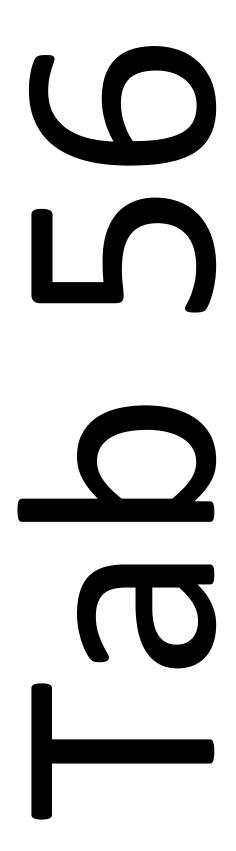
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Barry Dennien				•	
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From: Sent:	Reilly Bob [Bob.Reill Sunday, 24 October	y 2010 10:46 AM			
To:	Robson Chris	2010 10.407	•	. <b></b>	• ·
Cc:	Barry Dennien; Dan			· ·	,
Subject:		cation to Wivenhoe/So keep Somerset/Wive			
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Original Messa	ge				
From: Kathy Reilly			· · ·		
To: Reilly Bob Sent: Sun Oct 24 10:	25.20 2010	· .		•	
Subject: Possibile m low-level releases to	odification to Wi				
Chris					
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currently the protoco 100% of full supply Mitigation manual).					
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From: Sent: To:	Robson Chris Sunday, 24 Octobe Reilly Bob	er 2010 8:58 PM		
Cc: Subject:	Barry Dennien; Da Re: Possibile mod	n Spiller ification to Wivenhoe/Somerset flood pr to keep Somerset/Wivenhoe dam levels		• .
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From: Reilly Bo	b ·			
To: Robson Chri Cc: Dennien Bar	s ry @ SEQWGM; 'dan.spi	.ller <dan.spill< td=""><td>er</td><td></td></dan.spill<>	er	
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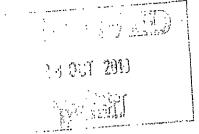




**Queensland** Government

Ref CTS 19311/10 2 5 OCT 2010

Mr Gary Humphrys Chair SEQ Water Grid Manager PO Box 16205 CITY EAST QLD 4002



Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade

Dear Mr Humphrys

I write in relation to seeking advice regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the coming summer.

I understand that the key Water Grid storages are at 100 per cent of storage capacity going into the traditional wet season, with forecasts of higher than median rainfall and the prospect of multiple flood events.

I am also advised that our water supply is more secure than ever before, due to storages being full, key Water Grid projects completed and ongoing water efficiency.

I seek your urgent advice about whether this water security provides an opportunity to reduce the volume stored in key dams as a means of reducing the severity, frequency and duration of flooding in downstream areas.

In doing so, I note that recent releases from Wivenhoe Dam have resulted in significant inconvenience and isolation for residents in some downstream areas. With the catchments saturated, I understand that even quite minor rainfall events will result in further water releases and further inconvenience for these residents.

By end November 2010, I would appreciate your advice as to the available options and the likely benefits. At a minimum, you should review the operation of Wivenhoe, North Pine and Leslie Harrison dams. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

I also seek your confirmation that these options would not significantly impact upon our current water security, measured as the probability of needing to reintroduce Medium Level Restrictions over the next five to ten years.

> Level 17 61 Mary Street Brisbane 4000 PO Box 15216 City East Queensland 4002 Australia Telephone +61 7 3225 1861 Facsimile +61 7 3225 1828 Email nrmet@ministerial.qld.gov.au ABN 65 959 415 158





# **Queensland** Government

Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade

I emphasise that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season. I expect that your advice will include a clear date or trigger beyond which dams will be allowed to fill to their full supply level.

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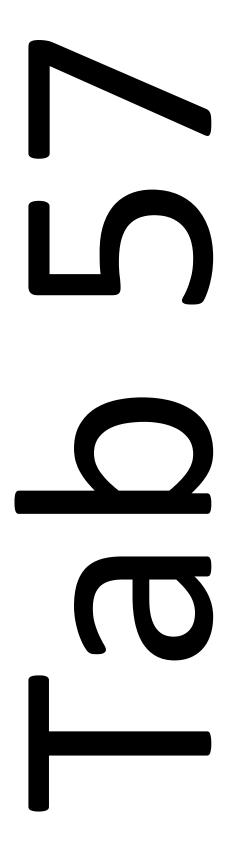
Thank you in advance for your assistance.

Should you have any further enquiries, please feel welcome to contact Mr John Bradley, Director General, Department of Environment and Resource Management on

Yours sincerely

STEPHEN ROBERTSON MP

Level 17 61 Mary Street Brisbane 4000 PO Box 15216 City East Queensland 4002 Australia Telephone +61 7 3225 1861 Facsimile +61 7 3225 1828 Email nrmet@ministerial.qld.gov.au ABN 65 959 415 158



	Barry Dennien
	From:Reilly Bob [Bob.ReillySent:Monday, 25 October 2010 8:45 AMTo:Barry DennienSubject:FW: Possible modification to Wivenhoe/Somerset flood protocol to cover the proposed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months
	FYI
	Bob Reilly General Manager, Office of the Water Supply Regulator Telephone: Email: www.derm.qld.gov.au
	Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001
Ċ	Generation of the second se
	Bob, we would be very happy if the dam levels were dropped to 95%.
	Mike
C	Original Message From: Bruce Grady Sent: Monday, 25 October 2010 08:28 To: Michael Shapland Subject: RE: Possible modification to Wivenhoe/Somerset flood protocol to cover the posed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months
	fine
	Regards
	Bruce Grady A/Chief Officer Emergency Management Queensland
	telep mobil fax:
	Original Message

From: Michael Shapland Sent: Monday, 25 October 2010 8:05 AM

7

To: Bruce Grady

Subject: FW: Possible modification to Wivenhoe/Somerset flood protocol to cover the proposed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months

This seems a sensible mitigation measure. Any penalty will be for water supplies - not our core concern. Any views?

Mike

-----Original Message-----From: Reilly Bob Sent: Monday, 25 October 2010 07:20 To: Brad Smith; Michael Shapland; Irina Stankovska Subject: FW: Possible modification to Wivenhoe/Somerset flood protocol to cover the proposed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months

Hi everyone

ill send you the briefing note that went up on late Friday on this matter, later this rning.

In essence, to avoid continual small releases, the Minister (Robertson) will be asking the Grid Manager if it is OK to drop the normal water storage level in SEQ dams to, say, 95% for the forthcoming wet season.

(The reason for asking the Grid Manager is that they are responsible for water supply security)

I will check today if the Minister signed the letter and also how the media around the overall strategy will be handled.

Assuming that it does proceed though, then I think we need to cover it in the Protocol--as does Chris Robson my DDG.

Any views/concerns?

Regards

Bob Reilly General Manager, Office of the Water Supply Regulator Telepho Email:

www.derm.qld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001 ----Original Message-----From: Robson Chris Sent: Sunday, 24 October 2010 8:58 PM To: Reilly Bob Cc: Dennien Barry @ SEQWGM; 'dan.spiller Subject: Re: Possibile modification to Wivenhoe/Somerset flood protocol to cover the proposed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months

Bob

I understand these releases will affect low level crossings in Somerset and Ipswich local govt areas and so to be consistent with the spirit of the protocol I suggest they be included Chris

---- Original Message ----From: Reilly Bob To: Robson Chris Cc: Dennien Barry @ SEQWGM; 'dan.spiller <dan.spiller Sent: Sun Oct 24 10:45:40 2010 Subject: Fw: Possibile modification to Wivenhoe/Somerset flood protocol to cover the proposed low-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few

----- Original Message -----From: Kathy Reilly To: Reilly Bob Sent: Sun Oct 24 10:25:30 2010

>ject: Possibile modification to Wivenhoe/Somerset flood protocol to cover the proposed __w-level releases to keep Somerset/Wivenhoe dam levels at 95% over the next few months

Hi Chris

months

Currently the protocol only covers those releases need to get the stroage levels down to 100% of full supply capacity. (Releases below this level are not covered by the Flood Mitigation manual).

So, should the protocol also cover the proposed reductions down to 95% (or whatever level is finally chosen)?

Personally, I think it should, as they are flood mitigation-related releases, but either way I will need a decision on this matter on Monday as it looks as if we will be negotiating with councils on Monday on the protocol.

Thanks

Bob

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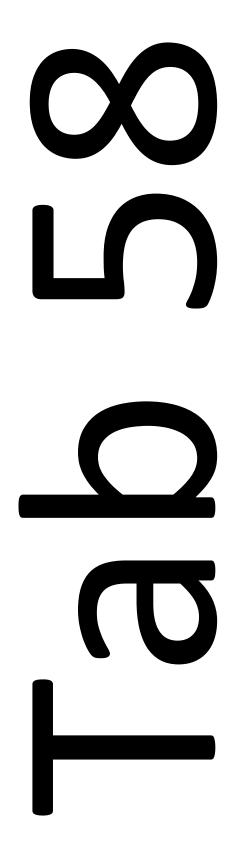
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# Barry Dennien

·	
From:	Reilly Bob [Bob.Reilly
Sent:	Monday, 25 October 2010 11:24 AM
То:	Michael Shapland; Irina Stankovska; Brad Smith; Barry Dennien
Cc:	Allen Peter; Hogan Stephenie; Dan Spiller
Subject:	Wivenhoe/Somerset protocol
Attachments:	CTS 19311_10.DOC; 19311_10 letter.DOC; CTS 19311_10 Letter to J Bradley.DOC;
• • •	CTS 19311_10 Att 3.DOC; CTS 19311_10 Media.DOC

Hi everyone

Attached is a copy of the briefing note and letter that I alluded to in my email earlier today.

The current situation (at 1120 hours on Monday) is:

- Barry Dennien advises that the Minister signed the letter to the Grid Manager on Friday. So, work will commence on the strategy.
- DERM, EMQ and DPC consider that the Protocol need to reflect the work on the additional flood mitigation strategy mentioned in the letter.
- DERM/EMQ will be negotiating with the Councils later this week on the Protocolpossibly on Tuesday/Wednesday—we would need to tell the Councils what is being proposed in terms of the additional work at that meeting.
- Barry has raised with the Minister (Robertson) office the issue of how best to handle this additional work from a media perspective

The dynamics of the situation are such that we may need to produce a "flood release strategy" to reduce the storages from 100 to 95% (say) of capacity at shorter notice than the 30 days stated in the letter. I suggest the Grid Manager keeps this in mind over the next few days.

DERM's preliminary view is that a release of 40 to 45 cubic metres per second from Wivenhoe, released through the cone valves, would be best (from a flood management perspective) as it does not adversely impact people downstream from Wivenhoe. (The first low level crossings are submerged at 55 cubic metres per second). I assume that such a discharge would also enable optimum production from the hydroelectricity plant (i.e. the "green energy" link) at Wivenhoe, although I suggest this is checked out. It would also maximise the amount of water that (because the releases would continue over a longer period of time), compared with higher volume releases.

Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Teleph Email: www.derm.gld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001 From: Duncan Jan Sent: Monday, 25 October 2010 7:53 AM To: Reilly Bob Subject: CTS 19311/10

Hí Bob

Briefing Note and attachments as requested.

Jan

# Jan Duncan Executive Assistant to Bob Reilly,

General Manager, Office of the Water Supply Regulator Teleph Email: www.derm.gld.gov.au

Department of Environment and Resource Management Level 3, 41 George Street ~ O Box 2454 _ sbane Q 4001

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3 sheets of A4 paper = 1 litre of water

## CTS No. 19311/10

Department of Environment and Resource Management MINISTERIAL BRIEFING NOTE

TO: Minister for Natural Resources, Mines and Energy and Minister for Trade

# SUBJECT: Managing Flood Impacts Downstream of Large Water Supply Dams

#### TIMEFRAME

 Approval of this brief is required by 29 October 2010 to enable prompt action to be taken on this matter.

# RECOMMENDATION

It is recommended that the Minister:

- **sign** the letter to the SEQ Grid Manager (Attachment 1) requesting him to consider options to pre-emptively reduce dam water levels to help manage low-level, downstream flood impacts. (A draft media release forms Attachment 2)
- sign the letter (Attachment 3) to Director-General, Department of Environment and Resource Management (DERM), requesting him to initiate action to remind the owners of large water supply dams about their obligations to provide advice to communities downstream of their dams about flood flows through them.
- note the draft letter (Attachment 4) from the dam safety regulator in DERM to dam owners regarding the previous points.

## BACKGROUND

Letter to the SEQ Grid Manager

The main SEQ water supply dams have reached their full capacity, for water supply purposes. As their catchments are saturated, even quite minor rainfall events will result in water releases. A large number of minor rainfall events are anticipated between now and the end of the 2011 wet season, in early April 2011.

As these water releases will usually co-incide with local flooding (due to the rain event generating the release) downstream of the dam. These low-level flood events inconvenience a range of people, particularly those who need to access their properties over low-level crossings that traverse these streams/rivers.

Accordingly, it is suggested you request the SEQ Grid Manager to investigate the option of making small releases from these water supply dams to reduce the number of incidents resulting in low-level flooding impacts. (Preliminary advice from the Grid Manager is that such a strategy will not adversely affect water supply security).

#### Letter to the Director-General

With the exception of Wivenhoe, North Pine and Somerset Dams that have special flood management arrangements, other large water supply dams, once full; bascially "pass through" the floodwaters that flow into them.

Author	Cleared by	Cleared by	Recommended:
Name: Bob Reilly	Name: Bob Reilly	Name:	Name: John Bradley
Position: GM(OWSR)	Position: GM(OWSR)	Position:	Director-General, DERM
Tel No:	Tel No:	Tel No:	Tel No:
Date: 22 October 2010	Name: Dean Ellwood Position: ADG(ENRR) Tel No:	Name: Position: Tel No:	Date:

Advisor			OK
Dated		•	
Approve Furthe	d No er info	ot Approv mation	ed Noted required
Minister			
Dated	1	1	

File Ref:

However, the local governments responsible for the communities downstream of the dams, can reasonably expect that dam owners will tell them about the volumes of floodwater flowing through their dams.

The dam safety regulator, DERM, requires the owners of large water supply dams to have, and keep current, Emergency Action Plans. Amongst other matters, these plans set out the notification protocols for local governments (and other emergency management agencies) in the event of significant floods (basically those that will impact on buildings).

DERM does not approve these plans, or review their content. Nor is it involved in the negotiations between dam owners and local government/emergency management organisations in the development of these plans.

## **CURRENT ISSUES**

## SEQ Grid Manager Letter

Given the water security situation, it is desirable to minimise the low-level flooding impacts typically associated with minor rainfall events, where practical.

#### Letter to the Director-General

Given the likelihood of above average floods during the 2011 wet season, it is important that the Emergency Action Plans are current.

#### **RESOURCE/IMPLEMENTATION IMPLICATIONS**

- The SEQ Grid manager will advise of any financial implications associated with the proposal contained in your letter to him.
- There were no resource issues for DERM.

## PROPOSED ACTION

 The two letters will give effect to the commitments being given to Cabinet on 25 October 2010, by yourself, on these matters.

## OTHER INFORMATION

- Consultation: The SEQ Grid Manager (Dan Spiller) has been consulted and supports the proposed action contained in your letter to the Grid Manager.
- Legislation: NA

## **MINISTER'S COMMENTS**

#### ATTACHMENTS

- Attachment 1 Letter to SEQ Grid Manager
- Attachment 2 Letter to D-G, DERM
- Attachment 3 Letter to Dam Owners

Author	Cleared by	Cleared by	Recommended:
Name: Bob Reilly	Name: Bob Reilly	Name:	Name: John Bradley
Position: GM(OWSR)	Position: GM(OWSR)	Position:	Director-General, DERM
Tel No:	Tel No:	Tel No:	Tel No:
Date: 22 October 2010	Name: Dean Ellwood	Name:	Date:
	Position: ADG(ENRR)	Position:	
	Tel No:	Tel No:	

Telephone:	Bob Reilly General Manager Office of the Water Supply Regulator 22 October 2010	Approved by: Title: Telephone: Date Approved:	(Name of Dir/ED/GM/RSD) (Approving Officer's Position) (full number) (date)	· · · ·
Date Received in MC	D: MO Clearance by:		Date Cleared:	
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Ref CTS 19311/10

Mr Gary Humphrys Chair SEQ Water Grid Manager PO Box 16205 CITY EAST QLD 4002

#### Dear Mr Humphrys

I write in relation to seeking advice regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the coming summer.

I understand that the key Water Grid storages are at 100 per cent of storage capacity going into the traditional wet season, with forecasts of higher than median rainfall and the prospect of multiple flood events.

I am also advised that our water supply is more secure than ever before, due to storages being full, key Water Grid projects completed and ongoing water efficiency.

I seek your urgent advice about whether this water security provides an opportunity to reduce the volume stored in key dams as a means of reducing the severity, frequency and duration of flooding in downstream areas.

In doing so, I note that recent releases from Wivenhoe Dam have resulted in significant inconvenience and isolation for residents in some downstream areas. With the catchments saturated, I understand that even quite minor rainfall events will result in further water releases and further inconvenience for these residents.

By end November 2010, I would appreciate your advice as to the available options and the likely benefits. At a minimum, you should review the operation of Wivenhoe, North Pine and Leslie Harrison dams. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

I also seek your confirmation that these options would not significantly impact upon our current water security, measured as the probability of needing to reintroduce Medium Level Restrictions over the next five to ten years. I emphasise that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season. I expect that your advice will include a clear date or trigger beyond which dams will be allowed to fill to their full supply level.

Thank you in advance for your assistance.

Should you have any further enquiries, please feel welcome to contact Mr John Bradley, Director General, Department of Environment and Resource Management on

Yours sincerely

# **STEPHEN ROBERTSON MP**

Division/Region: Office	illy I Manager of the Water Supply Regulator ober 2010	Approved by: Title: Telephone: Date Approved:	(Name of Dir/ED/GM/RSD) (Approving Officer's Position) (full number) (date)	
Date Received in MO:	MO Clearance by:	· · · ·	Date Cleared:	•

Attachment 2

Ref CTS 19311/10

Mr J Bradley Director-General Department of Environment and Resource Management GPO Box 2454 BRISBANE QLD 4001

Dear Mr Bradley

It is important that the local governments (and other emergency management organisations) responsible for communities located downstream of large water supply dams, are aware of significant flood events that pass through those dams.

I understand that the Department of Environment and Resource Management in its role as dam safety regulator requires the owners of these dams to have, and keep current Emergency Action Plans. Amongst other matters, these plans deal with the matters referred to in the previous paragraph.

I request that you arrange for the relevant dam owners to be contacted and provide you with an assurance that their Emergency Action Plans are current.

I note that the owner of the three flood mitigation dams, namely Wivenhoe, North Pine and Somerset will not be asked to do this, as separate flood management arrangements apply to these dams.

Yours sincerely

#### STEPHEN ROBERTSON MP

Attachment 3

File/Ref CTS 19311/10

To the Dam Owner [Reply Address] [SUBURB STATE POSTCODE]

Dear Sir/Madam

It is important that local governments (and other emergency management organisations) responsible for communities downstream of your dam(s), are aware of significant flood events that might pass through them.

To assist in the regard, you are required under dam safety condition DS13 to have, and keep current, an Emergency Action Plan (EAP) for each of the following dam(s):

#### **INSERT LIST**

I seek your written confirmation, by 30 November 2010, that the(se) EAP(s) are current.

Please contact me on if you have any queries.

