
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 3 of 3



Matter barcode: 158740-00001

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

Dated: 4 April 2011

Email: [REDACTED]

Ph: [REDACTED]

Fax: [REDACTED]

2011 BRISBANE FLOODS

F: 0090

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

Acting FE: MMC

Resp FE: MMC

Intro FE: MMC



Folder barcode: F00392200

Date Created: 27/01/2011

Tea **drinks**

Barry Dennien

From: Barry Dennien
Sent: Friday, 3 December 2010 3:06 PM
To: 'Rob Drury'; Jim Pruss
Cc: Peter Borrows; Dan Spiller
Subject: RE: Dam levels - Investigation
Attachments: image001.gif; image003.jpg; image004.png

Rob

Thanks for the report. Thanks for the additional BOM advice.

I note the good work on modelled sensitivities for flows below 1900m³/sec – W1 strategy (flood manual)

The report then jumps to greater than 3500m³/sec (W4 strategy) and comments how peak water levels would unlikely be impacted and it comments that dam volume reductions of 250,000 megalitres (reduction 20% dam level) would be needed for any significant reduction in water level peaks.

Q1. Was the >3500m³/sec modelled like the October event < 1900M³/sec to draw the above conclusions.

Q2. Was the flow between 1900 and 3500 m³/sec modelled (Strategy W2 W3) with various dam levels to ascertain benefits to peak levels or bridge outage durations

Q3. If no to 1 and 2 is it worth doing considering we make the comments above about maybe a benefit if we have 250,000 ML extra storage.

Regards

Barry

From: Rob Drury [REDACTED]
Sent: Thursday, 2 December 2010 3:11 PM
To: Barry Dennien; Jim Pruss
Cc: Peter Borrows
Subject: RE: Dam levels - Investigation

Barry,
Attached is our DRAFT reply on possibility and impact of lowering dam levels on floods for your review and any comments.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority *trading as Seqwater*



Swimming in weirs and
flowing water is FA!



Ph [REDACTED]
Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

From: Barry Dennien [REDACTED]
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?

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: [REDACTED]
Email: [REDACTED]

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

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Tea

Barry Dennien

From: Barry Dennien
Sent: Wednesday, 8 December 2010 8:23 AM
To: Jim Pruss; 'Rob Drury'
Cc: Dan Spiller; 'Peter Borrows'
Attachments: SEQ Water Grid Media Report - 8 December 2010 (2)

Hi Jim Rob

The Minister is attending our Board meeting this Monday and given the public debate on Wivenhoe levels is very much front of mind (attached) he will ask on the status of the modelling work. I received your update the other day thankyou, I had a few extra questions, is there any chance on your thoughts before Monday, not necessarily any new model runs before then.

Regards

Barry

Rob

Thanks for the report. Thanks for the additional BOM advice.

I note the good work on modelled sensitivities for flows below 1900m³/sec – W1 strategy (flood manual)

The report then jumps to greater than 3500m³/sec (W4 strategy) and comments how peak water levels would unlikely be impacted and it comments that dam volume reductions of 250,000 megalitres (reduction 20% dam level) would be needed for any significant reduction in water level peaks.

Q1. Was the >3500m³/sec modelled like the October event < 1900M³/sec to draw the above conclusions.

Q2. Was the flow between 1900 and 3500 m³/sec modelled (Strategy W2 W3) with various dam levels to ascertain benefits to peak levels or bridge outage durations

Q3. If no to 1 and 2 is it worth doing considering we make the comments above about maybe a benefit if we have 250,000 ML extra storage.

Regards

Barry

SEQ Water Grid Media Report - 8 December 2010

AM Radio

▶ **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 9:41 AM
Gary Hardgrave
Station Phone 07 3908 8200

Hardgrave speaks to Jeff Seeney, Shadow Minister for Natural Resources, Mines and Energy who says the Government tries to mislead the people of SE Qld about how full Wivenhoe Dam is. Seeney points out that Wivenhoe is a flood buffer, so when the Qld Government says it is full, it is only 40% full. Hardgrave talks about a report that suggested water managers could increase the capacity of Wivenhoe by a few metres, but Seeney says this has not been done. Hardgrave talks about the multi-billion dollar water grid, saying it is a good investment if water can be shared around with places such as Toowoomba. Seeney says Toowoomba Dam is not full, though it should be, and says the real issue was the fact that SEQ was charging Toowoomba city an exorbitant amount for water.