Yours sincerely

Peter Allen Director (Dam Safety) Office of the Water Supply Regulator

Queensland 4 Australia

Telephone + 61 7 Facsimile + 61 7

Website www.derm.qld.gov.au

ABN 46 640 294 485

#### DRAFT ONLY

#### SEQ Water Grid prepares for summer big wet

The Minister for Natural Resources Stephen Robertson MP today announced measures to configure the Grid for improved flood mitigation in preparation for a forecast bigger than usual wet season.

Our water supply is now more secure than ever before. The Grid 12 are at 100 per cent of storage capacity, going into the traditional wet season with forecasts of higher than median rainfall and the prospect of multiple flood events.

With this security, we have the opportunity to make sure we are prepared as possible for the prospect of minor and major flooding.

Recent heavy rains which saw a flood water volume the size of Sydney Harbour – or the equivalent to 122,000 Olympic sized swimming pools – added to and released safely from Wivenhoe Dam in less than 7 days.

Minister Robertson said that while Wivenhoe is designed to handle even more water, it was prudent to consider options to increase the dam's storage compartment for the coming season. This would be achieved by temporarily decreasing its drinking water storage capacity.

"Wivenhoe Dam no longer stands alone. Because the dams are full and we've hooked them up across the Grid, we can actually rely on Wivenhoe Dam less for drinking water and more for flood mitigation which gives us a powerful advantage."

"Let's remember, Wivenhoe Dam was built to hold back flood water from Brisbane and Ipswich. This temporary move may give it even more capacity to help keep us dry, just in case we really get a huge season." Mr Robertson said.

At the very least, we expect it to reduce the frequency and duration of major dam releases, which flood crossings near the dam – isolating some residents and significantly inconveniencing others.

The operation of North Pine and Leslie Harrison dams will also be reviewed. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

We have analysed water security for South East Queensland over five years, taking into account differing levels of flows and demand. Our analysis indicates that lowering the combined storage level of Grid 12 storages to 95 per cent of capacity presents a low risk of adversely effecting regional or sub-regional water security.

Sequater and the Water Grid Manager are reviewing the operations of the dams and will provide detailed advice on the changes to operations for this summer.

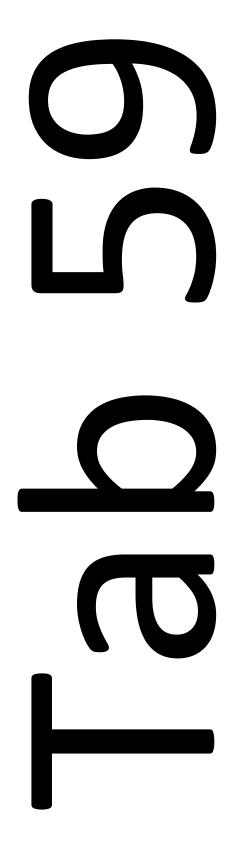
Mr Robertson emphasised that this is only a temporary measure, reflecting that dams are full.

Mr Robertson also announced that the \$395 million upgrade of Hinze Dam remains on track to be completed by the end of year, providing much improved flood protection for parts of the Gold Coast.

"While we have all been focussed on water security, the improved flood management capacity is every bit as important."

"South East Queensland has a water grid for all seasons not just for drought. Being able to move water means an unprecedented level of management to direct and control our water supplies. These prudent decisions simply reflect the Grid's world class ability to respond to a changing environment in the interest of all South east Queenslanders."

Ends



Barry Dennier	<u>}</u>		
From: Sent: To: Subject:	Reilly Bob [Bob.Reilly Monday, 25 October 2010 1:06 PM Barry Dennien; Hogan Stephenie FW: Wivenhoe/Somerset protocol		  
The latest			
Bob			:
Bob Reilly General Manager	Office of the Water Supply Regulator		
Teleph Email:			
www.derm.gld.gc Popartment of Env 3 41 George S - 30 Box 2454, Br	vironment and Resource Management treet. Brisbane Q 4000		
			· · ·
From: Michael Sha	apland October 2010 12:55 PM		
To: Bruce Grady Cc: Reilly Bob	enhoe/Somerset protocol	•	

In view of Bob's proposals above, we discussed a meeting with a range of BCC senior staff, the water agencies and ourselves mid – late this week to answer some questions they have about sources of truth for water release information.

ontinue to liaise with the other two councils and Bob Reilly's team about a date.

From: Reilly Bob Sent: Monday, 25 October 2010 11:24 To: Michael Shapland; Irina Stankovska; Brad Smith; Dennien Barry @ SEQWGM Cc: Allen Peter; Hogan Stephenie; Spiller Daniel (SEQWGM) Subject: Wivenhoe/Somerset protocol

Hi everyone

Mike

Attached is a copy of the briefing note and letter that I alluded to in my email earlier today.

The current situation (at 1120 hours on Monday) is:

1

- Barry Dennien advises that the Minister signed the letter to the Grid Manager on Friday. So, work will commence on the strategy.
- DERM, EMQ and DPC consider that the Protocol need to reflect the work on the additional flood mitigation strategy mentioned in the letter.
- DERM/EMQ will be negotiating with the Councils later this week on the Protocol possibly on Tuesday/Wednesday—we would need to tell the Councils what is being proposed in terms of the additional work at that meeting.
- Barry has raised with the Minister (Robertson) office the issue of how best to handle this additional work from a media perspective

The dynamics of the situation are such that we may need to produce a "flood release strategy" to reduce the storages from 100 to 95% (say) of capacity at shorter notice than the 30 days stated in the letter. I suggest the Grid Manager keeps this in mind over the next few days.

DERM's preliminary view is that a release of 40 to 45 cubic metres per second from Wivenhoe, released through the cone valves, would be best (from a flood management perspective) as it does not adversely impact people downstream from Wivenhoe. (The first low level crossings are submerged at 55 cubic metres per second). Lassume that such a discharge would also enable timum production from the hydroelectricity plant (i.e. the "green energy" link) at Wivenhoe, although I suggest this is checked out. It would also maximise the amount of water that Toowoomba could take (because the releases would continue over a longer period of time), compared with higher volume releases.

## Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Teleph Email: www.derm.gld.gov.au

partment of Environment and Resource Management
 i 3 41 George Street, Brisbane Q 4000
 GPO Box 2454, Brisbane Q 4001

From: Duncan Jan Sent: Monday, 25 October 2010 7:53 AM To: Reilly Bob Subject: CTS 19311/10

Hi Bob

Briefing Note and attachments as requested.

Jan

#### Jan Duncan

Executive Assistant to Bob Reilly, General Manager, Office of the Water Supply Regulator Telepl Email:

## www.derm.qld.gov.au

Department of Environment and Resource Management Level 3, 41 George Street GPO Box 2454 Brisbane Q 4001

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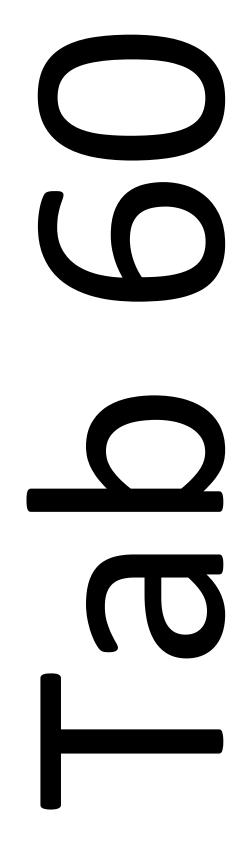
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## Barry Dennien

From: Sent: To: Cc: Subject: Dan Spiller Monday, 25 October 2010 5:53 PM jpruss Barry Dennien Operating level review

Jim,

I rang but did not catch you. Further to our discussion last week, we have been advised that the Minister has written to us seeking a review of operating levels. We expect to get the letter soon.

I understand that the letter:

- seeks, by end November 2010, advice as to the available options and the likely benefits
- states that, at a minimum, a review of the operation of Wivenhoe, North Pine and Leslie Harrison dams
   emphasises that this is only a temporary measure, reflecting that dams are full prior to the commencement
   of the traditional wet season
- seeks advice about a clear date or trigger beyond which dams will be allowed to fill to their full supply level.

I will get a letter from CEO to CEO drafted as soon as possible. In the meantime, given the timeframe, it would be useful if Rob could commence a technical review.

I understand that the protocol with the Councils may also flag the option. Also, the Minister may make a statement. In either case, there is a risk that we may be called on for definitive advice sooner rather than later.

Regards, Dan

**Daniel Spiller** 

Director, Operations SEQ Water Grid Manager

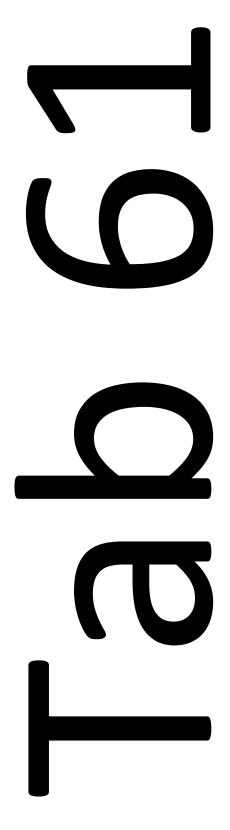
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# Barry Dennien

From: Sent: To: Cc: Subject: Attachments: Barry Dennien Tuesday, 26 October 2010 7:37 AM Waldman Karen Gina O'Driscoll; Dan Spiller Request for a review of dam operting levels image001.gif

Karen

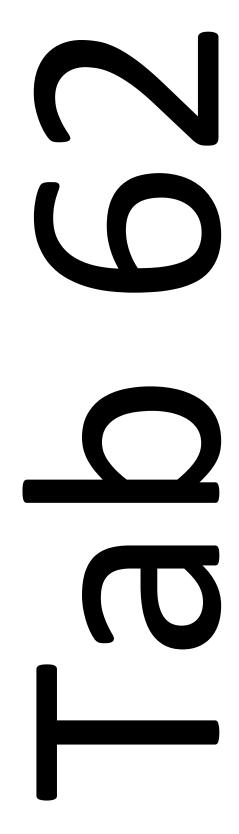
The Minister has asked if we can review the flood safety benefits of pre-emptively dropping Wivenhoe supply levels a few percentage points. I letter will arrive today asking:

- seeks, by end November 2010, advice as to the available options and the likely benefits
- states that, at a minimum, a review of the operation of Wivenhoe, North Pine and Leslie Harrison dams emphasises that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season
  - seeks advice about a clear date or trigger beyond which dams will be allowed to fill to their full supply level.
  - Seels advice on the best method, slow release or fast release over a few days as rain events are confirmed

I will cc the letter when it comes in.

Cry Dennien	· · ·
Chief Executive Officer	
SEQ Water Grid Manager	
Phone	
Email:	
Visit: Level 15, 53 Albert Street, Brisbane	
Post: PO Box 16205, City East Qld 4002	
ABN: 14783 317 630	

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#### Barry Dennien

From:	Reilly Bob
Sent:	Tuesday, 26 October 2010 8:03 AM
То:	Barry Dennien; Peter Borrows; Allen Peter
Cc:	Michael Shapland; Duncan Jan; Brad Smith; Robson Chris
Subject:	Meeting with councils on Wivenhoe/Somerset flood protocol

### Hi Barry, Peter (Borrows)

We are organising to meet with the Councils at 0800 (to 1000) on Thursday 28 October 2010. The venue will be the Floor 3 Conference room in Mineral House, 41 George St, Brisbane i.e. where we met last week.

In terms of the protocol, Brisbane City Council wishes to have a detailed understanding of the "flows" of various types of technical information and which agency is responsible for which actions (in some detail). (The other councils have not raised any issues, so far)

Brisbane will be sending senior staff, I would appreciate it if your senior technical staff came to at meeting—please let me know if that is impractical.

Mike Shapland will arrange for invitations to BOM and the Councils.

I will let you know if we receive further detail about the council(s)' issues.

#### Barry

As previously discussed, could you please resolve what we can tell Councils about the proposal to reduce storages to, say, 95% of full supply level for the duration of the wet season.

#### Peter (Allen)

Could you please attend the meeting.

()inks

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Teleph Email:

www.derm.qld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000

### GPO Box 2454, Brisbane Q 4001

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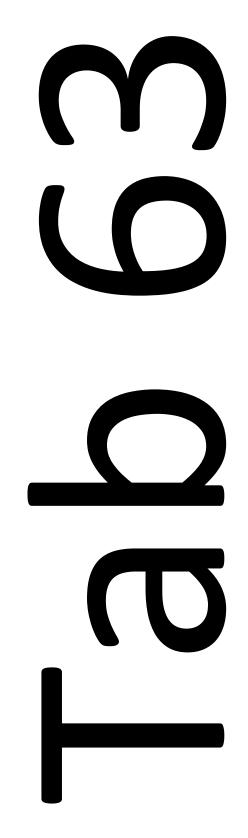
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	Barry Dennien	· · · · · · · · · · · · · · · · · · ·		-		
	From: Sent: To: Cc: Subject:	Reilly Bob [Bob.Reilly Tuesday, 26 October 2010 8:0 Peter Borrows; Barry Dennien Michael Shapland; Allen Peter FW: Draft Protocol for the rele	•	ers from Wiv	enhoe and S	omerset Dams
	Attachments:	img-X22180352-0001.pdf				•
	Hi Peter, Barry		:	· · ·	· .	
	All we have so far from	n Brisbane City Council		· ·		• •
	Regards		· · · · · · · · · · · · · · · · · · ·			
(	<u>C</u>			·		н. 
	Bob					
	Bob Reilly General Manager, Office of <b>Teleph</b> Email: <u>www.derm.qld.gov.au</u>	f the Water Supply Regulator				· · ·
(	Department of Environmen Lvl 3 41 George Street, Bri CO Box 2454, Brisbane C			• • •	•	
	From: Michael Shapland Sent: Tuesday, 26 October To: Reilly Bob Subject: FW: Draft Protoco	r 2010 7:58 AM ol for the release of flood water	s from Wivenhoe	e and Somer	set Dams	
	Not much here		• •			

Mike

From: Bruce Grady Sent: Monday, 25 October 2010 13:00 To: Michael Shapland Subject: FW: Draft Protocol for the release of flood waters from Wivenhoe and Somerset Dams

#### Regards

Bruce Grady A/Chief Officer Emergency Management Queensland

From: CEOOffice Sent: Friday, 22 October 2010 6:05 PM To: Bruce Grady	
Cc: Director.General Tammy Anderson; Vicki Pethybridge Subject: Draft Protocol for the release of flood waters from Wivenhoe and Somerset Dams	
er Mr Grady	
Please find attached a letter addressed to you from the CEO of Brisbane City Council.	
Thanks	
Office of the Chief Executive Brisbane City Council Ph: www.brisbane.qld.gov.au	
This message has passed through an insecure network. Please direct all enquiries to the message author.	
······································	
Think B4U Print	
1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere	
3 sheets of A4 paper = 1 litre of water	
++	

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Dedicated to a better Brisbane

22 October 2010

Mr Bruce Grady Acting Chief Officer Emergency Management Queensland GPO Box 1425 BRISBANE QLD 4001

Dear Mr Grady

Thank you for email of Thursday 21 October 2010 to Vicki Pethybridge, Divisional Manager, Families and Community Services Division regarding the draft protocol for the release of flood waters from Wivenhoe and Somerset Dams.

Information received on Friday 15 October 2010 by the Lord Mayor from the Premier indicated that a meeting would be held to discuss this topic. You have requested Council's response to the draft protocol be returned to you on Friday 22 October 2010. However, we have not been made aware of the meeting referred to by the Premier, and would have preferred to participate in a broader conversation regarding capabilities in monitoring flood impacts.

I do not have the response to send to you today. I will be in a position to provide that information to you early in the week commencing Monday 25 October 2010.

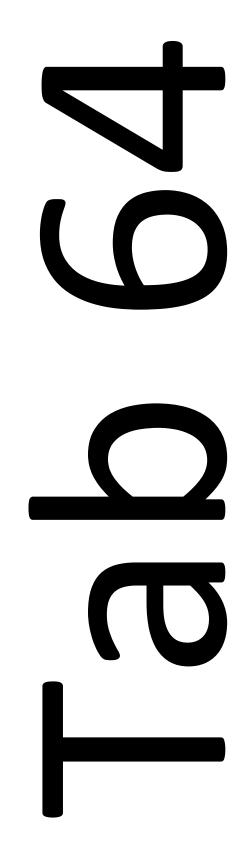
Please feel free to contact Vicki Pethybridge on **second second** if you have any questions or concerns.

Yours sincerely

Colin Jensen CHIEF EXECUTIVE OFFICER

Brisbane City Council ABN 72 002 765 795

AFEINE AF THE LOOD MAYOR AND CHIEF EVENITIVE OFFICER



### Barry Dennien

From: Sent: To: Subject: Attachments: Barry Dennien Tuesday, 26 October 2010 8:13 AM 'Tim Watts' Wivenhoe levels image001.gif

Hi Tim

.

- 1. Did the Minister's letter get sent?
- 2. Does he wish to announce it?

Barry Dennien

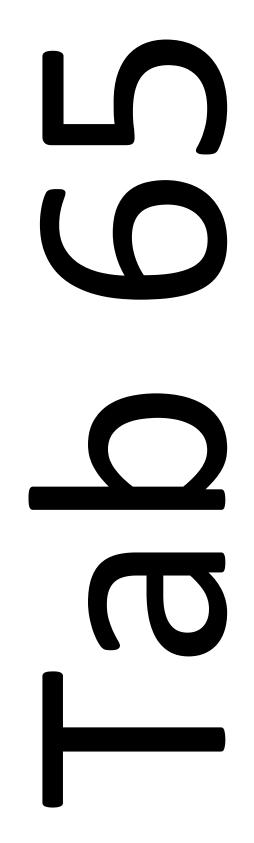
Chief Executive Officer

SEQ Water Grid Manager Phone

sit: Level 15, 53 Albert Street, Brisbane Fost: PO Box 16205, City East Old 4002

ABN: 14783 317 630

Please consider the environment before printing this email. It takes 10 litres of water to make one sheet of A4 paper.



Barry Dennien		· · ·					•
						÷.	· · · ·
From: Sent:	Tim Watts Tuesday, 26 Octob	er 2010 2:11 P	M				
Го:	Barry Dennien	· ·					••
Subject: Attachments:	RE: Wivenhoe leve	ls					÷
Attachments.	image002.gif						
·			·				
The Minister has signed th			y through the	corro syste	em – is wa	s not annou	nced
today and is not likely to b So the other approach disc			ow if you nee	d more info	<b>`</b>		
Tim		CSt. Ectific Kin	Swii you nee		•		
Tim Watts		•	1		• .		
^o olicy Advisor Office of the Minister for Na	atural Resources						
Mines and Energy and Min						•	
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rom: Barry Dennien		·	<b>.</b>			· · · · · · · · · · · · · · · · · · ·	
sent: Tuesday, 26 Octobe	r 2010 8:13 AM						
To: Tim Watts							
Subject: Wivenhoe levels	•						
	-						
Hi Tim	•						
1. Did the Minister'	c lottor got cont?						
2. Does he wish to a	. –						•
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Barry Dennien							. 1
Chief Executive Officer							
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EQ Water Grid Manage	۶r						
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EQ Water Grid Manage 'hone: mail:	rt Street, Brisbane					:	

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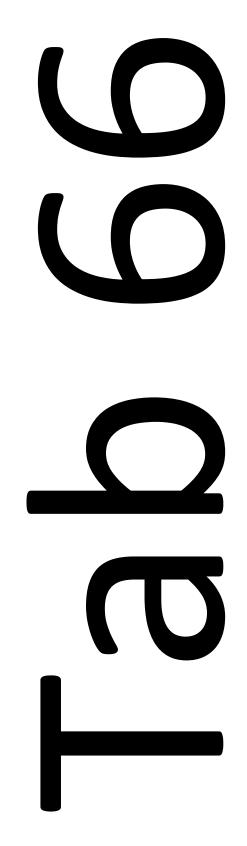
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## Barry Dennien

From:	Lee Hutchison
Sent:	Wednesday, 27 October 2010 3:54 PM
То:	Jade Simmons
Cc:	Barry Dennien; Elaina Smouha; Dan Spiller; Scott Denner; Michael Lyons
Subject:	Summer Risks (D/10/6972)
Attachments:	Summer Risks for Treasury.DOC

Jade,

As discussed, attached is the summary of summer risks as requested by Treasury (in their template). We have had input from the EMG as well as LinkWater, WaterSecure and SEQwater.