Interviewees: Jeff Seeney, Shadow Minister for Natural Resources, Mines and Energy

Duration: 5.32

Summary ID: W00041675642

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)

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| Audience | |
|------------|--------|
| Male 16+ | 16,000 |
| Female 16+ | 19,000 |
| All People | 35,000 |

| Advertising Space Rate | |
|------------------------|-------|
| AUD: | 6,778 |

▶ **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 10:48 AM
Gary Hardgrave
Station Phone 07 3908 8200

Hardgrave says that Stephen Robertson, Queensland Minister for Natural Resources contacted the programme to say that Toowoomba Mayor Peter Taylor was told in October that Toowoomba can have as much water as it wants at no charge any time Wivenhoe spills over. Also, because it has an independent contract with Origin Energy, the Toowoomba Regional Council remains liable for the cost of electricity required to pump the water to its dam.

Duration: 1.06

Summary ID: W00041676979

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)

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| Audience | |
|------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |

| Advertising Space Rate | |
|------------------------|-------|
| AUD: | 1,155 |

► **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 11:07 AM
Gary Hardgrave
Station Phone 07 3908 8200

Hardgrave appeals to the office of Stephen Robertson, Queensland Minister for Natural Resources, to fill Toowoomba's dams instead of pumping water out to sea. He reads a listener email which suggests filling Toowoomba's dams by pumping is as effective as 'urinating in the ocean'. The email mentions the last Wivenhoe Dam discharge and says the water grid is more effective in perception than reality. Hardgrave says the perception has cost six million dollars.

Duration: 1.58
Summary ID: W00041676847

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)
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| Audience | |
|------------------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |
| Advertising Space Rate | |
| AUD: | 2,065 |

► **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 11:13 AM
Gary Hardgrave
Station Phone 07 3908 8200

Caller Ian explains his understanding of why water can not be pumped from Wivenhoe Dam to Toowoomba's dams. He says pumping water is a 'terribly expensive operation'. Hardgrave challenges Anna Bligh to 'please explain' why the water grid does not work.

Duration: 2.24
Summary ID: W00041677209

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)
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| Audience | |
|------------------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |
| Advertising Space Rate | |
| AUD: | 2,520 |

► **4BC (Brisbane)**
11:00 News - 7/12/2010 11:00 AM
Newsreader
News Director Mr Chris Adams 07 3908 8244

Jeff Seeney, Shadow Minister for Mines and Energy, has accused the government of masking water levels at Wivenhoe Dam.

Interviewees: Jeff Seeney, Shadow Minister for Mines and Energy
Duration: 0.43

Summary ID: W00041677042
 This program or part thereof is syndicated to the following 5 station(s):-
 1071 AM (Kingaroy), 4BH (Brisbane), 4CRB FM (Gold Coast), 4LG (Longreach), Radio 4KZ (Innisfail)
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| Audience | |
|------------------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |
| Advertising Space Rate | |
| AUD: | 752 |

▶ **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 11:11 AM
Gary Hardgrave
Station Phone 07 3908 8200

Hardgrave talks about the different views of Jeff Seeney, Opposition Spokesman, and Stephen Robertson, Queensland Minister for Natural Resources, regarding water levels in the Wivenhoe Dam. He questions why the Queensland Government are afraid to review water management strategies formulated in the '70s.

Duration: 1.08

Summary ID: W00041677155

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)

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| Audience | |
|------------------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |
| Advertising Space Rate | |
| AUD | 1,190 |

▶ **4BC (Brisbane)**
Greg Cary Morning Show - 7/12/2010 11:09 AM
Gary Hardgrave
Station Phone 07 3908 8200

Caller Will and Hardgrave discuss having to pay extra for power in Toowoomba. Hardgrave says Toowoomba's dams should be filled before water from the Wivenhoe is released into the sea.

Duration: 1.23

Summary ID: W00041677114

This program or part thereof is syndicated to the following 6 station(s):-
 4BU (Bundaberg), 4LG (Longreach), 4RO (Rockhampton), 4VL (Charleville),
 4WK (Toowoomba), Radio 4KZ (Innisfail)

© Media Monitors

| Audience | |
|------------------------|--------|
| Male 16+ | 12,000 |
| Female 16+ | 18,000 |
| All People | 30,000 |
| Advertising Space Rate | |
| AUD | 1,452 |

▶ **4GR (Toowoomba)**
07:30 News - 7/12/2010 7:32 AM
Newsreader
News Director Ms Missy Burrell 07 5591 4999

ed the level of Toowoomba's dams to 35.6% allowing for a drop in water restrictions.

Interviewees: Paul Antonio, Toowoomba Regional Councillor

Duration: 0.31

Summary ID: W00041672876

This program or part thereof is syndicated to the following 1 station(s):-
 C FM Toowoomba (Toowoomba)

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| Audience | |
|------------------------|-------|
| Male 16+ | 4,400 |
| Female 16+ | 5,100 |
| All People | 9,500 |
| Advertising Space Rate | |
| AUD | 174 |

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MEDIA MONITORS

► **4GR (Toowoomba)**
08:30 News - 7/12/2010 8:33 AM
Newsreader
Station Phone 07 4632 3333

Recent rains have put Toowoomba's combined dam levels at an even higher level. Paul Antonio, Deputy Mayor, Toowoomba Regional Council, says residents will be able to be more free with how they use their water.

Interviewees: Paul Antonio, deputy mayor, Toowoomba Regional Council
Duration: 0.35
Summary ID: W00041674512
 This program or part thereof is syndicated to the following 1 station(s):-
 C FM Toowoomba (Toowoomba)
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| | |
|-------------------------------|-------|
| Audience | |
| Male 16+ | 4,200 |
| Female 16+ | 4,700 |
| All People | 8,900 |
| Advertising Space Rate | |
| AUD | 184 |

► **4WK (Toowoomba)**
11:00 News - 7/12/2010 11:01 AM
Newsreader
Station Phone 07 4632 9999

Qld Shadow Minister for Mines and Energy Jeff Seeney has accused the Qld Government of being deceptive about water levels at Wivenhoe Dam.

Interviewees: Jeff Seeney, Qld Shadow Minister for Mines and Energy
Duration: 0.44
Summary ID: W00041677671
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| | |
|-------------------------------|-------|
| Audience | |
| Male 16+ | 300 |
| Female 16+ | 1,200 |
| All People | 1,500 |
| Advertising Space Rate | |
| AUD | 47 |

► **ABC 612 Brisbane (Brisbane)**
06:30 News - 8/12/2010 6:32 AM
Newsreader
Executive Producer Ms Maree Hawthorne 07 3377 5244

Queensland Urban Utilities plans to slash water prices in the Southeast by \$10 in 2011. Chairwoman of QUU, Jude Munro, says savings for households will rise to \$20 in the 2012-13 financial year.

Interviewees: Jude Munro, Chairwoman, Queensland Urban Utilities
Duration: 0.44
Summary ID: W00041688637
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| | |
|-------------------------------|--------|
| Audience | |
| Male 16+ | 27,000 |
| Female 16+ | 24,000 |
| All People | 53,000 |
| Advertising Space Rate | |
| AUD | 958 |

► **ABC 612 Brisbane (Brisbane)**
Drive - 7/12/2010 3:22 PM
Kelly Higgins-Devine
Presenter Ms Kelly Higgins-Devine 07 3377 5235

News Headlines: - The Reserve Bank has kept interest rates on hold. - The floodgates at North Pine Dam have been reopened by Seqwater.

Duration: 0.43
Summary ID: W00041681038
 © Media Monitors

| | |
|-------------------------------|--------|
| Audience | |
| Male 16+ | 10,000 |
| Female 16+ | 12,000 |
| All People | 22,000 |
| Advertising Space Rate | |
| AUD | 389 |

▶ **ABC 612 Brisbane (Brisbane)**
16:00 News - 7/12/2010 4:04 PM
Newsreader
Executive Producer Ms Maree Hawthorne 07 3377 5244

The floodgates have been closed at North Pine Dam this afternoon. SEQ Water says they were open yesterday.