Kind Regards,

Lee

Hutchison sk and Emergency Manager SEQ Water Grid Manager Phone Email:

Post: PO Box 16205, BRISBANE CITY EAST, QLD 4002 Visit: Level 15, 53 Albert St, BRISBANE ABN: 14 783 317 630

1. Summer Issues

The following table should list the key operational risks that could arise over the period. The list should concentrate on those issues that are either (i) highly likely to occur over the period or (ii) potentially of significant impact to the Government's business or community safety.

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Issue	Likelihood Impact	Impact	Nature of Impact	Mitigation and Response	Contact
Storm damage /	Medium	Medium	- Storm activity including damaging winds and	- Water Grid Quality Management Plan	
and water			lighthing strikes causes a significant power outage to Water Grid Infrastructure. This may also be	- Water Grid Emergency Response Plan	
supply quality			compounded by recent rainfall compromising raw	- Water Grid Participants' Incident	
			(unreated) water quality. Operationally, a power outage may impact on the ability to pump or treat water. There may be a need to issue a boil water	Management Plans and pusiness continuity plans including for Isolated Supply Schemes	
			alert.	- Water Grid Communications Plan	
			<ul> <li>Adverse media coverage and resultant lack of public confidence in government (State and local) and Water Grid Participants. Lack of confidence by</li> </ul>	<ul> <li>Operational risk management by Grid Participants</li> </ul>	
			other stakeholders and shareholders (for example	- Energy provider response	
			Distribution Retail Entities) - Businesses and households may also lose power	<ul> <li>Water stored in reservoirs (mostly gravity fed)</li> </ul>	
			and be unable to practically and/or immediately respond to a boil water alert. Normal	- Boil water alerts	
			communications may also be unavailable.	- Utilise alternative source of Grid Supply	
				<ul> <li>Inherently resilient infrastructure , review of Critical Spares holdings</li> </ul>	

Issue	ssue Likelihood	Impact	Nature of Impact	Mitigation and Response	Contact
Cyclone / Flooding and Water Grid asset inundation	Medium	High	<ul> <li>A cyclone causing monsoonal conditions across the South East corner –widespread / flash flooding. Dams in flood operation (full and spilling), Wivenhoe flood mitigation capability is exceeded, some localised flooding to water infrastructure such as pumps and water treatment plants</li> <li>Flooding is largely a community based issue, however asset inundation could result in a reduced ability to treat or transfer quality water.</li> </ul>	<ul> <li>Water Grid Quality Management Plan</li> <li>Bureau of Meteorology forecasting, modelling and warnings</li> <li>Water Grid Emergency Response Plan</li> <li>Protocol for the communication of flooding information during floodwater incidents – Wivenhoe and Somerset Dams</li> </ul>	
			<ul> <li>A large flood event may also impact on the ability of Grid Participants to use or access workplaces</li> <li>Adverse media coverage about water releases contributing to community impacts is expected. Public comment and media opinion about the adequacy of emergency response and recovery is also likely.</li> </ul>	<ul> <li>Water Grid Participants' Incident Management Plans and business continuity arrangements including for Isolated Supply Schemes</li> <li>Boil water alerts</li> <li>Utilise alternative source of Grid Supply</li> <li>Water Grid Communications Plan and</li> </ul>	
				<ul> <li>FAQs</li> <li>Operational risk management by Grid Participants</li> <li>Inherently resilient infrastructure</li> <li>Water Grid Manager communication with other government agencies and departments as well as local councils to ensure consistent key messages</li> </ul>	

Trim Ref: D/10/6972

Issue Likeli	Likelihood	Impact	Nature of Impact	Mitigation and Response	Contact
Water quality	Low	High	- A health related water quality parameter is	- Water Grid Quality Management Plan	
health			breached in treated water resulting in serious community health issues. While a water quality issue in the drinking water is possible, a serious widespread health impact is unlikely with mitigation	- The Water Grid provides flexibility in sourcing water. Water quality monitoring allows early response.	
			measures in place. Aesthetic water quality issues could also have similar impacts to those listed below.	<ul> <li>Water Grid Emergency Response Plan and Water Grid Participants' Incident Management Plans and business</li> </ul>	
			<ul> <li>Hospitals and doctors would experience an increased volume of patients and enquiries</li> </ul>	continuity arrangements including for Isolated Supply Schemes	
			- SSQ and other government call centres may reach	- Boil water alerts	
			or exceed call capacity	- Water Grid Communications Plan and FAOs	
			<ul> <li>Adverse media coverage about water releases contributing to community impacts. Public comment and media opinion about the adequacy of emergency response and recovery is also likely.</li> </ul>	<ul> <li>Operational risk management including reference to Drinking Water Management Plan by Grid Participants</li> </ul>	
				<ul> <li>Communication with other government agencies and departments as well as local councils to ensure consistent key messages</li> </ul>	

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Trim Ref: D/10/6972

Issue	Likelihood Impact	Impact	Nature of Impact	Mitigation and Response	Contact
Water quality and customer complaints	hgiH	Medium	<ul> <li>An aesthetics related water quality parameter is breached in treated water resulting in widespread community and industry complaints.</li> <li>Hospitals and doctors could experience an increased volume of patients and enquiries</li> <li>SSQ and other government call centres may reach or exceed call capacity</li> <li>Adverse media coverage about water releases contributing to community impacts. Public comment and media opinion about the adequacy of emergency response and recovery is also likely.</li> </ul>	<ul> <li>Water Grid Quality Management Plan</li> <li>The Water Grid provides flexibility in sourcing and blending water. Water quality monitoring allows early response.</li> <li>Water Grid Emergency Response Plan and Water Grid Participants' Incident Management Plans and business continuity arrangements including for Isolated Supply Schemes</li> <li>Industrial controls</li> <li>Water Grid Communications Plan and</li> </ul>	
				<ul> <li>FAQs</li> <li>- Operational risk management including reference to Drinking Water</li> <li>Management Plan by Grid Participants</li> <li>- Communication with other government agencies and departments as well as local councils to ensure consistent key messages</li> </ul>	

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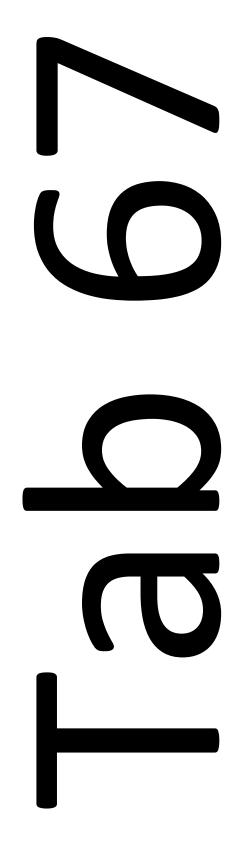
Trim Ref: D/10/6972

Issue	Likelihood	Impact	Nature of Impact	Mitigation and Response	Contact
Dam failure	Low	High	<ul> <li>High volume inflows and dam wall overflows well above full storage level as well as debris impacts such as a gate failure/jamming may result in a dam safety issue and although highly unlikely, dam failure. While unlikely, this could be more of an issue with full storages and high rainfall where dewatering for repairs is not practical</li> </ul>	<ul> <li>Operational asset management including dam safety maintenance, inspections and monitoring.</li> <li>Inherently resilient infrastructure designed to withstand major flood events</li> </ul>	
				<ul> <li>Dam safety response arrangements including</li> <li>SES response (evacuation of downstream communities)</li> </ul>	
			<ul> <li>Loss of comparison government, me water ond and Grid Participants</li> <li>Loss of water supply and storage capability or capacity</li> </ul>	<ul> <li>Water Grid Emergency Response Plan and Water Grid Participants' Incident Management Plans and business continuity arrangements</li> </ul>	
Environmental incident	Medium	Medium	- High volume releases from our dams causes downstream environment damage.	<ul> <li>Federal and State endorsed management plans including:</li> </ul>	
			<ul> <li>Releasing water from our dams causes fish kill events (i.e. lung fish)</li> <li>Adverse media coverage about water releases contributing to community impacts. Public comment and media opinion about the adequacy of emergency response and recovery is also likely</li> </ul>	<ul> <li>Fish Management Plans</li> <li>Fish Response Kits</li> <li>Water Grid Emergency Response Plan and Water Grid Participants' Incident Management Plans and business continuity arrangements</li> </ul>	

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Trim Ref: D/10/6972



Barry Dennien		_
From:	Gina O'Driscoll on behalf of Barry Dennien	
Sent:	Thursday, 28 October 2010 9:52 AM	
To:	karen waldman	
Subject:	FW: Request for a review of dam operting levels	
Attachments:	Letter from Stephen Robertson MP RE Release of Water from Key Storages tif	

Karen - copy of letter as promised in my previous email.

Regards

Barry	Dennien	· ·				
Chief E	Executive Officer		-			н 1
SEQ W	/ater Grid Manager					
Phone	:					
Email:					•	
( ):	Level 15, 53 Albert Street, Brisbane			· ·		
· ost:	PO Box 16205, City East Qld 4002					
ABN:	14783 317 630					
				,		

Please consider the environment before printing this email. It takes 10 litres of water to make one sheet of A4 paper.

From: Barry Dennien
Sent: Tuesday, 26 October 2010 7:37 AM
To: Waldman Karen
Cc: Gina O'Driscoll; Dan Spiller
Subject: Request for a review of dam operting levels

Karen

The Minister has asked if we can review the flood safety benefits of pre-emptively dropping Wivenhoe supply levels a few percentage points. I letter will arrive today asking:

- seeks, by end November 2010, advice as to the available options and the likely benefits
- states that, at a minimum, a review of the operation of Wivenhoe, North Pine and Leslie Harrison dams emphasises that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season
- seeks advice about a clear date or trigger beyond which dams will be allowed to fill to their full supply level.
- Seels advice on the best method, slow release or fast release over a few days as rain events are confirmed

1

I will cc the letter when it comes in.

Barry Dennien			
Chief Executive Officer			
SEQ Water Grid Manager			
Phone			
Email:			
Visit:	Level 15, 53 Albert Street, Brisbane		
Post:	PO Box 16205, City East Old 4002		
ABN:	14783 317 630		

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Ref CTS 19311/10 2 5 OCT 2010

Mr Gary Humphrys Chair SEQ Water Grid Manager PO Box 16205 CITY EAST QLD 4002



Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade

Dear Mr Humphrys

I write in relation to seeking advice regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the coming summer.

I understand that the key Water Grid storages are at 100 per cent of storage capacity going into the traditional wet season, with forecasts of higher than median rainfall and the prospect of multiple flood events.

I am also advised that our water supply is more secure than ever before, due to storages being full, key Water Grid projects completed and ongoing water efficiency.

I seek your urgent advice about whether this water security provides an opportunity to reduce the volume stored in key dams as a means of reducing the severity, frequency and duration of flooding in downstream areas.

In doing so, I note that recent releases from Wivenhoe Dam have resulted in significant inconvenience and isolation for residents in some downstream areas. With the catchments saturated, I understand that even quite minor rainfall events will result in further water releases and further inconvenience for these residents.

By end November 2010, I would appreciate your advice as to the available options and the likely benefits. At a minimum, you should review the operation of Wivenhoe, North Pine and Leslie Harrison dams. At least for Leslie Harrison Dam, this would be a return to standard operating procedures prior to the drought, when the dam was routinely drawn down to 95 per cent of capacity to minimise the impacts of storms on downstream residents.

I also seek your confirmation that these options would not significantly impact upon our current water security, measured as the probability of needing to reintroduce Medium Level Restrictions over the next five to ten years.

> Level 17 61 Mary Street Brisbane 4000 PO Box 15216 City East Queensland 4002 Australia Telephone +61 7 3225 1861 Facsimile +61 7 3225 1828 Email nrmet@ministerial.qld.gov.au ABN 65 959 415 158





Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade

I emphasise that this is only a temporary measure, reflecting that dams are full prior to the commencement of the traditional wet season. I expect that your advice will include a clear date or trigger beyond which dams will be allowed to fill to their full supply level.

Thank you in advance for your assistance.

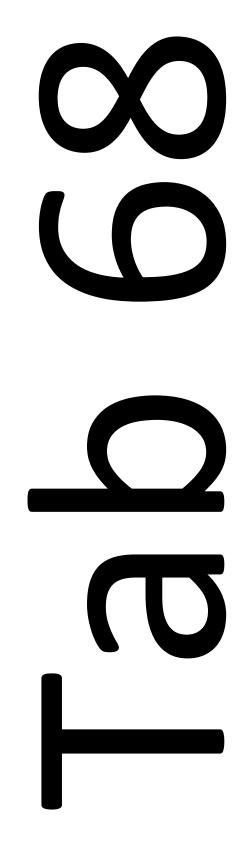
Should you have any further enquiries, please feel welcome to contact Mr John Bradley, Director General, Department of Environment and Resource Management on

Yours sincerely



STEPHEN ROBERTSON MP

Level 17 61 Mary Street Brisbane 4000 PO Box 15216 City East Queensland 4002 Australia Telephone +61 7 3225 1861 Facsimile +61 7 3225 1828 Email nrmet@ministerial.qld.gov.au ABN 65 959 415 158



#### **Barry Dennien**

From: Sent: To: Cc: Subject: Attachments: Jade Simmons Thursday, 28 October 2010 9:58 AM Graham Archer Barry Dennien; Dan Spiller PPQ - Wivenhoe Dam Spilling - Colleges Crossing PPQ - Wivenhoe Dam Spilling - Colleges Crossing.doc

1

Hi Graham, .

Please find attached the PPQ Wivenhoe Dam Spilling - Colleges Crossing.

Please call for any further queries,

**Kindest regards** 

Jade Simmons

Conior Correspondence Officer Q Water Grid Communications Unit EQ Water Grid Manager

Phone

Email:

Visit: Level 15, 53 Albert Street Brisbane Post: PO Box 16205, City East QLD 4002 Department of Environment and Resource Management – Parliamentary Briefing NoteToMinister RobertsonPrepared forParliamentary sittings 26-28 October 201075

## WIVENHOE DAM SPILLING – Colleges Crossing

# KEY POINTS

- On Saturday 9 October, Seqwater began releasing water from Wivenhoe Dam's flood storage compartment.
- This action is in accordance with the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam, which is approved by the State's Dam Safety Regulator in accordance with the Water Supply Act 2008.
- 640,000 megalitres were released through highly controlled measures.
- Management of crossings or roads are the responsibility of local councils.
- There is a *Natural Disaster Relief and Recovery Arrangement*, which local councils can apply for financial relief from natural disasters such as flood.
- Discussions with Ipswich City Council in relation to financial relief from flooding would occur through the Department of Infrastructure and Planning, as they are administrating authority of the Natural Disaster Relief and Recovery Arrangement.

Contact: Dan Spiller Telephone Date: 18 October 2010 CTS No. 18687/10

- Emergency Management Queensland is the custodian for the *Natural Disaster Relief and Recovery Arrangement*, which is a joint State and Commonwealth set of financial relief measures.
- Unfortunately because this controlled water release was not the result of a natural disaster, it would be deemed consequential to the issues rather than direct result, therefore ineligible for restoration funding.
- Seqwater's current flood release manual was reviewed during 2009 and finalised in January 2010. Seqwater is required to provide relevant catchment councils with a copy of the flood manual and this occurred.
- Councils provided with copies include Somerset Regional Council, Ipswich City Council and Brisbane City Council.

## RESPONSE

- On Saturday 9 October, Seqwater began releasing water from Wivenhoe Dam's flood storage compartment.
- This action is in accordance with the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam, which is approved by the State's Dam Safety Regulator in accordance with the Water Supply Act 2008.
- In accordance with the requirements of the Water Supply Act 2008, Seqwater maintains a comprehensive Dam Safety Management Program covering its 25 referable dams.

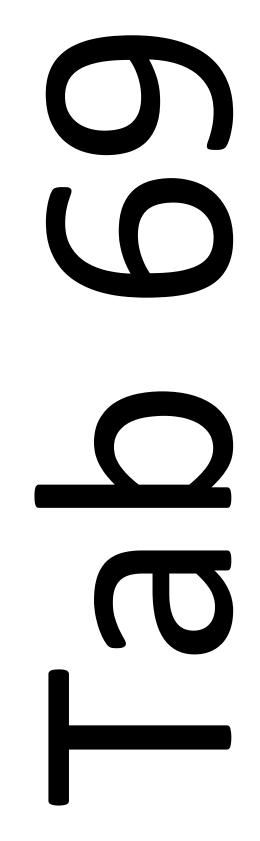
- The program includes making arrangements with local councils and emergency management agencies for appropriate response to dam safety emergencies including flood events.
- 640,000 megalitres were held back and released through controlled measures.
- The current flood release manual was reviewed during 2009 and finalised in January 2010. Seqwater is required to provide relevant catchment councils with a copy of the flood manual and this occurred. Councils provided with copies include Somerset Regional Council, Ipswich City Council and Brisbane City Council.
- Management of local crossings or roads are the responsibility of local councils.
- There is a Natural Disaster Relief and Recovery Arrangement, which local councils can apply for financial relief from natural disasters such as flood.
- Discussions with Ipswich City Council in relation to financial relief from flooding would occur through the Department of Infrastructure and Planning, as they are administrating authority of the Natural Disaster Relief and Recovery Arrangement.
- Emergency Management Queensland is the custodian for the *Natural Disaster Relief and Recovery Arrangement*, which is a joint State and Commonwealth set of financial relief measures.

Contact: Dan Spiller Telephone: Date: 18 October 2010 CTS No. 18687/10

- Unfortunately because this controlled water release was not the result of a natural disaster, it would be deemed consequential to the issues rather than direct result, therefore ineligible for restoration funding.
- Flood water releases through the dam's spillway gates continued until the morning of 19 October 2010, including a 48 hour phased shutdown.
- The phased shutdown allows Seqwater to control the water through a systematic closure of the gates to discharge stored floodwater to provide for further flood events and to allow Councils to reopen river crossings.
- The phased shutdown also aims to minimise adverse environmental impacts on the river system by copying the natural regression of the flood event.
- In accordance with the requirements of the Water Supply Act 2008, Seqwater maintains a comprehensive Dam Safety Management Program covering its 25 referable dams.
- The program ensures that each of its dams are operated and maintained in a manner that is both safe from a structural perspective and minimises the dam failure risks associated with flood events.

- This includes making arrangements with local councils and emergency management agencies for appropriate response to dam safety emergencies including flood events.
- The program has been endorsed and approved by the Dam Safety Regulator.

Contact: Dan Spiller Telephone: Date: 18 October 2010 CTS No. 18687/10 Approved: Barry Dennien, CEO Water Grid Manager Approved: Chris Robson, A/Deputy Director-General Approved:



Barry Dennien	
From: Sent: To:	Allen Peter Friday, 29 October 2010 9:20 AM Scott Denner; Reilly Bob; Michael Shapland; Irina Stankovska; Michael Lyons; mfoster Brad.smith Rob Drury;
Cc: Subject:	P.Baddiley Bruce Grady j.perkins Barry Dennien RE: Protocol on release of water from Dams

I agree with Bob Reilly that it seems that the BoM and the BCC don't want any interference in what warnings they produce and that is probably the way it should be. They don't want any delays in the issuance of their warnings because they have statutory responsibility for such warnings ... especially if there potentially are lives at risk. I know there is interaction between the parties at a technical level to discuss what warning is issued e.g. BCC and BoM and this occurs 24/7.

The issue seems to be 'when does the SEQ Water Grid Manager get involved?' There is probably no such thing as a 'normal' flood. All floods are different in terms of the way they evolve and the people they impact and there will be different lead agencies for each flood. For rapidly developing local flooding it is most likely to be the Councils. For leager term events not involving dam releases, it is most likely the BoM with BCC being interested in the type of uct e.g. debris in the river or backwater impacts on creeks. When dam releases are involved, Seqwater will be involved with the councils progressively being affected as the event moves downstream ... i.e Somerset followed by Ipswich followed by Brisbane. This impact will also be dependent on the timing and the magnitude of coincident flows in the Lockyer and the Bremer. When there are tidal impacts, the reverse is likely with greater impacts at the downstream end.

I suspect the Grid Manager may only need to become involved (or be advised) when there are impacts on people resulting from dam releases?

The protocol becomes important to ensure consistency of the messages so that everyone receives the messages everyone else is issuing. That way, if someone is concerned about the message someone else is issuing, they know who to talk to.

Peter Allen

Director Dam Safety (Water Supply) Office of the Water Supply Regulator Telep

Email

www.derm.qld.gov.au

rom: Scott Denner		
nt: Friday, 29 Oct	ober 2010 8:36 ÅM	
: Reilly Bob; Micha	el Shapland; Irina Stankovska; Lyons Mich	nael @ SEQWGM; mfoster
ad.smith	Rob Drury; P.Baddiley	Allen Peter; Bruce Grady
<b>c:</b> j.perkins	Dennien Barry @ SEQWGM	
ubject: RE: Protoc	ol on release of water from Dams	

Mike/Irina

In addition to Bob's comments below, our feedback is:

- 1. Page 4, under public communications should read "The BoM, Seqwater, SEQ Water Grid Manager and Local Governments are to maintain continual discussions, to ensure..."
- 2. In appendix A, the SEQ Water Grid Communications Unit should be returned to the box "Harmonised information for Public Safety Developed"
- 3. Appendix A is very much the process for Communications during <u>Dam Floodwater release</u> from Wivenhoe. During a 'normal' flood, the SEQ Water Grid Manager would not be the agency alerting the DG's of the various agencies, and would not be the agency harmonizing communications. The solution is probably two process flow diagrams in the appendix one for Dam Flood Release, where the State water entities have a leadership role, and another for general flooding, where (per page 3

in the doc) whichever agency or body initiates the TSR assumes responsibility for those higher level notifications and message harmonisation.

Regards

Scott

Scott Denner Director Risk and Technology SEQ Water Grid Manager

Ph: Em

Post: PO Box 16205, BRISBANE CITY EAST, QLD 4002 Visit: Level 15, 53 Albert St, BRISBANE ABN: 14783 317 630

From: Reilly Bob		
Sent: Friday, 29 Octol	per 2010 8:01 AM	:
To: Michael Shapland;	Irina Stankovska; Michael Lyons; mfoster	
brad.smith	Scott Denner; Rob Drury; P.Baddiley	Allen Peter; Bruce
Grady		
Cc: j.perkins		•
Subject: DE: Protocol	on release of water from Dams	

Subject: RE: Protocol on release of water from Dams

Hi Mike, Irina

My comments are:

1. Reword the last paragraph as follows:

"... The protocol also covers the possibility that, during an above-average wet season, the water supply level of the dams may be marginally reduced, on a temporary basis, by small water releases. The water supply level would be returned to its normal level prior to the conclusion of the wet season..."

2. I think we need to be clear on whether or not the various parties to the Protocol can decide their own communication messages without the approval of other parties (accepting of course, that there will be "best efforts" to harmonise messages etc). This is, I think, a key point.

I do not think, then that the Grid Manager can ensure "consistency of messages" during flood releases. It may be worth checking this point with BCC today, but I thought that they were quite clear on this point in the meeting yesterday.

2

Peter Allen may have some additional comments.

Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Teleph Email:

www.derm.gld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

> From: Michael Shapland [mailto:Michael.Shapland Sent: Thursday, 28 October 2010 7:43 PM To: Michael Shapland; Irina Stankovska; michael.Lyons

> > Denner Scott @ SEQWGM;

Rob Drury; P.Baddiley Allen Peter; Bruce Grady

Subject: Protocol on release of water from Dams

Attached please find the latest draft following today's meting

Reilly Bob; brad.smith

Although it may look different, many changes are just reordered paragraphs to allow a more general approach.

Comments would be appreciated by 1200 Friday 29 October in order to allow circulation to councils by COB Friday.

Mike

mfoster

**Mike Shapland MBE** | **Director, Disaster Management** Emergency Management Queensland | Department of Community Safety Level 3, Block E, Emergency Services Complex, Kedron, Queensland

Think B4U Print 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere 3 sheets of A4 paper = 1 litre of water

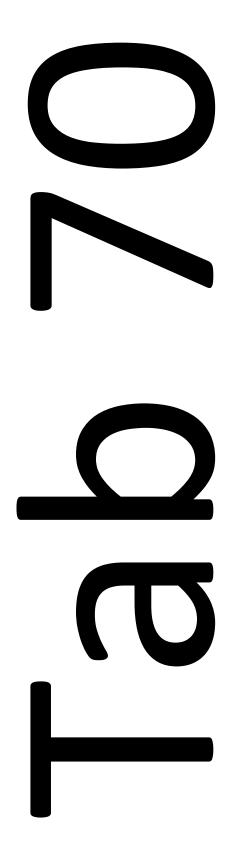
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Secure and efficient water through portnership and innovation

TRIM ref: D/10/7049

2 November 2010

Mr Peter Borrows Chief Executive Officer Seqwater PO Box 16146 City East QLD 4002

#### Dear Peter

I write to seek your advice about options to, and benefits of, releasing water from key storages in anticipation of major inflows over the coming summer.

The Minister has sought our urgent advice about whether current water security provides an opportunity to reduce the volume stored in key dams as a means of reducing the severity, frequency and duration of flooding in downstream areas. I have attached a copy of his request for your information. You will note that he has highlighted that this is a temporary measure only.

To meet this deadline, I would appreciate your advice about options by 19 November 2010. We can then undertake an assessment of the impact of these options on water security, before jointly preparing advice to the Minister with you.

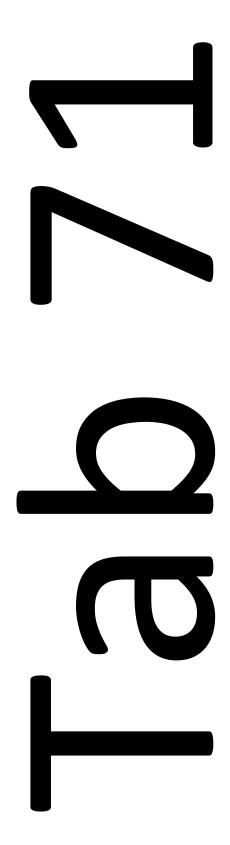
I understand that Mr Daniel Spiller, Director Operations, has already advised your officers of this request and that investigations have commenced. However, please advise if you have concerns about your ability to meet the above timeframes.

Please do not hesitate to call Dan on further information.

Yours sincerely

Barry Dennien, / **Chief Executive Officer** 

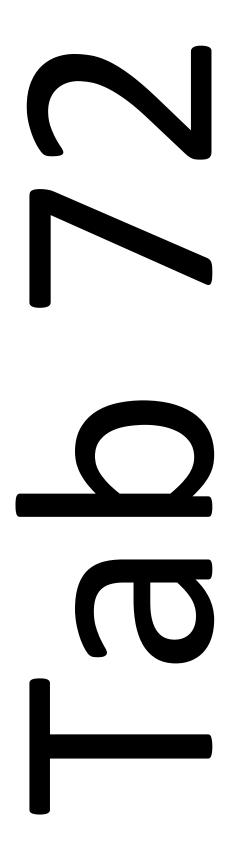
Enclosed: Letter from Stephen Robertson MP regarding release of water from key storages



Barry Dennien From: Bradley John Sent: Tuesday, 9 November 2010 4:21 PM ken.smith To: Barry Dennien; Reilly Bob Cc: Fw: BCC Lord Mayors Taskforce on Suburban Flooding. Subject: Ken Fvi - note the BCC invitation Barry/Bob - do you know anything about this process, has it been discussed in context of the current protocol Thanks John B .-- Original Message ----om: Williams Lynette To: Bradley John Sent: Tue Nov 09 16:16:52 2010 Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding. This is also on your chair Тa Lynette -----Original Message-----From: Ana.Leigh Tucker [mailto:Ana.Leigh.Tucker Sent: Wednesday, 3 November 2010 12:51 PM To: Williams Lynette Subject: Fwd: BCC Lord Mayors Taskforce on Suburban Flooding. Hi Lynette, _ given Rebecca is away. Warm regards, Ana Leigh. Working together to make Brisbane Australia's most sustainable city. Ana Leigh Tucker Program Officer, Community Engagement Water Resources Brisbane City Council BSO Lvl 8 Tel: >>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>>

Hi Rebecca,

Last week I advised Lynette in your office about the opportunity for John Bradley. Director General of Department of Environment and Resource Management (DERM), to be a participant in the, Lord Mayor's Taskforce on Suburban Flooding Review and Update. The 2005 Taskforce report was devised over a period of seven months resulting in strategies to reduce the effect of significant rain events on areas of Brisbane prone to flooding. The full report is available from the following link. http://www.brisbane.gld.gov.au/community-support/emergency-management/flooding/floodingtaskforce-report/index.htm The role of the 2011 Taskforce will be to review the work completed by the 2005 Taskforce. advise where further action is required, and develop a new direction for flood risk management in Brisbane. The outcome of the Taskforce will be to produce a Water Smart City Flood Management Plan of principles and actions for Council to adapt and respond to flooding.  rh e Taskforce of 12 people will consist of key government, community, peak body, academic d technical expert representatives. John's contribution to the taskforce would be as a State Government representative from DERM. A formal letter and Terms of Reference will be forwarded before the first meeting. The meeting schedule is as follows. Wed 1 Dec 2010,12.30 - 3pm Wed 2 Feb 2011,12.30 - 3pm Wed 23 Feb 2011,12.30 - 3pm Wed 16 March 2011,12.30 - 3pm Wed 6 April 2011,12.30 - 3pm Venue - Level 16 Brisbane Square, 266 George Street, Brisbane. A light lunch will be provided on all occasions. look forward to hearing back from you regarding John's interest in participating. I would also like you to provide me with the best postal address for your office. Please email or call me with any questions. Warm regards, Ana Leigh Working together to make Brisbane Australia's most sustainable city. Ana Leigh Tucker Program Officer, Community Engagement Water Resources Brisbane City Council BSQ Lvl 8 Tel:



Barry Dennien		- -			
From: Sent: To: Cc: Subject:	Reilly Bob [Bob.Reilly Tuesday, 9 November 20 Barry Dennien; Bradley Jo Robson Chris RE: BCC Lord Mayors Ta	ohn	Flooding.		•
Hi John		·			·
Hi John		· .			
discussions have foc	ed by BCC in the curr used on the sharing o Lord Mayor's Taskfor	f information/med:	ia responses to	imminent	
Is there anything the	at you would like me	to follow up?			
;ards				• • •	
Bob					
Bob Reilly General Manager, Offi Telephc Email: www.derm.qld.gov.au	ice of the Water Supp	ly Regulator			
GPO Box 2454, Brisbar From: Barry Dennien [ Sent: Tuesday, 9 Nove To: Bradley John Cc: ken.smith	nment and Resource Man ne Q 4001Origina [mailto:Barry.Dennien ember 2010 4:43 PM Reilly d Mayors Taskforce on	al Message Bob	•	Brisbane Q 40	00
I have not heard of i	it recently			•	
	ofile in 2005 after it In the oxley creek area		esponse to publ:	ic outcry over	
Regards Barry Dennien					
)n 09/11/2010, at 4:2	21 PM, "Bradley John" wrote:				
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				•	
> > Barry/Bob - do you	know anything about t t of the current prot		it been		

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> John B ----- Original Message -> From: Williams Lynette To: Bradley John > Sent: Tue Nov 09 16:16:52 2010 >. Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding. > > This is also on your chair > > Тa > Lynette > ----Original Message-----> From: Ana.Leigh Tucker > Sent: Wednesday, 3 November 2010 12:51 PM > > To: Williams Lynette > Subject: Fwd: BCC Lord Mayors Taskforce on Suburban Flooding. li Lynette, FYI given Rebecca is away. Warm regards, Ana Leigh. Working together to make Brisbane Australia's most sustainable city. Ana Leigh Tucker Σ > Program Officer, Community Engagement > Water Resources > Brisbane City Council BSO Lvl 8 > > Tel: 34070807 >>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>> > Hi Rebecca, > Last week I advised Lynette in your office about the opportunity for > > John Bradley, Director General of Department of Environment and Resource Management (DERM), to be a participant in the, Lord Mayor's Taskforce on Suburban Flooding Review and Update. > 5 The 2005 Taskforce report was devised over a period of seven months > resulting in strategies to reduce the effect of significant rain > events on areas of Brisbane prone to flooding. > > > The full report is available from the following link. http://www.brisbane.qld.gov.au/community-support/emergency-management/fl ooding/flooding-taskforce-report/index.htm > > The role of the 2011 Taskforce will be to review the work completed by > the 2005 Taskforce, advise where further action is required, and develop a new direction for flood risk management in Brisbane. > >

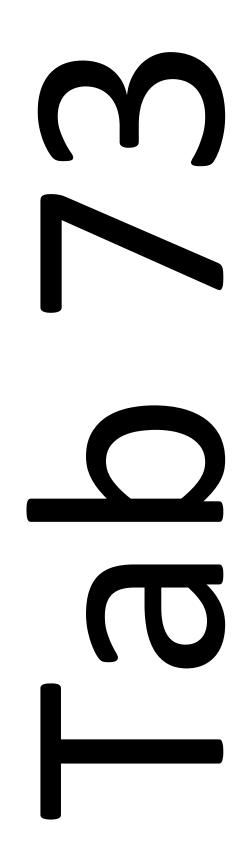
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 Warm regards,
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> Ana Leigh
 Working together to make Brisbane Australia's most sustainable city.
 Ana Leigh Tucker
> Program Officer, Community Engagement
> Water Resources
> Brisbane City Council
 BSO Lvl 8
 Tel:
>
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 Think B4U Print
> 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere -
> 3 sheets of A4 paper = 1 litre of water
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## **Suzie Emery**

Subject: Location:	FW: Meeting to discuss: Dam full supply level (FSL) investigation CEO's office (Level 15, 53 Albert Street)	tions
Start: End: Show Time As:	Tue 23/11/2010 4:00 PM Tue 23/11/2010 5:00 PM Tentative	
Recurrence:	(none)	
Organizer:	Barry Dennien	
Original Appointment		
From: Barry Dennien Sent: Friday, 1 April 2011	9:47 AM	
To: Barry Dennien; Elaina S		Dan Spiller
<b>C:</b> Rob Drury	licenses Dom full quarky lovel (FCL) investigations	
	liscuss: Dam full supply level (FSL) investigations	
when: Tuesday, 23 Noven	nber 2010 4:00 PM-5:00 PM (UTC+10:00) Brisbane.	

Where: CEO's office (Level 15, 53 Albert Street)

When: Tuesday, 23 November 2010 4:00 PM-5:00 PM (UTC+10:00) Brisbane. Where: CEO's office (Level 15, 53 Albert Street)

Note: The GMT offset above does not reflect daylight saving time adjustments.

*~*~*~*~*~*~*

Original Appointment	-		
From: Petula Martinz On Be	half Of Barry De	ennien	
Sent: Thursday, 18 November	er 2010 9:55 AM		
` <b>o:</b> <u>jpruss</u>	r.drury		Dan Spiller
Cc: Rob Drury			
Subject: Meeting to discuss:	: Dam full supply	level (FSL) i	nvestigations
When: Tuesday, 23 Novemb	er 2010 4:00 PM	-5:00 PM (U	TC+10:00) Brisbane.

Where: CEO's office (Level 15, 53 Albert Street)

 From: Brooke Foxover [mailto:bfoxover]
 On Behalf Of Jim Pruss

 Sent: Wednesday, 10 November 2010 3:57 PM
 To: Dan Spiller

 Cc: Jim Pruss
 Subject: Dam full supply level (FSL) investigations (Draft document)

Hi Dan,

This is the draft advice received from Dam safety guys to date.

Suggest we discuss expectations/ other required details over the phone when convenient.

Once discussed, Seqwater can provide a formal response to meet Grid Manager expectations and Minister deadlines.

Jim

Jim Pruss Executive General Manager, Water Delivery QLD Bulk Water Supply Authority *trading as* Sequater



WIVENHOE DAM · Storage Lowerin..

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ATT24309 1.jpg

# DAM FULL SUPPLY LEVEL (FSL) INVESTIGATIONS SEQWATER GATED STORAGES

### INTRODUCTION

The following short paper examines the issues associated with temporary lowering the full supply levels of Seqwater's gated dams to improve short term flood mitigation benefits. The paper considers Wivenhoe Dam, Somerset Dam, North Pine Dam and Leslie Harrison Dam.

#### WIVENHOE DAM AND SOMERSET DAM

Wivenhoe Dam and Somerset dam control only 50% of the Brisbane River catchment (Bremer River and Lockyer Creek catchments are not controlled), therefore the Flood Mitigation benefits provided by the dam will depend on the rainfall distribution experienced during a flood event. This makes it difficult to quantify exactly the benefits of lowering the storage in anticipation of possible flood rains.

There are primarily two types of flood events that may occur in the Brisbane River Catchment. There are the smaller events that impact primarily on the rural bridges upstream of Moggill and the larger events that impact on urban areas in Brisbane. The threshold that separates these two events is a river flow of around 3500 cubic metres per second at Moggill. To understand the possible benefits of lowering the storage to reduce flooding impacts, it makes sense to discuss these two types of events separately.

#### Events Impacting on Bridges (Moggill Flow < 3500m³/s) – Limited Urban Impacts

In recent history, flood events of this nature occurred in April 1989, February 1999 and October 2010. The flow characteristics of events of this type are shown in the following table.

				Wivenhoe Dam		
Event	Star Le	ting vel	Volume Of Inflow	Volume Of Outflow	Peak Outflow	Peak Water Level
	m AHD	%	ML	ML	m3/s	m AHD
Early April 1989	67.06	>100	690,000	690,000	1,620	69.78
Late April 1989	67.00	100	870,000	820,000	1,490	71.45
February 1999	63.92	<100	1,220,000	900,600	1,800	70.45
October 2010	67.03	>100	640,000	640,000	1,300	69.65

The October 2010 event was examined to determine the benefits of lowering the storage level. This event commenced with the dam at FSL. The event was examined with the dam at 95% capacity, 90% capacity, 80% capacity, 50% capacity and empty at the commencement of the event. The results are shown in the following table. When reading the table it is important to understand that the bridges are impacted not just by outflows from Wivenhoe, but also by flows from the uncontrolled areas of the river catchment. Accordingly, the location of a bridge within the system will dictate the size of catchment area that will impact on the bridge. All inundation times shown in the table are approximations only, made for the purposes of this investigation.

Dam Percentage	Approximate	Approximate	Approximate	Peak Flow at
Full at Event	Duration of	Duration of	Duration of Burtons	Moggill
Commencement	Wivenhoe Radial	Savages Crossing	Bridge and Kholo	(m³/s)
	Gate Releases/	and Colleges	Bridge Inundation	
	Twin Bridges	Crossing Inundation	(hours)	
	Inundation	(hours)		
	(hours)			
100%	230	247	183	1848
95%	187	214	183	1848
90%	185	214	183	1841
80%	172	214	183	1786
50%	130	214	153	1722
0%	0	189	38	940

The table shows that the reduction in FSL won't have a large impact on Bridge inundation times. A reduction in the order or 36 hours or 15% of the total inundation time may be possible for the low level bridges only. The reductions are generally caused by the delay in release commencement associated with the lower starting FSL. However, the bridges can often already inundated at this time anyway due to flood inflows into the Brisbane River from the 50% of the catchment not controlled by Wivenhoe Dam. Lowering the FSL of the dam has no impact on such inundations as shown in the table.

For events smaller than those considered above, it should be noted that the Manual of Flood Mitigation allows a trigger level buffer of 27500 megalitres above FSL and this has the effect of protecting Twin Bridges and the lower level bridges from inundation as a result of minor events. Twin Bridges is essentially a low level causeway that is inundated following any radial gate release. This inundation could possibly be prevented by raising the bridge deck level. Regardless, the areas accessed using this bridge can also be accessed using the Fernvale Bridge. It is acknowledged however that the closing of Twin Bridges causes inconvenience to local residents, as it adds approximately another five kilometres to the journeys to and from their residences. Approximately 40 residences and several businesses (primarily turf farms) are impacted.

# Events Impacting on Urban Areas (Moggill Flow > 3500m³/s) – All rural bridges inundated

Events of this nature have not been experienced since the construction of Wivenhoe Dam was completed in 1984, with the last event of this nature being experienced in 1974. The inflow volume into Wivenhoe Dam associated with the 1974 event has been estimated to be in the order of 1.5 million megalitres. However during the 1974 event, an additional 1.5 million megalitres of flood flow impacting of the urban areas of Brisbane originated from catchment areas that are not controlled by Wivenhoe Dam.

For events of this nature, it is unlikely that peak water levels in Brisbane would be significantly impacted by minor reductions in the level of Wivenhoe Dam. Certainly reductions in dam volume in the order of at least 250000 megalitres would be needed to provide any significant reduction in water level peaks experienced in urban areas. Additionally, reductions in the FSL of this order would not necessarily guarantee reductions in urban flood levels, as the effectiveness of Wivenhoe Dam in reducing urban flood levels is

3 | Page

directly dependant on the distribution of rainfall in the Brisbane River catchment during a flood event (Wivenhoe Dam controls only 50% of the total Brisbane River catchment) and the spacing between individual flood events.

#### NORTH PINE DAM

North Pine Dam has no flood mitigation potential. Unlike Wivenhoe Dam, once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

Any radial gate operation at North Pine Dam to release flood water, results in inundation of Youngs Crossing Road, so lowering the FSL is problematic and may best be achieved by increasing the daily water diversion to the North Pine Dam Water Treatment Plant. There are river release valves that allow some water to be drained from North Pine Dam without inundating Youngs Crossing. These valves have been operated continuously since the recent gate releases to manage residual inflows into the dam. However outflows from these valves are restricted to flows in the order of several hundred megalitres per day as larger flows will adversely impact on Youngs Crossing. Certainly a small reduction in the level of North Pine Dam is potentially beneficial in preventing closures of Youngs Crossing Road associated with small storm events.

It should be noted however that Youngs Crossing Road is also impacted by uncontrolled flood flows from Lake Kurwongbah and local storm run-off. In recent times Youngs Crossing Road has been closed by flood water during times when no water releases were being made from North Pine Dam, but when storm rains resulted in flood flows from uncontrolled areas of the catchment.

The table below gives an indication of the rainfall required to operate for NPD:

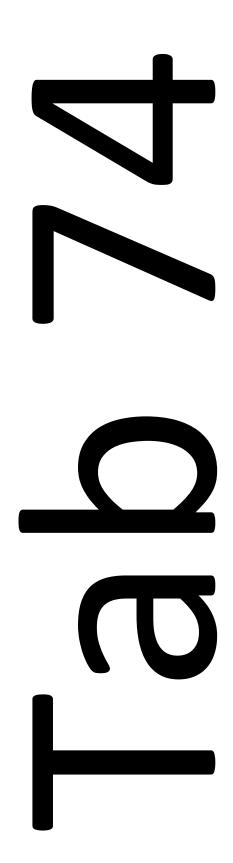
Level		Capacity		Rainfall Requ	ired to Operate
	Capacity			Wet Conditions	Dry Conditions
	m AHD	%	ML	mm	mm
FSL	39.60	100.0%	214,302	5	60
Reduced FSL	39.10	95.0%	203,618	35	100

Recent changes to the Manual of Flood Mitigation for North Pine Dam allows for some ability to retain up to 2500 megalitres of water to reduce impacts on Youngs Crossing Road, provided favourable weather forecasts are experienced. However the preferred option to reduce public inconvenience associated with storm events would be to raise the flood immunity of the river crossing on Youngs Crossing Road. This crossing is primarily a low level causeway that is potentially unsuitable given the volume of traffic that now uses this crossing on a daily basis.

#### LESLIE HARRISON DAM

Similar to North Pine Dam, Leslie Harrison Dam has no flood mitigation potential. Once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

The dam is relatively small with a total full supply storage volume of only 24800 megalitres, against an inflow volume during a 72 hour 1 in 50 year storm event of over 30000 megalitres. Flood gate operations at Leslie Harrison Dam do not impact on public roads and generally only inconvenience the general public during large flood events. Reductions in this inconvenience cannot be achieved by small reductions in dam storage level.



r.			
			•
Barry Demnien			
From: Sent: To: Cc: Subject:	Bradley John Wednesday, 10 November 2010 6:57 AM Barry Dennien Reilly Bob RE: BCC Lord Mayors Taskforce on Suburba	n Flooding.	
Bob, Barry			
Our options are	. · ·	· .	
	water supply regulatory interests) o erspective (Barry D or Peter Borrows)		· · · ·
Do you ha∨e a view Taskforce	on best fit for State's interests	given previous focus	of the
n Bradley rector-General	onment and Resource Management		
Box 2454, Brisbane ( Original Messay From: Barry Dennien Sent: Tuesday, 9 Nov To: Bradley John Cc: ken.smith	- ge		ie Q 4000 GPO
John			
Lave not heard of			
	rofile in 2005 after it was formed in in the oxley creek area	response to public	outcry over
Regards Barry Dennien			
•	:21 PM, "Bradley John" wrote:		
> Ken	wioce.		
> > Fyi - note the BCC	C invitation		
	u know anything about this process, ha ext of the current protocol	as it been	
> > John B			
<u>&gt;</u>	1		

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---- Original Message ----
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  From: Williams Lynette
>
  To: Bradley John
 Sent: Tue Nov 09 16:16:52 2010
>
  Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding.
>
>
  This is also on your chair
>
>
>
  Та
  Lynette
>
>
  -----Original Message-----
>
 From: Ana.Leigh Tucker [mailto:Ana.Leigh.Tucker
>
  Sent: Wednesday, 3 November 2010 12:51 PM
>
  To: Williams Lynette
  Subject: Fwd: BCC Lord Mayors Taskforce on Suburban Flooding.
>
>
 Hi Lynette,
>
  FYI given Rebecca is away.
  Warm regards,
  Ana Leigh.
>
  Working together to make Brisbane Australia's most sustainable city.
>
  Ana Leigh Tucker
>
  Program Officer, Community Engagement
>
  Water Resources
  Brisbane City Council
.>
  BSQ Lvl 8
>
  Tel: 34070807
>
2
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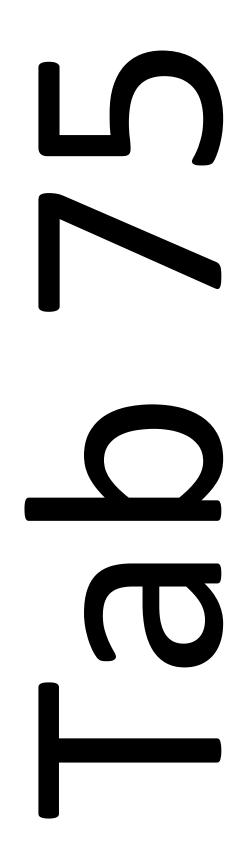
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 Please email or call me with any questions.
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> Ana Leigh
> Working together to make Brisbane Australia's most sustainable city.
>
> Ana Leigh Tucker
> Program Officer, Community Engagement.
  `ater Resources
 -- risbane City Council
> BSQ Lvl 8
 Tel:
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    Please direct all enquiries to the message author.
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Barry Dennien

From: Sent: To: Cc: Subject: Reilly Bob Wednesday, 10 November 2010 8:15 AM Bradley John Barry Dennien RE: BCC Lord Mayors Taskforce on Suburban Flooding.

Hi John

Barry and I have discussed the matter and agree with the conclusion below.

The 2005 Taskforce made recommendations (on which the 2011 Taskforce is expected to build, apparently)in the following areas:

- Identify flood-prone areas that were developed before current development standards were applied
- Criteria and priorities for voluntary residential property buy back in flood prone areas. (There have been media reports of significant funding short falls for this Council-funded program)
- Reviewing/Strengthening the City Plan's land use planning/development approval/building standards system (This would probably result in some people not being able to build on land with current building rights, and more expensive building costs for others)
- Improved flood information, flood forecasting and flood warnings

In terms of the last item, either Barry or I could attend for you, but on balance, it is best that I go. (Although you could argue that it is best dealt with through Emergency Management Queensland).

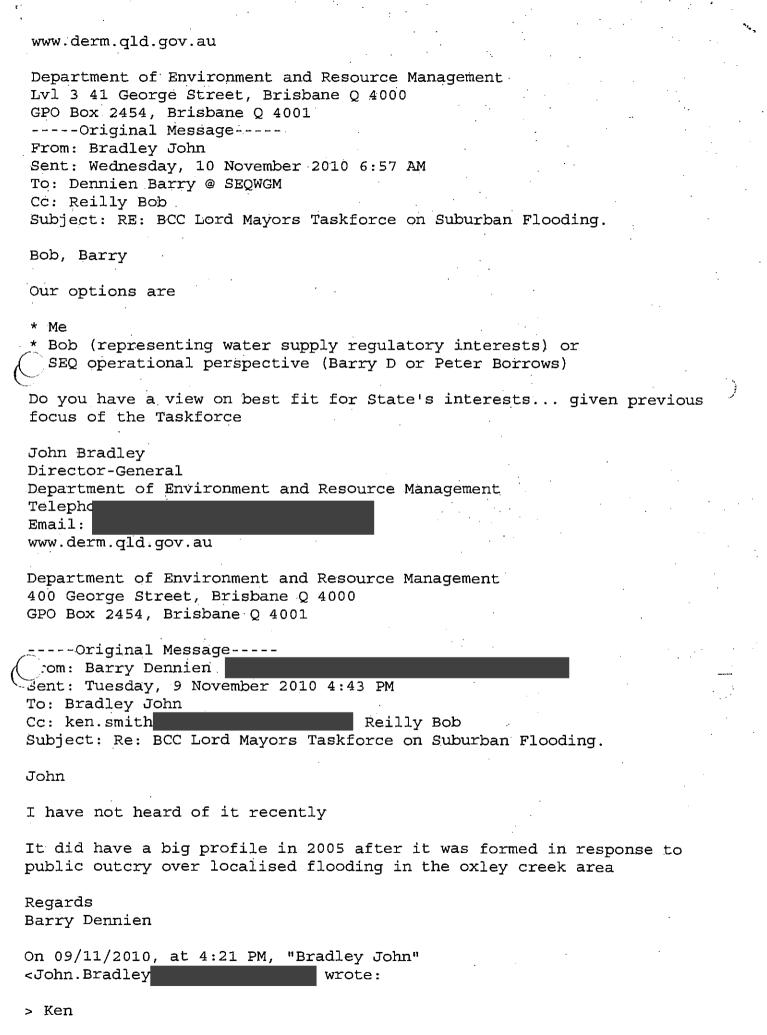
One approach could be to ask the Council for the full terms of reference for the Taskforce plus the list of Qld Govt. agency representatives, before you make a decision on this matter. That way, we could be in a better position to ensure the right Qld Govt agencies are represented.

1

Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Telepho Email:



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Fyi - note the BCC invitation
 > Barry/Bob - do you know anything about this process, has it been
  discussed in context of the current protocol
  Thanks
>
· >
  John B
>
>
  ---- Original Message -----
>
> From: Williams Lynette
> To: Bradley John
> Sent: Tue Nov 09 16:16:52 2010
> Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding.
> This is also on your chair
>
 . Ta
  Lynette
> ----Original Message-----
> From: Ana.Leigh Tucker
> Sent: Wednesday, 3 November 2010 12:51 PM
> To: Williams Lynette
> Subject: Fwd: BCC Lord Mayors Taskforce on Suburban Flooding.
> Hi Lynette,
 FYI given Rebecca is away.
>
>
 Warm regards,
>
>
> Ana Leigh.
 Working together to make Brisbane Australia's most sustainable city.
> Ana Leigh Tucker
> Program Officer, Community Engagement
> Water Resources
> Brisbane City Council
> BSQ Lvl 8
>
  Tel:
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>
>>>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>>
> Hi Rebecca,
>
> Last week I advised Lynette in your office about the opportunity for
> John Bradley, Director General of Department of Environment and
> Resource Management (DERM), to be a participant in the, Lord Mayor's
 Taskforce on Suburban Flooding Review and Update.
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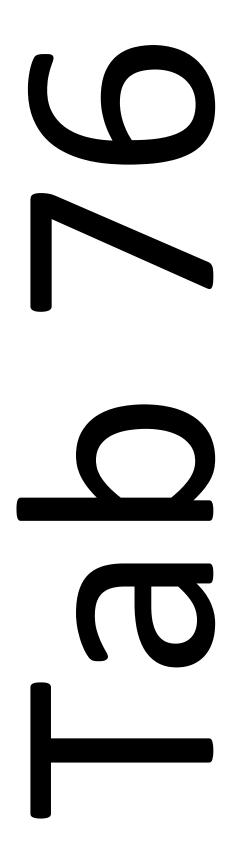
> The 2005 Taskforce report was devised over a period of seven months > resulting in strategies to reduce the effect of significant rain > events on areas of Brisbane prone to flooding. > The full report is available from the following link. > http://www.brisbane.qld.gov.au/community-support/emergencymanagement/flooding/flooding-taskforce-report/index.htm > > The role of the 2011 Taskforce will be to review the work completed > by the 2005 Taskforce, advise where further action is required, and > develop a new direction for flood risk management in Brisbane. > > The outcome of the Taskforce will be to produce a Water Smart City > Flood Management Plan of principles and actions for Council to adapt and respond to flooding. > > > The Taskforce of 12 people will consist of key government, > community, peak body, academic and technical expert representatives. John's contribution to the taskforce would be as a State Government > representative from DERM. A formal letter and Terms of Reference will be forwarded before the first meeting. > The meeting schedule is as follows. > Wed 1 Dec 2010,12.30 - 3pm > Wed 2 Feb 2011,12.30 - 3pm 2011,12.30 - 3pm > Wed 23 Feb > Wed 16 March 2011,12.30 - 3pm > Wed 6 April 2011,12.30 - 3pm > Venue - Level 16 Brisbane Square, 266 George Street, Brisbane. A light lunch will be provided on all occasions. > I look forward to hearing back from you regarding John's interest in participating. > I would also like you to provide me with the best postal address for > your office. > Please email or call me with any questions. > > Warm regards, > > Ana Leigh > > Working together to make Brisbane Australia's most sustainable city. > Ana Leigh Tucker > > Program Officer, Community Engagement > Water Resources

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Barry Dennien		
From:	Hogan Stephenie	

Sent:	
To:	
Cc:	
Subject:	•

Hogan Stephenie Wednesday, 10 November 2010 9:01 AM Ana.Leigh.Tucker Armstrong Steve BCC Lord Mayors Taskforce on Suburban Flooding.

Good Morning Ana Leigh

As discussed, DERM is keen to get a better handle on the purpose and make-up of the taskforce so that we can provide an informed response back regarding DERM representation that fits the taskforce's purpose/s.

It would be appreciated if you could provide the full terms of reference for the taskforce and a more specific outline of the intended makeup, including any other Queensland Government agencies that might be requested to be involved/have representation.

Given the first meeting is scheduled for 1 December, your early advice on this would be helpful.

note that, as mentioned. Steve Armstrong is normally in the Executive Office role for the Director-General so pls slude him in on your response just in case the ToR are not available until next week (when Steve returns from ieave).

thanks Ana Leigh

Steph

#### STEPH HOGAN

A/Executive Officer	
Office of the Director-General	
Telephc	
Mobile:	
Email: stephenie.hogan	
www.derm.ald.aov.au	

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

> >>>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>> > Hi Rebecca, > > Last week I advised Lynette in your office about the opportunity for > John Bradley, Director General of Department of Environment and > Resource Management (DERM), to be a participant in the, Lord Mayor's > Taskforce on Suburban Flooding Review and Update. > > The 2005 Taskforce report was devised over a period of seven months > resulting in strategies to reduce the effect of significant rain > events on areas of Brisbane prone to flooding. > > The full report is available from the following link.

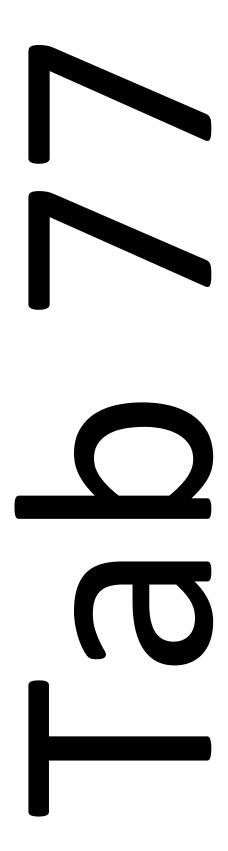
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> Working together to make Brisbane Australia's most sustainable city. > > Ana Leigh Tucker > Program Officer, Community Engagement > Water Resources > Brisbane City Council > BSQ Lvl 8 > Tel: > > > > > *** This message has passed through an insecure network. > Please direct all enquiries to the message author. > *** > > > + > Think B4U Print > 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere > 3 sheets of A4 paper = 1 litre of water + >

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Barry Dennien			
From:	Hogan Stephenie		
Sent:	Wednesday, 10 November 2010 9:08 AM		
To:	Bradley John		
Cc:	Barry Dennien; Williams Lynette; Reilly Bob	S	
Subject:	RE: BCC Lord Mayors Taskforce on Suburban Flooding		

Hi John

I spoke with the BCC contact (Ana Leigh Tucker) and requested the full terms of reference and some more specific info around the intended make-up of the panel including any other State Government agencies. I was a little concerned when she mentioned DERM was the only Qld Gov't agency.

The ToR are in final approvals within BCC but should be available to us by the end of the week, at which point any comments/advice regarding the taskforce representation could be formally provided.

Let me know if you need anything else from me at this point.

٦nks Steph

STEPH HOGAN

A/Executive Officer Office of the Director-General Teleph

Mobile Email:

www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Bradley John Sent: Wednesday, 10 November 2010 8:16 AM To: Reilly Bob Cc: Dennien Barry @ SEQWGM; Hogan Stephenie; Williams Lynette Subject: RE: BCC Lord Mayors Taskforce on Suburban Flooding.

I agree Bob with all of that -

Steph - can you please liaise with the contact officer at BCC Water to get the info raised in Bob's last para?

Thanks

John Bradley Director-General Department of Environment and Resource Management Teleph Email: www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001 From: Reilly Bob

Sent: Wednesday, 10 November 2010 8:15 AM
To: Bradley John
Cc: Dennien Barry @ SEQWGM
Subject: RE: BCC Lord Mayors Taskforce on Suburban Flooding.

Hi John

Barry and I have discussed the matter and agree with the conclusion below.

The 2005 Taskforce made recommendations (on which the 2011 Taskforce is expected to build, apparently) in the following areas:

- Identify flood-prone areas that were developed before current development standards were applied
- Criteria and priorities for voluntary residential property buy back in flood prone areas. (There have been media reports of significant funding short falls for this Council-funded program)
- Reviewing/Strengthening the City Plan's land use planning/development approval/building standards system (This would probably result in some people not being able to build on land with current building rights, and more expensive building costs for others)
- Improved flood information, flood forecasting and flood warnings

The invitation that came to you from BCC did not say which other (if any) Qld Govt agencies were being invited to attend, but it would be desirable that DIP goes to deal with the first three items above. (There are some potential challenges for the Qld Govt, in terms of possible {likely?} funding requests for Qld Govt. financial assistance, and Qld. Govt. "sharing" of responsibility for potential changes to Council zoning/building standards).

In terms of the last item, either Barry or I could attend for you, but on balance, it is best that I go. (Although you could argue that it is best dealt with through Emergency Management Queensland).

One approach could be to ask the Council for the full terms of reference for the Taskforce plus the list of Qld Govt. agency representatives, before you make a decision on this matter. That way, we could be in a better position to ensure the right Qld Govt agencies are represented.

Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator

#### Telephone:

Email:

www.derm.qld.gov.au

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001 -----Original Message-----From: Bradley John Sent: Wednesday, 10 November 2010 6:57 AM To: Dennien Barry @ SEQWGM Cc: Reilly Bob Subject: RE: BCC Lord Mayors Taskforce on Suburban Flooding.

Bob, Barry

Our options are

* Me

* Bob (representing water supply regulatory interests) or * SEQ operational perspective (Barry D or Peter Borrows)

Do you have a view on best fit for State's interests... given previous focus of the Taskforce

John Bradley Director-General Department of Environment and Resource Management Telephone: 07 3330 6298 Email: John.Bradley www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

-----Original Message-----From: Barry Dennien [mailto:Barry.Dennien Sent: Tuesday, 9 November 2010 4:43 PM To: Bradley John Cc: ken.smith Reilly Bob Subject: Re: BCC Lord Mayors Taskforce on Suburban Flooding.

John

I have not heard of it recently

It did have a big profile in 2005 after it was formed in response to public outcry over localised flooding in the oxley creek area

Regards Barry Dennien On 09/11/2010, at 4:21 PM, "Bradley John"

> Ken

> Fyi - note the BCC invitation

> Barry/Bob - do you know anything about this process, has it been

wrote:

discussed in context of the current protocol >

Thanks >

>

>

>

> John B

>

----- Original Message --> From: Williams Lynette

> To: Bradley John

> Sent: Tue Nov 09 16:16:52 2010

> Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding

This is also on your chair >

> Ta >

> Lynette

> ----Original Message-----> From: Ana.Leigh Tucker

> Sent: Wednesday, 3 November 2010 12:51 PM

> To: Williams Lynette

> Subject: Fwd: BCC Lord Mayors Taskforce on Suburban Flooding.

> Hi Lynette,

>

FYI given Rebecca is away. >

> Warm regards, >

> > Ana Leigh.

> Working together to make Brisbane Australia's most sustainable city.

> Ana Leigh Tucker

> Program Officer, Community Engagement

> Water Resources

> Brisbane City Council

> BSQ Lvl 8

> > Tel:

> > >

>>>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>> > Hi Rebecca, > Last week I advised Lynette in your office about the opportunity for > John Bradley, Director General of Department of Environment and > Resource Management (DERM), to be a participant in the, Lord Mayor's > Taskforce on Suburban Flooding Review and Update. > > The 2005 Taskforce report was devised over a period of seven months > resulting in strategies to reduce the effect of significant rain > events on areas of Brisbane prone to flooding. > > The full report is available from the following link. > http://www.brisbane.qld.qov.au/community-support/emergencymanagement/flooding/flooding-taskforce-report/index.htm > > The role of the 2011 Taskforce will be to review the work completed > by the 2005 Taskforce, advise where further action is required, and > develop a new direction for flood risk management in Brisbane. >` > The outcome of the Taskforce will be to produce a Water Smart City > Flood Management Plan of principles and actions for Council to adapt

> and respond to flooding.

> The Taskforce of 12 people will consist of key government, > community, peak body, academic and technical expert representatives.

> John's contribution to the taskforce would be as a State Government

> representative from DERM.

> A formal letter and Terms of Reference will be forwarded before the

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> first meeting.

>

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>

> The meeting schedule is as follows.

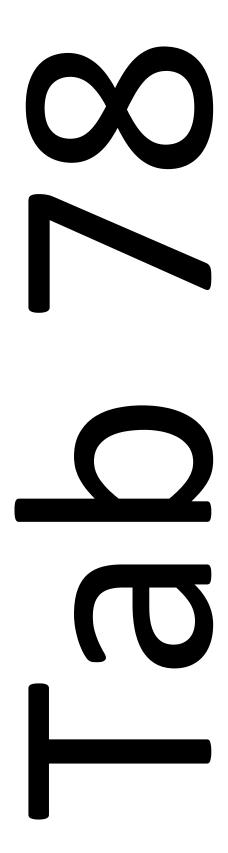
> Wed 1 Dec 2010,12.30 - 3pm > Wed 2 Feb 2011,12.30 - 3pm > Wed 23 Feb 2011,12.30 - 3pm > Wed 16 March 2011,12.30 - 3pm > Wed 6 April 2011,12.30 - 3pm

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Barry Dennien	
From:	Robson Chris
Sent:	Wednesday, 10 November 2010 11:42 AM
То:	Wall Terry
Cc:	Reilly Bob; Williams Christine; Ellwood Dean; Withers Greg; Milligan Graeme; Brown Damien
Subject:	FW: BCC Lord Mayors Taskforce on Suburban Flooding.

## Terry

I am seeing quite a bit of activity come through this office on flood management issues, such as this one, and also recently re the protocol arising from the Wivenhoe Dam flood releases. I am also aware of the OCC project that Greg has advised re western local governments and also a project that Community Safety (EMQ) is seeking involvement of WEO re flood gauging stations.

Whilst at EMG recently we agreed that the DERM role in this is largely re information provision and advice and that you would be our lead person, and that it seems that DIP has agreed in principle to take the lead at national level discussions on flood risk management, as we proposed and as per the basis of a letter from Min Robertson to Min - "inchcliffe, it still seems that when it gets into particular cases DIP does not play a lead role at all and Community - aty (EMQ) take the lead and often look to DERM to be actively involved in not only technical advice but also - cilitating stakeholder discussions etc. The traffic into DERM is often directed to the Water part of DERM. This has lead to the current situation with Bob taking the lead for DERM input re the current SEQ protocol etc and given this has also involved the SEQ Water Grid Manager Bob has been working to me on these matters - he has kept Dean in the loop and Dean and I have agreed that this is OK as long as it does not become a significant drain on Bob's time, I can see given the predictions for this summer that there is likely to be further such input sought from DERM.

I suggest that you convene a meeting with those on this email to discuss best way to bed down the EMG decision.

Chris Robson Deputy Director-General Water and Ecosystem Outcomes Telepho Mobile: Email: www.derm.gld.gov.au

Partment of Environment and Resource Management vel 13, 400 George Street, Brisbane QLD 4000 GPO Box 2454, Brisbane QLD 4001

Please note I have recently moved offices to 400 George Street.

From: Reilly Bob Sent: Wednesday, 10 November 2010 11:10 AM To: Robson Chris Cc: Watson Doug Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding.

Hi Chris

While Steph Hogan is looking after this matter, this BCC request is relevant to the definition of DERM, versus other Qld Govt agencies, roles in the areas of flood planning and response.

Regards

Bob

Department of Environment and Resource Management Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Hogan Stephenie Sent: Wednesday, 10 November 2010 10:27 AM To: Reilly Bob Subject: BCC Lord Mayors Taskforce on Suburban Flooding.

From: Hogan Stephenie Sent: Wednesday, 10 November 2010 9:01 AM To: 'Ana.Leigh.Tucker Cc: Armstrong Steve Subject: BCC Lord Mayors Taskforce on Suburban Flooding.

Good Morning Ana Leigh

As discussed, DERM is keen to get a better handle on the purpose and make-up of the taskforce so that we can provide an informed response back regarding DERM representation that fits the taskforce's purpose/s.

It would be appreciated if you could provide the full terms of reference for the taskforce and a more specific outline of the intended makeup, including any other Queensland Government agencies that might be requested to be involved/have representation.

riven the first meeting is scheduled for 1 December, your early advice on this would be helpful.

Pls note that, as mentioned, Steve Armstrong is normally in the Executive Office role for the Director-General so pls include him in on your response just in case the ToR are not available until next week (when Steve returns from leave).

thanks Ana Leigh

Steph

STEPH HOGAN A/Executive Officer Office of the Director-General Teleph Mobile Email: www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

>>>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>> > Hi Rebecca, > Last week I advised Lynette in your office about the opportunity for > John Bradley, Director General of Department of Environment and > Resource Management (DERM), to be a participant in the, Lord Mayor's > Taskforce on Suburban Flooding Review and Update. 5 > The 2005 Taskforce report was devised over a period of seven months > resulting in strategies to reduce the effect of significant rain > events on areas of Brisbane prone to flooding. > > The full report is available from the following link. > http://www.brisbane.qld.gov.au/community-support/emergencymanagement/flooding/flooding-taskforce-report/index.htm > The role of the 2011 Taskforce will be to review the work completed > by the 2005 Taskforce, advise where further action is required, and > develop a new direction for flood risk management in Brisbane. > The outcome of the Taskforce will be to produce a Water Smart City > Flood Management Plan of principles and actions for Council to adapt > and respond to flooding. > > The Taskforce of 12 people will consist of key government, > community, peak body, academic and technical expert representatives. > John's contribution to the taskforce would be as a State Government > representative from DERM. > A formal letter and Terms of Reference will be forwarded before the > first meeting. > The meeting schedule is as follows. > Wed 1 Dec 2010,12.30 - 3pm > Wed 2 Feb 2011,12.30 - 3pm > Wed 23 Feb 2011,12.30 - 3pm > Wed 16 March 2011,12.30 - 3pm > Wed 6 April 2011,12.30 - 3pm > Venue - Level 16 Brisbane Square, 266 George Street, Brisbane. > A light lunch will be provided on all occasions.

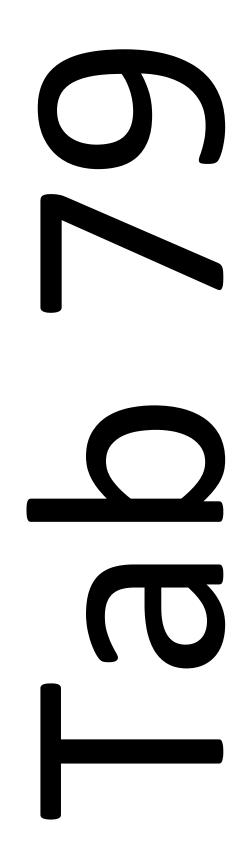
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## Barry Dennien

From:	Hogan Stephenie
Sent:	Friday, 12 November 2010 5:03 PM
То:	Bradley John
Cc:	Barry Dennien; Williams Lynette; Reilly Bob; Armstrong Steve
Subject:	RE: BCC Lord Mayors Taskforce on Suburban Flooding.
Attachments:	BCC Lord Mayors Taskforce on Suburban Flooding.; FW Lord Mayor's Taskforce on Flooding-U&R

Hello

We have received a draft ToR and a spreadsheet with a draft composition of the Lord Mayor's taskforce from BCC as requested. Also attached is my request to Ana Leigh Tucker (the BCC contact).

I'm not sure why, but DG DERM is listed under the political category in the spreadsheet, and as I mentioned in my email below, DERM is the only State Government agency invited to participate.

Thanks

eph

STEPH HOGAN
A/Executive Officer
Office of the Director-General
Teleph
Mobile
Email:
www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Hogan Stephenie
Sent: Wednesday, 10 November 2010 9:08 AM
To: Bradley John
Cc: Dennien Barry @ SEQWGM; Williams Lynette; Reilly Bob
Subject: RE: BCC Lord Mayors Taskforce on Suburban Flooding.

Hi John

I spoke with the BCC contact (Ana Leigh Tucker) and requested the full terms of reference and some more specific info around the intended make-up of the panel including any other State Government agencies. I was a little concerned when she mentioned DERM was the only Qld Gov't agency.

The ToR are in final approvals within BCC but should be available to us by the end of the week, at which point any comments/advice regarding the taskforce representation could be formally provided.

Let me know if you need anything else from me at this point.

Thanks

Steph

STEPH HOGAN	
A/Executive Officer	
Office of the Director-General	
Telepho	
Mobile:	

#### Email:

### www.derm.gld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Bradley John Sent: Wednesday, 10 November 2010 8:16 AM To: Reilly Bob

**Cc:** Dennien Barry @ SEQWGM; Hogan Stephenie; Williams Lynette **Subject:** RE: BCC Lord Mayors Taskforce on Suburban Flooding.

I agree Bob with all of that --

Steph - can you please liaise with the contact officer at BCC Water to get the info raised in Bob's last para?

Thanks

John Bradley Director-General Department of Environment and Resource Management Teleph Email:

www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

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Facsimile:

Email: www.derm.qld.gov.au

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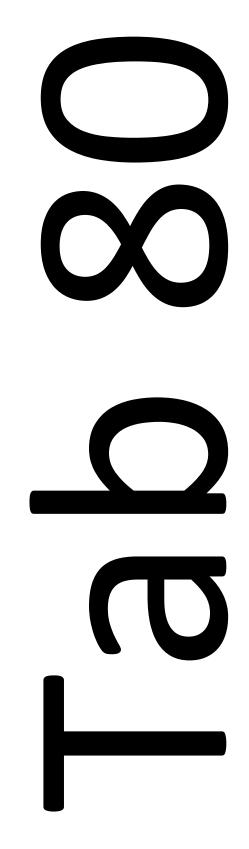
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# views of the sender and not the views of the SEQ Water Grid Manager and/or the Queensland Government.

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Barry Dennien		• • • •	· . ·	•	
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From: Sent:	Reilly Bob Friday, 12 November 20	10.5.27 PM			
To:	Hogan Stephenie			· · ·	۰.
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I am happy to do it appropriate.	: if john would like m	e to, but chris r	obson or terry	wall maybe more	
Regards	· · ·				
Bob					
Original Mess		· ·			
From: Hogan Stepher To: Bradley John	nie				
	) SEQWGM; Williams Lyn	ette; Reilly Bob;	Armstrong Stev	ve	
Annt: Fri Nov 12 17		-	· ·		
Hello			· • •		
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STeph					
STEPH HOGAN					
A/Executive Officer	·				
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Telepho		
Mobile:		
Email:		

www.derm.qld.gov.au <outbind://378/www.derm.qld.gov.au>

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STEPH HOGAN

A/Executive Officer

Office of the Director-General

Telepho Mobile: Email:

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Teleph

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> Ta

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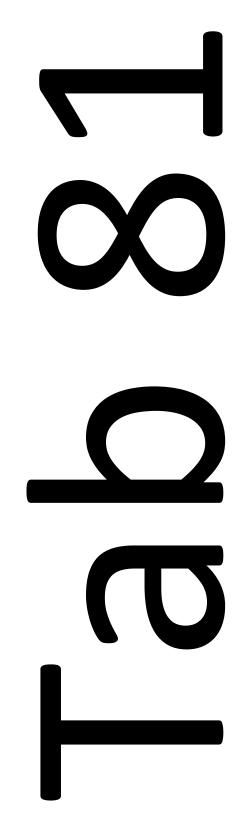
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> BSQ Lvl 8	· .	· · ·	
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## Barry Dennien

From:	
Sent:	
To:	
Subject:	

Barry Dennien Saturday, 13 November 2010 11:37 AM Bradley John Re: BCC Lord Mayors Taskforce on Suburban Flooding.

John

I am comfortable with this

# Regards Barry Dennien

On 13/11/2010, at 11:22 AM, "Bradley John"

Steve

wrote:

I spoke to Ken Friday and he thinks we should nominate Barry Dennien for this.

Can you please send an email to the BCC water person that contacted us and indicate that

I have recommended Barry Dennien, CEO, SEQ Water Grid Manager will be better placed to assist in this important capacity.

Mr Dennien is (summarise skills)....

The Department and I look forward to continuing to assist BCC in every way in this project.

regards

John Bradley Director-General Department of Environment and Resource Management Teleph Email: www.derm.qld.gov.au

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Hogan Stephenie
Sent: Friday, 12 November 2010 5:03 PM
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Cc: Dennien Barry @ SEQWGM; Williams Lynette; Reilly Bob; Armstrong Steve
Subject: RE: BCC Lord Mayors Taskforce on Suburban Flooding.

Hello

We have received a draft ToR and a spreadsheet with a draft composition of the Lord Mayor's taskforce from BCC as requested. Also attached is my request to Ana Leigh Tucker (the BCC contact).

I'm not sure why, but DG DERM is listed under the political category in the spreadsheet, and as I mentioned in my email below, DERM is the only State Government agency invited to participate.

Thanks

STeph

Email:

STEPH HOGAN
A/Executive Officer
Office of the Director-General
Teleph
Mobile

www.derm.gld.gov.au

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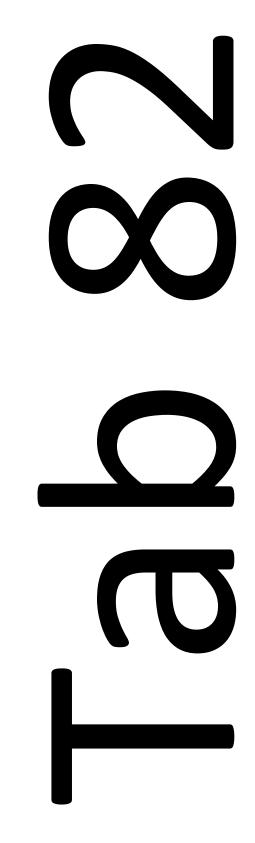
>

> Venue - Level 16 Brisbane Square, 266 George Street, Brisbane. > > A light lunch will be provided on all occasions. > > I look forward to hearing back from you regarding John's interest in > participating. > > I would also like you to provide me with the best postal address for > your office. > > Please email or call me with any questions. > Warm regards, > > Ana Leigh > > Working together to make Brisbane Australia's most sustainable city. > > Ana Leigh Tucker > Program Officer, Community Engagement > Water Resources > Brisbane City Council > BSQ Lvl 8 > > Tel: > This message has passed through an > insecure network. Please direct all enquiries to the message author. _____ > Think B4U Print > 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere > 3 sheets of A4 paper = 1 litre of water

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### **Barry Dennien**

From: Sent: To: Subject: Armstrong Steve Thursday, 18 November 2010 4:06 PM ana.leigh.tucker BCC Lord Mayors Taskforce on Suburban Flooding

Good afternoon Ana

Thank you for your recent emails to John Bradley regarding the Lord Mayors Taskforce on Suburban Flooding and please accept my apologies for the delay in getting back to you.

John has recommended that Barry Dennien, CEO of the SEQ Water Grid Manager will be better placed to assist in this important capacity. Mr Dennien has 25 years' experience in water industry operations and planning .Barry has extensive experience in Local Government and was also formerly Executive Director of Regional Planning and Policy at the Qld Water Commission.

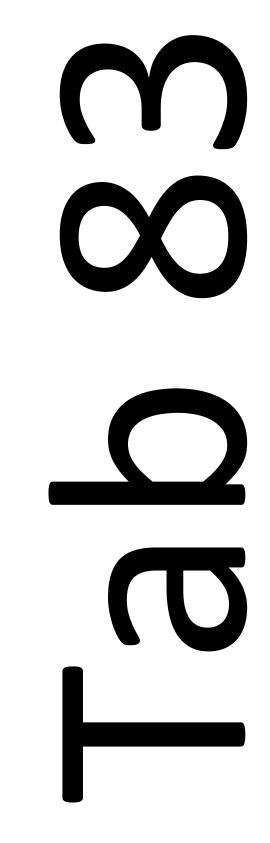
The Department and the Director-General look forward to assisting the BCC in every way in this project.

Utact numbers for Barry are

Regards

Steve Armstrong Executive Officer Office Director-General Telepl Email: www.derm.gld.gov.au

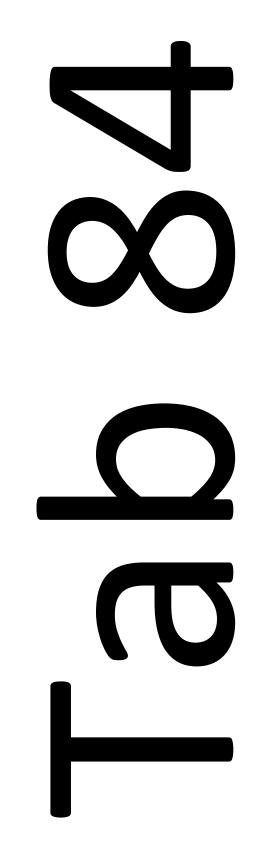
Department of Environment and Resource Management Level 13, 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001



### Barry Dennien

From: Sent: To: Subject: Rob Drury Thursday, 18 November 2010 5:07 PM Barry Dennien Accepted: FW: Meeting to discuss: Dam full supply level (FSL) investigations

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CEO's office (Level 15, 53 Albert Street)	Subject: Location:
Tue 23/11/2010 4:00 PM Tue 23/11/2010 5:00 PM	Start: End:
(none)	Recurrence:
Meeting organizer	Meeting Status:
Barry Dennien ees: jpruss Dan Spille	Organizer: Required Attendees:
Barry Dennien	Organizer:

Storage Lowerin..

From: Brooke Foxover [mailto:bfoxover On Behalf Of Jim Pruss Sent: Wednesday, 10 November 2010 3:57 PM To: Dan Spiller Cc: Jim Pruss Subject: Dam full supply level (FSL) investigations (Draft document)

Hi Dan,

This is the draft advice received from Dam safety guys to date.

Suggest we discuss expectations/ other required details over the phone when convenient.

Once discussed, Seqwater can provide a formal response to meet Grid Manager expectations and Minister deadlines.

Jim Pruss Executive General Manager, Water Delivery QLD Bulk Water Supply Authority trading as Sequater



# DAM FULL SUPPLY LEVEL (FSL) INVESTIGATIONS SEQWATER GATED STORAGES

### INTRODUCTION

The following short paper examines the issues associated with temporary lowering the full supply levels of Seqwater's gated dams to improve short term flood mitigation benefits. The paper considers Wivenhoe Dam, Somerset Dam, North Pine Dam and Leslie Harrison Dam.

### WIVENHOE DAM AND SOMERSET DAM

Wivenhoe Dam and Somerset dam control only 50% of the Brisbane River catchment (Bremer River and Lockyer Creek catchments are not controlled), therefore the Flood Mitigation benefits provided by the dam will depend on the rainfall distribution experienced during a flood event. This makes it difficult to quantify exactly the benefits of lowering the storage in anticipation of possible flood rains.

There are primarily two types of flood events that may occur in the Brisbane River Catchment. There are the smaller events that impact primarily on the rural bridges upstream of Moggill and the larger events that impact on urban areas in Brisbane. The threshold that separates these two events is a river flow of around 3500 cubic metres per second at Moggill. To understand the possible benefits of lowering the storage to reduce flooding impacts, it makes sense to discuss these two types of events separately.

Events Impacting on Bridges (Moggill Flow < 3500m³/s) – Limited Urban Impacts

In recent history, flood events of this nature occurred in April 1989, February 1999 and October 2010. The flow characteristics of events of this type are shown in the following table.

		. ÷.		Wivenhoe Dam		· .
Event	1	ting vel	Volume Of Inflow	Volume Of Outflow	Peak Outflow	Peak Water Level
•	m AHD	%	ML	ML	m3/s	m AHD
Early April 1989	67.06	>100	690,000	690,000	1,620	69.78
Late April 1989	67.00	100	870,000	820,000	1,490	71.45
February 1999	63.92	<100	1,220,000	900,600	1,800	70.45
October 2010	67.03	>100	640,000	640,000	1,300	69.65

The October 2010 event was examined to determine the benefits of lowering the storage level. This event commenced with the dam at FSL. The event was examined with the dam at 95% capacity, 90% capacity, 80% capacity, 50% capacity and empty at the commencement of the event. The results are shown in the following table. When reading the table it is important to understand that the bridges are impacted not just by outflows from Wivenhoe, but also by flows from the uncontrolled areas of the river catchment. Accordingly, the location of a bridge within the system will dictate the size of catchment area that will impact on the bridge. All inundation times shown in the table are approximations only, made for the purposes of this investigation.

Dam Percentage	Approximate	Approximate	Approximate	Peak Flow at
Full at Event	Duration of	Duration of	Duration of Burtons	Moggill
Commencement	Wivenhoe Radial	Savages Crossing	Bridge and Kholo	(m ³ /s)
• .	Gate Releases/	and Colleges	Bridge Inundation	•
	Twin Bridges	Crossing Inundation	(hours)	
	Inundation	(hours)		• •
	(hours)			
100%	230	247	183	1848
. 95%	187	214	183	1848
90%	185	214	183	1841
80%	172	214	183	1786
50%	130	214	153	1722
0%	0	189	38	940

2 | Page

The table shows that the reduction in FSL won't have a large impact on Bridge inundation times. A reduction in the order or 36 hours or 15% of the total inundation time may be possible for the low level bridges only. The reductions are generally caused by the delay in release commencement associated with the lower starting FSL. However, the bridges can often already inundated at this time anyway due to flood inflows into the Brisbane River from the 50% of the catchment not controlled by Wivenhoe Dam. Lowering the FSL of the dam has no impact on such inundations as shown in the table.

For events smaller than those considered above, it should be noted that the Manual of Flood Mitigation allows a trigger level buffer of 27500 megalitres above FSL and this has the effect of protecting Twin Bridges and the lower level bridges from inundation as a result of minor events. Twin Bridges is essentially a low level causeway that is inundated following any radial gate release. This inundation could possibly be prevented by raising the bridge deck level. Regardless, the areas accessed using this bridge can also be accessed using the Fernvale Bridge. It is acknowledged however that the closing of Twin Bridges causes inconvenience to local residents, as it adds approximately another five kilometres to the journeys to and from their residences. Approximately 40 residences and several businesses (primarily turf farms) are impacted.

Events Impacting on Urban Areas (Moggill Flow > 3500m³/s) – All rural bridges inundated

Events of this nature have not been experienced since the construction of Wivenhoe Dam was completed in 1984, with the last event of this nature being experienced in 1974. The inflow volume into Wivenhoe Dam associated with the 1974 event has been estimated to be in the order of 1.5 million megalitres. However during the 1974 event, an additional 1.5 million megalitres of flood flow impacting of the urban areas of Brisbane originated from catchment areas that are not controlled by Wivenhoe Dam.

For events of this nature, it is unlikely that peak water levels in Brisbane would be significantly impacted by minor reductions in the level of Wivenhoe Dam. Certainly reductions in dam volume in the order of at least 250000 megalitres would be needed to provide any significant reduction in water level peaks experienced in urban areas. Additionally, reductions in the FSL of this order would not necessarily guarantee reductions in urban flood levels, as the effectiveness of Wivenhoe Dam in reducing urban flood levels is

directly dependant on the distribution of rainfall in the Brisbane River catchment during a flood event (Wivenhoe Dam controls only 50% of the total Brisbane River catchment) and the spacing between individual flood events.

### NORTH PINE DAM

North Pine Dam has no flood mitigation potential. Unlike Wivenhoe Dam, once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

Any radial gate operation at North Pine Dam to release flood water, results in inundation of Youngs Crossing Road, so lowering the FSL is problematic and may best be achieved by increasing the daily water diversion to the North Pine Dam Water Treatment Plant. There are river release valves that allow some water to be drained from North Pine Dam without inundating Youngs Crossing. These valves have been operated continuously since the recent gate releases to manage residual inflows into the dam. However outflows from these valves are restricted to flows in the order of several hundred megalitres per day as larger flows will adversely impact on Youngs Crossing. Certainly a small reduction in the level of North Pine Dam is potentially beneficial in preventing closures of Youngs Crossing Road associated with small storm events.

It should be noted however that Youngs Crossing Road is also impacted by uncontrolled flood flows from Lake Kurwongbah and local storm run-off. In recent times Youngs Crossing Road has been closed by flood water during times when no water releases were being made from North Pine Dam, but when storm rains resulted in flood flows from uncontrolled areas of the catchment.

The table below gives an indication of the rainfall required to operate for NPD:

	· ·	Capacity		Rainfall Re	quired to Operate	
Level		Capacity		Wet Conditions	Dry Conditions	
	m AHD	%	ML	mm	mm	
FSL	39.60	100.0%	214,302	5	60	
Reduced FSL	39.10	95.0%	203,618	35	100	

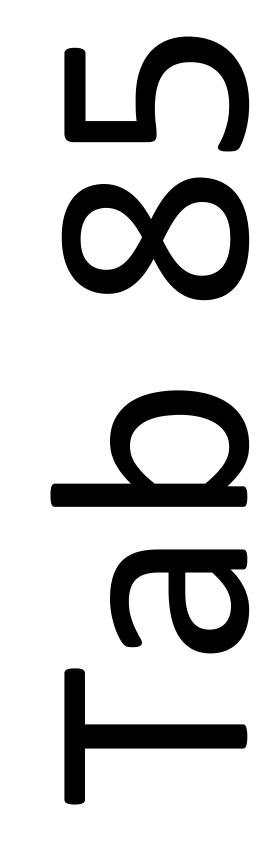
Recent changes to the Manual of Flood Mitigation for North Pine Dam allows for some ability to retain up to 2500 megalitres of water to reduce impacts on Youngs Crossing Road, provided favourable weather forecasts are experienced. However the preferred option to reduce public inconvenience associated with storm events would be to raise the flood immunity of the river crossing on Youngs Crossing Road. This crossing is primarily a low level causeway that is potentially unsuitable given the volume of traffic that now uses this crossing on a daily basis.

### LESLIE HARRISON DAM

5 | Page

Similar to North Pine Dam, Leslie Harrison Dam has no flood mitigation potential. Once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

The dam is relatively small with a total full supply storage volume of only 24800 megalitres, against an inflow volume during a 72 hour 1 in 50 year storm event of over 30000 megalitres. Flood gate operations at Leslie Harrison Dam do not impact on public roads and generally only inconvenience the general public during large flood events. Reductions in this inconvenience cannot be achieved by small reductions in dam storage level.



### Suzie Emery

From:	Marine Gallois
Sent:	Wednesday, 24 November 2010 1:01 PM
То:	Dan Spiller
Cc:	Owen Droop
Subject:	The drought response in context

Attachments: Brisbane system drawdown without drought response pptx; ATT00001.htm

### Hi Dan,

As discussed yesterday, we have prepared some information to show the context of risk in which the decision was made to trigger the drought regulation in Aug 2006. The results provide an illustration of the risks that would have been estimated if an assessment had been undertaken at that time.

The attached figure shows the storage drawdown recorded from Apr-04 to Jul-06 for the Brisbane system (Wivenhoe and Somerset), and estimated storage drawdown at various probability levels from Aug-06 onwards. Assessment assumes no contingency measures had been implemented (e.g. no additional sources and no grid transfers) as would have been the case at the time.

### Assessment outcomes

Results indicate a 0.1% chance of Brisbane storages reaching dead storage within about 2 years of Aug 2006.

Within the context of the proposed drought response measures, the results indicate there was approximately a 1% chance of drawing down towards 5% of capacity prior to the scheduled completion date [end 2008] of the majority of these measures (SRWP, Tugun, Western Corridor and NPI).

Note: this assessment is assuming that demands decrease from levels of about 300 L/p/d in 2006 to about 180 L/p/d by 2009. This is an approximate assumption based on available data within the Wathnet model. By recollection this data was developed for early work undertaken for the Strategy.

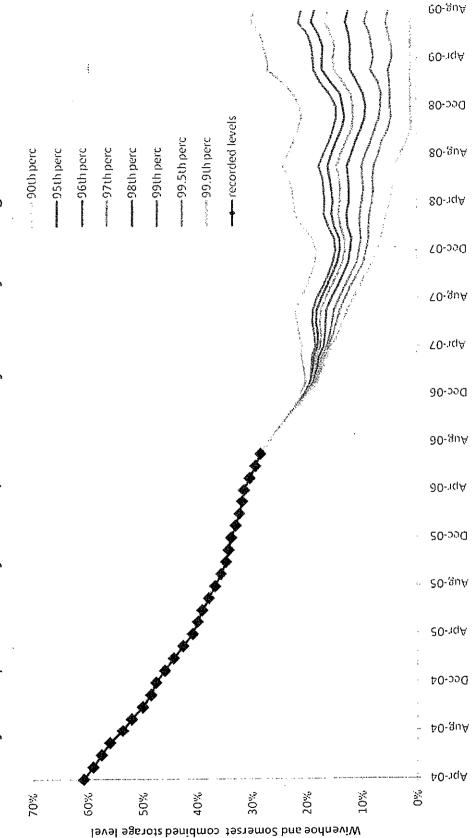
In order to estimate storage levels from 2004 under different demand conditions, we will need additional information regarding consumption during this period. We will give you a call this afternoon to clarify this next piece of assessment.

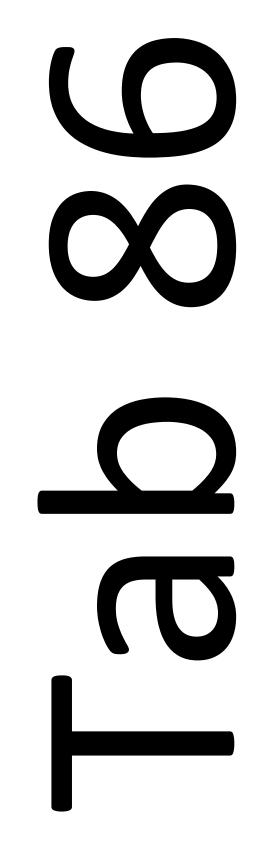
Hope this makes sense and any questions let us know,

Cheers Marine Brisbane system drawdown

# without drought response

records from apr-2004 to jul-2006, indicative forecasts from aug-2006 onwards





<b>.</b>		, "	·: ·	-	
F		• .	•	·	· · ·
Barry Dennien	· .				·
From: Sent: To: Cc:	Michael Shaplar Michael Lyons; I		•		
Subject:	RE: Draπ Protoc	ol for the Communic	cation of Flooding I	ntormation	
Michael/Irina	· · ·				
The SEQ Water Grid Man	ager have no furth	er updates – the Pla	n as disseminated	is suitable.	• •
Regards					
Scott	•				· .
Scott Denner	· · · ·				
Director Risk and Techn	ology				
Water Grid Manag	er		• • • •		· ·
Post: PO Box 16205, BR	ISBANE CITY EAS	F. OLD 4002			
Visit: Level 15, 53 Alber					
ABN: 14783 317 630	<b>.</b>				• •
Sent: Tuesday, 23 Novem To: ttrace Pethybridge Cc: bob.reiliy Scott Denner; mfoster qunderwood Subject: Draft Protocol fo	vicki.pethybr peter.allen Mich p.baddiley	idge rael Lyons; chris.lav Brad	drury in Smith; Bruce Grad	s; Tammy Anderson f jprus ly; Irina Stankovska	or Vicki
Following councils feedbac	ck on the draft prot	ocol Tattach a revis	ed version for you	r final annroval	
revisions, shown as tr give some of the reasons.					ents below
The protocol does not clarification under thes		existing arrangemen	ts or responsibilitie	s; just those that requ	ire
<ul> <li>The flow chart has bee paragraphs in that doc</li> </ul>				ment. It is intended th	at the
<ul> <li>The technical situation judgement of individua</li> </ul>					ews that
<ul> <li>Similarly no definition of again relied on to define</li> </ul>		sue is attempted; th	ne judgement of the	ose involved in the pro	tocol is
• Finally, the protocol ret	flects DERM's view		e initiated at every	rolease of flood water	from domo
on the basis that this w	vill be an occasiona		e milated at every	Telease of hood water	nom uams,

I'd be grateful for any final changes to Irina Stankovska by COB Friday 26 November.

Regards

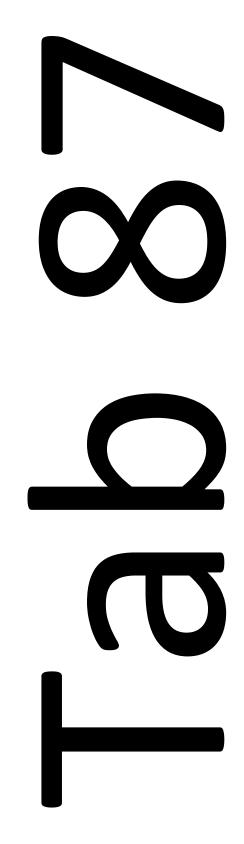
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Mike

Mike Shapland MBE | Director, Disaster Management Emergency Management Queensland | Department of Community Safety Level 2, Block E, Emergency Services Complex, Kedron, Queensland

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### **Barry Dennien**

Subject: Location:	Updated: Flood risk management issues DG's Boardroom, Level 13, 400 George
Start: End:	Fri 26/11/2010 3:30 PM Fri 26/11/2010 4:30 PM
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Williams Christine
-	

Meeting to discuss the different roles or delegates with reference to the attached email.

<<FW: BCC Lord Mayors Taskforce on Suburban Flooding.>>

Conks annie ecutive Assistant to Dr Christine Williams environment and Resource Sciences Tel:

_____

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1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
3 sheets of A4 paper = 1 litre of water

FW BCC Lord 1ayors Taskforce o

### **Suzie Emery**

From:	Robson Chris
Sent:	Wednesday, 10 November 2010 11:42 AM
То:	Wall Terry
Cc:	Reilly Bob; Williams Christine; Ellwood Dean; Withers Greg; Milligan Graeme; Brown Damien
Subject:	FW: BCC Lord Mayors Taskforce on Suburban Flooding.

Terry

I am seeing quite a bit of activity come through this office on flood management issues, such as this one, and also recently re the protocol arising from the Wivenhoe Dam flood releases. I am also aware of the OCC project that Greg has advised re western local governments and also a project that Community Safety (EMQ) is seeking involvement of WEO re flood gauging stations.

Whilst at EMG recently we agreed that the DERM role in this is largely re information provision and advice and that you would be our lead person, and that it seems that DIP has agreed in principle to take the lead at national level discussions on flood risk management, as we proposed and as per the basis of a letter from Min Robertson to Min Hinchcliffe, it still seems that when it gets into particular cases DIP does not play a lead role at all and Community Safety (EMQ) take the lead and often look to DERM to be actively involved in not only technical advice but also cilitating stakeholder discussions etc. The traffic into DERM is often directed to the Water part of DERM. This has lead to the current situation with Bob taking the lead for DERM input re the current SEQ protocol etc and given this has also involved the SEQ Water Grid Manager Bob has been working to me on these matters - he has kept Dean in the loop and Dean and I have agreed that this is OK as long as it does not become a significant drain on Bob's time, I can see given the predictions for this summer that there is likely to be further such input sought from DERM.

I suggest that you convene a meeting with those on this email to discuss best way to bed down the EMG decision.

Chris Robson Deputy Director-General Water and Ecosystem Outcomes Telepho Mobile: Email: www.derm.gld.gov.au

Department of Environment and Resource Management Svel 13, 400 George Street, Brisbane QLD 4000 GPO Box 2454, Brisbane QLD 4001

Please note I have recently moved offices to 400 George Street.

From: Reilly Bob Sent: Wednesday, 10 November 2010 11:10 AM To: Robson Chris Cc: Watson Doug Subject: FW: BCC Lord Mayors Taskforce on Suburban Flooding.

Hi Chris

While Steph Hogan is looking after this matter, this BCC request is relevant to the definition of DERM, versus other Qld Govt agencies, roles in the areas of flood planning and response.

Regards

Bob

Bob Reilly General Manager, Office of the Water Supply Regulator Teleph Email: www.derm.qld.gov.au

Department of Environment and Resource Management

Lvl 3 41 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

From: Hogan Stephenie Sent: Wednesday, 10 November 2010 10:27 AM To: Reilly Bob Subject: BCC Lord Mayors Taskforce on Suburban Flooding.



From: Hogan Stephenie Sent: Wednesday, 10 November 2010 9:01 AM To: 'Ana.Leigh.Tucker Cc: Armstrong Steve Subject: BCC Lord Mayors Taskforce on Suburban Flooding.

Good Morning Ana Leigh

As discussed, DERM is keen to get a better handle on the purpose and make-up of the taskforce so that we can provide an informed response back regarding DERM representation that fits the taskforce's purpose/s.

It would be appreciated if you could provide the full terms of reference for the taskforce and a more specific outline of the intended makeup, including any other Queensland Government agencies that might be requested to be involved/have representation.

Given the first meeting is scheduled for 1 December, your early advice on this would be helpful.

is note that, as mentioned, Steve Armstrong is normally in the Executive Office role for the Director-General so plainclude him in on your response just in case the ToR are not available until next week (when Steve returns from leave).

thanks Ana Leigh

Steph

### 

Department of Environment and Resource Management 400 George Street, Brisbane Q 4000 GPO Box 2454, Brisbane Q 4001

```
>
>>>> Ana.Leigh Tucker 3/11/2010 12:22:13 pm >>>
> Hi Rebecca,
>
> Last week I advised Lynette in your office about the opportunity
for
> John Bradley, Director General of Department of Environment and
> Resource Management (DERM), to be a participant in the, Lord
Mayor's
> Taskforce on Suburban Flooding Review and Update.
>
> The 2005 Taskforce report was devised over a period of seven
months
> resulting in strategies to reduce the effect of significant rain
> events on areas of Brisbane prone to flooding.
>
> The full report is available from the following link.
> http://www.brisbane.qld.qov.au/community-support/emergency-
management/flooding/flooding-taskforce-report/index.htm
>
> The role of the 2011 Taskforce will be to review the work
completed
> by the 2005 Taskforce, advise where further action is required,
and
> develop a new direction for flood risk management in Brisbane.
>
> The outcome of the Taskforce will be to produce a Water Smart
City
> Flood Management Plan of principles and actions for Council to
adapt
> and respond to flooding.
>
> The Taskforce of 12 people will consist of key government,
> community, peak body, academic and technical expert
representatives.
>
> John's contribution to the taskforce would be as a State
Government
> representative from DERM.
>
> A formal letter and Terms of Reference will be forwarded before
the
> first meeting.
>
> The meeting schedule is as follows.
>
> Wed 1 Dec 2010,12.30 - 3pm
        Feb 2011,12.30 - 3pm
> Wed 2
> Wed 23 Feb 2011,12.30 - 3pm
> Wed 16 March 2011,12.30 - 3pm
> Wed 6 April 2011,12.30 - 3pm
>
> Venue - Level 16 Brisbane Square, 266 George Street, Brisbane.
> A light lunch will be provided on all occasions.
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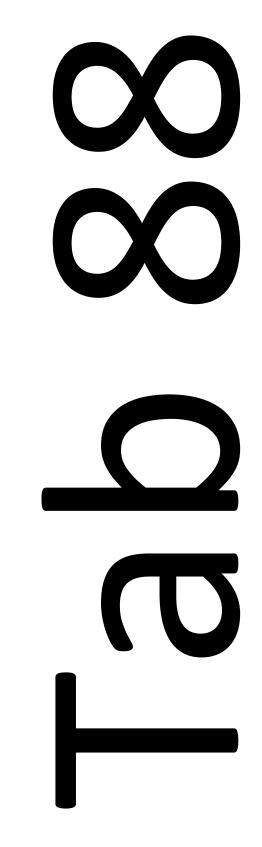
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> I look forward to hearing back from you regarding John's interest
in
> participating.
>
> I would also like you to provide me with the best postal address
for
> your office.
>
> Please email or call me with any questions.
>
> Warm regards,
>
>
> Ana Leigh
>
> Working together to make Brisbane Australia's most sustainable
city.
>
> Ana Leigh Tucker
> Program Officer, Community Engagement
> Water Resources
> Brisbane City Council
> BSQ Lvl 8
>
> Tel:
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>
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+
> Think B4U Print
> 1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
> 3 sheets of A4 paper = 1 litre of water
> +-----
+
>
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### **Barry Dennien**

From: Sent: To: Subject: Attachments: Barry Dennien Wednesday, 1 December 2010 11:56 AM Jim Pruss Ro Dam levels - Investigation image001.gif

Rob Drury

Jim Rob

Hope all is well.

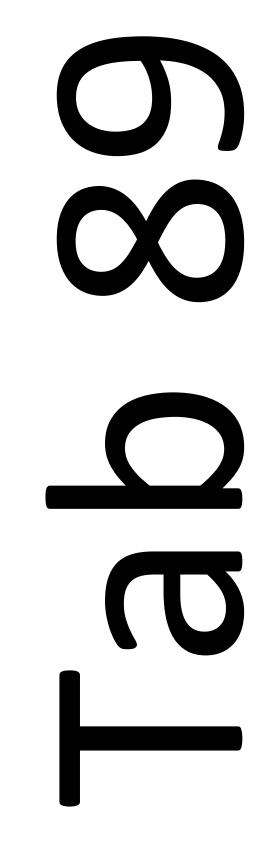
Just following up on our discussions with regards dam levels and flood impacts. Anything I can do to help?

We are due to get back to the Minister by the end of November.

Regards ry Dennien nief Executive Officer SEQ Water Grid Manager Phone Email: Visit: Level 15, 53 Albert Street, Brisbane Post: PO Box 16205, City East Old 4002

ABN: 14783 317 630

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### Gina O'Driscoll

From: Sent: To: Cc: Subject: Attachments: Rob Drury Thursday, 2 December 2010 3:11 PM Barry Dennien; Jim Pruss Peter Borrows RE: Dam levels - Investigation WIVENHOE DAM - Storage Lowering Investigation.docx

Barry,

Attached is our DRAFT reply on possibility and impact of lowering dam levels on floods for your review and any comments.

Rob



Sequater Source

Ph

Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia PO Box 37, Fernvale QLD 4306 Website | <u>www.seqwater.com.au</u>

From: Barry Dennien Sent: Wednesday, 1 December 2010 11:56 AM To: Jim Pruss; Rob Drury Subject: Dam levels - Investigation

Jim Rob

Hope all is well.

Just following up on our discussions with regards dam levels and flood impacts. Anything I can do to help?

1

We are due to get back to the Minister by the end of November.

Regards

Barry Dennien Chief Executive Officer SEQ Water Grid Manager

### Phone Email: Visit: Level 15, 53 Albert Street, Brisbane Post: PO Box 16205, City East Qld 4002 ABN: 14783 317 630

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## Summary of comments

The attached paper summarises an analysis that changing the initial storage level of dams has on downstream flood impacts.

### Wivenhoe/Somerset System

The analysis shows that for some minor floods similar to October 2010, reducing the starting volume of Wivenhoe Dam by 5% or 10% has minimal impacts on impacts downstream. The main benefit being that inundation times for downstream bridges will be reduced but only by around15%. However peak water levels are not affected. There are minimal potential benefits to downstream bridge until dam levels are reduced down to about 50% of capacity.

These results are not unexpected as Wivenhoe has such a large flood storage. Adding say 100,000ML to the flood storage (equates to reducing the storage volume by 10%) does not appreciably increase this available flood storage.

It should also be noted that in many cases, Wivenhoe flood releases will be made following the peaks of inflows into the Brisbane River from the Lockyer and Bremer Catchments. Certainly during many events, Lockyer Creek could already have inundated most or all of the road crossings downstream of Wivenhoe Dam. In these instances, a small amount of additional flood storage in the dam provides minimal benefit.

Another option considered was pre-releasing Wivenhoe water in anticipation of a flood event. This is not considered a viable option for the following reasons:

- Regardless of forecast, there is never any certainty on the amount of rain that will fall within a dam catchment. For example, on 29 November 2010, the quantitative forecast from BOM for the Wivenhoe Catchment was 25 to 50 millimetres. Actual rainfall received was in the order of 10 millimetres. On a saturated catchment this could equate to a runoff discrepancy of hundreds of thousands of megalitres. A prerelease of anticipated flood water based on forecast could result in major embarrassment.
- Any significant pre-release of water would result in bridge inundation below Wivenhoe Dam.
- Any pre-release of water from Wivenhoe Dam will take at least 24 hours to reach the lower end of the Brisbane River system. Rains occurring in the catchments below the dam over this period could potentially worsen downstream flood impacts.

The Bureau of Meteorology has been contacted and they have confirmed the above forecast reliability assessment. They advised that, whilst weather prediction models are steadily improving, the forecast of rainfall amounts over catchment time/space scales is recognised as one of the most challenging/difficult tasks. Detailed rainfall forecasting is not deterministic - the uncertainties involved are often expressed in probablistic forecasts and whilst there is often the ability to forecast the potential for a significant rain event to occur in the southeast Qld-northern NSW region, it is difficult (if not impossible) to predict the actual location of the heaviest rain, even with only a few hours notice.

The Queensland Director of Dam Safety (Mr Peter Allen) was contacted and he confirmed - the assessment that minor reductions in the stored volume of Wivenhoe Dam would have

minimal impacts on floods downstream and concurred with the risks involved in any pre release of significant volumes of water from dams prior to an event.

### North Pine and Leslie Harrison Dams

Lowering the normal FSL for North Pine and Leslie Harrison Dams will have minimal impact on major floods and may not decrease releases depending on the size of even minor events. However lowering the level of North Pine Dam after a flood release to between 95% and 100% may reduce the frequency of operations in some rain events although the main benefit is in operational efficiency as it provides more time for response and may reduce making releases in a minor storm event.

Similarly reducing Leslie Harrison level to around 95% after or before an event could assist in reducing call out of staff and manning the storage for minor releases and even the timing of releases.

Normally both dams are returned to just under 100% after an event based on base inflows still occurring and possible further rain. Allowing the dams to reduce to around 95% improves the operational leeway. However this could best be provided by an operational arrangement where the WGM simply agrees Seqwater has the operational latitude to reduce both storages to between 95% and 100% after an event or when there is some inflow and Seqwater can decide the exact level based on ongoing inflows and possible predicted rainfall, but not going below 95%.

# DAM FULL SUPPLY LEVEL (FSL) INVESTIGATIONS SEQWATER GATED STORAGES

### INTRODUCTION

The following short paper examines the issues associated with temporary lowering the full supply levels of Seqwater's gated dams to improve short term flood mitigation benefits. The paper considers Wivenhoe Dam, Somerset Dam, North Pine Dam and Leslie Harrison Dam.

### WIVENHOE DAM AND SOMERSET DAM

Wivenhoe Dam and Somerset dam control only 50% of the Brisbane River catchment (Bremer River and Lockyer Creek catchments are not controlled), therefore the Flood Mitigation benefits provided by the dam will depend on the rainfall distribution experienced during a flood event. This makes it difficult to quantify exactly the benefits of lowering the storage in anticipation of possible flood rains.

There are primarily two types of flood events that may occur in the Brisbane River Catchment. There are the smaller events that impact primarily on the rural bridges upstream of Moggill and the larger events that impact on urban areas in Brisbane. The threshold that separates these two events is a river flow of around 3500 cubic metres per second at Moggill. To understand the possible benefits of lowering the storage to reduce flooding impacts, it makes sense to discuss these two types of events separately.

### Events Impacting on Bridges (Moggill Flow < 3500m³/s) – Limited Urban Impacts

In recent history, flood events of this nature occurred in April 1989, February 1999 and October 2010. The flow characteristics of events of this type are shown in the following table.

	Wivenhoe Dam						
Event	Starting Level		Volume Of Inflow	Volume Of Outflow	Peak Outflow	Peak Water Level	
	m AHD	%	ML	ML.	m3/s	m AHD	
Early April 1989	67.06	>100	690,000	690,000	1,620	69.78	
Late April 1989	67.00	100	870,000	820,000	1,490	71.45	
February 1999	63.92	<100	1,220,000	900,600	1,800	70.45	
October 2010	67.03	>100	640,000	640,000	1,300	69.65	

The October 2010 event was examined to determine the benefits of lowering the storage level. This event commenced with the dam at FSL. The event was examined with the dam at 95% capacity, 90% capacity, 80% capacity, 50% capacity and empty at the commencement of the event. The results are shown in the following table. When reading the table it is important to understand that the bridges are impacted not just by outflows from Wivenhoe, but also by flows from the uncontrolled areas of the river catchment. Accordingly, the location of a bridge within the system will dictate the size of catchment area that will impact on the bridge. All inundation times shown in the table are approximations only, made for the purposes of this investigation.

Dam Percentage	Approximate	Approximate	Approximate	Peak Flow at
Full at Event	Duration of	Duration of	Duration of Burtons	Moggill
Commencement	Wivenhoe Radial	Savages Crossing	Bridge and Kholo	(m ³ /s)
	Gate Releases/	and Colleges	Bridge Inundation	
	Twin Bridges	Crossing Inundation	(hours)	
	Inundation	(hours)		
	(hours)			
100%	230	247	183	1848
95%	187	214	183	1848
90%	185	214	183	1841
80%	172	214	183	1786
50%	130	214	153	1722
0%	0	189	38	940

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The table shows that the reduction in FSL won't have a large impact on Bridge inundation times. A reduction in the order or 36 hours or 15% of the total inundation time may be possible for the low level bridges only. The reductions are generally caused by the delay in release commencement associated with the lower starting FSL. However, the bridges can often already inundated at this time anyway due to flood inflows into the Brisbane River from the 50% of the catchment not controlled by Wivenhoe Dam. Lowering the FSL of the dam has no impact on such inundations as shown in the table.

For events smaller than those considered above, it should be noted that the Manual of Flood Mitigation allows a trigger level buffer of 27500 megalitres above FSL and this has the effect of protecting Twin Bridges and the lower level bridges from inundation as a result of minor events. Twin Bridges is essentially a low level causeway that is inundated following any radial gate release. This inundation could possibly be prevented by raising the bridge deck level. Regardless, the areas accessed using this bridge can also be accessed using the Fernvale Bridge. It is acknowledged however that the closing of Twin Bridges causes inconvenience to local residents, as it adds approximately another five kilometres to the journeys to and from their residences. Approximately 40 residences and several businesses (primarily turf farms) are impacted.

# Events Impacting on Urban Areas (Moggill Flow > 3500m³/s) – All rural bridges inundated

Events of this nature have not been experienced since the construction of Wivenhoe Dam was completed in 1984, with the last event of this nature being experienced in 1974. The inflow volume into Wivenhoe Dam associated with the 1974 event has been estimated to be in the order of 1.5 million megalitres. However during the 1974 event, an additional 1.5 million megalitres of flood flow impacting of the urban areas of Brisbane originated from catchment areas that are not controlled by Wivenhoe Dam.

For events of this nature, it is unlikely that peak water levels in Brisbane would be significantly impacted by minor reductions in the level of Wivenhoe Dam. Certainly reductions in dam volume in the order of at least 250000 megalitres would be needed to provide any significant reduction in water level peaks experienced in urban areas. Additionally, reductions in the FSL of this order would not necessarily guarantee reductions in urban flood levels, as the effectiveness of Wivenhoe Dam in reducing urban flood levels is

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directly dependant on the distribution of rainfall in the Brisbane River catchment during a flood event (Wivenhoe Dam controls only 50% of the total Brisbane River catchment) and the spacing between individual flood events.

### NORTH PINE DAM

North Pine Dam has no flood mitigation potential. Unlike Wivenhoe Dam, once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

Any radial gate operation at North Pine Dam to release flood water, results in inundation of Youngs Crossing Road, so lowering the FSL is problematic and may best be achieved by increasing the daily water diversion to the North Pine Dam Water Treatment Plant. There are river release valves that allow some water to be drained from North Pine Dam without inundating Youngs Crossing. These valves have been operated continuously since the recent gate releases to manage residual inflows into the dam. However outflows from these valves are restricted to flows in the order of several hundred megalitres per day as larger flows will adversely impact on Youngs Crossing. Certainly a small reduction in the level of North Pine Dam is potentially beneficial in preventing closures of Youngs Crossing Road associated with small storm events.

It should be noted however that Youngs Crossing Road is also impacted by uncontrolled flood flows from Lake Kurwongbah and local storm run-off. In recent times Youngs Crossing Road has been closed by flood water during times when no water releases were being made from North Pine Dam, but when storm rains resulted in flood flows from uncontrolled areas of the catchment.

The table below gives an indication of the rainfall required to operate for NPD:

		Capacity		Rainfall Re	quired to Operate
Level					Dry Conditions
	m AHD	%	ML	mm	mm
FSL	39.60	100.0%	214,302	5	60
Reduced FSL	39.10	95.0%	203,618	35	100

Recent changes to the Manual of Flood Mitigation for North Pine Dam allows for some ability to retain up to 2500 megalitres of water to reduce impacts on Youngs Crossing Road, provided favourable weather forecasts are experienced. However the preferred option to reduce public inconvenience associated with storm events would be to raise the flood immunity of the river crossing on Youngs Crossing Road. This crossing is primarily a low level causeway that is potentially unsuitable given the volume of traffic that now uses this crossing on a daily basis.

### LESLIE HARRISON DAM

Similar to North Pine Dam, Leslie Harrison Dam has no flood mitigation potential. Once the dam has reached FSL, all water flows into the dam must be released to protect the structural safety of the dam.

The dam is relatively small with a total full supply storage volume of only 24800 megalitres, against an inflow volume during a 72 hour 1 in 50 year storm event of over 30000 megalitres. Flood gate operations at Leslie Harrison Dam do not impact on public roads and generally only inconvenience the general public during large flood events. Reductions in this inconvenience cannot be achieved by small reductions in dam storage level.