Duration: 0.11
Summary ID: W00041681679

This program or part thereof is syndicated to the following 11 station(s):-
 ABC Capricornia (Rockhampton), ABC Far North (Cairns), ABC Gold and Tweed Coasts (Gold Coast), ABC North Queensland (Townsville), ABC North West Qld (Mt Isa), ABC Southern Queensland (Toowoomba), ABC Sunshine and Cooloola Coasts (Sunshine Coast), ABC Tropical North (Mackay), ABC Western Queensland (Longreach), ABC Wide Bay (Bundaberg), Radio National (Brisbane)
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| Audience | |
|------------------------|--------|
| Male 16+ | 11,000 |
| Female 16+ | 8,000 |
| All People | 20,000 |
| Advertising Space Rate | |
| AUD: | 90 |

▶ **ABC 612 Brisbane (Brisbane)**
05:30 News - 8/12/2010 5:32 AM
Newsreader
Executive Producer Ms Maree Hawthorne 07 3377 5244

Queensland Urban Utilities, which provides water for residents in Brisbane and Ipswich, aims to reduce its operating budget and cut household water bills. Chairwoman Jude Munro says this builds on savings put in place by the Qld Government

Interviewees: Jude Munro, Chairwoman, Queensland Urban Utilities
Duration: 0.39
Summary ID: W00041686815
 © Media Monitors

| Audience | |
|------------------------|--------|
| Male 16+ | 15,000 |
| Female 16+ | 14,000 |
| All People: | 29,000 |
| Advertising Space Rate | |
| AUD: | 465 |

▶ **ABC Southern Queensland (Toowoomba)**
06:30 News - 8/12/2010 6:31 AM
Newsreader
Journalist-in-Charge Ms Kim Lyell 07 4631 3830

Queensland Urban Utilities says eternal cost cutting means customers will save \$30 in water bills over the next two years. Jude Munro, Chairperson, Queensland Urban Utilities, says it adds to the Government's \$5b reduction.

Interviewees: Jude Munro, Chairperson, Queensland Urban Utilities
Duration: 0.38
Summary ID: W00041688594
 © Media Monitors

| Audience | |
|------------------------|--------|
| Male 16+ | 5,900 |
| Female 16+ | 7,200 |
| All People: | 13,100 |
| Advertising Space Rate | |
| AUD: | 295 |

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FM Radio

▶ **ABC Sunshine and Cooloola Coasts (Sunshine Coast)**
Mornings - 7/12/2010 8:39 AM
Annie Gaffney
Station Phone 07 5475 5000

Gaffney speaks with Bob Abbot, Mayor, Sunshine Coast Regional Council about the Qld Government's cost cutting measures that they announced regarding water. Gaffney says that the Tugun desalination plant has been mothballed, two entities merged into one and the ratepayer will benefit by \$5. Abbot says that he is not surprised by the changes since there is a lot of waste built into the system. He does not know how long people will be paying off the Traveston Dam. He talks about the GreenLink corridors that have to be reinvestigate around the Palmview structure plan because of orders by the Qld Government. He responds to statements by Murray Lyons from The Sippy Downs and District Community Association claiming that the more detailed study will not consider all of the options or involve the community, saying that they will find viable options and do whatever they can to make them work. He talks about the meeting last night between angry residents and Stirling Hinchliffe, Minister for Infrastructure and Planning, Stockland and the ULDA. Abbot says that it has always been the plan for the development to be approved for environmental protection. He says that it is the same as Mark McArdle has said in regards to Traveston Dam, since it will have an effect on the area. He goes on to talk about how Council has decorated trees in a number of districts with Christmas lights.

Interviewees: Bob Abbot, Mayor, Sunshine Coast Regional Council
Duration: 7.54
Summary ID: W00041675756
© Media Monitors

| Audience | |
|------------------------|-------|
| Male 16+ | 3,300 |
| Female 16+ | 3,800 |
| All People | 7,100 |
| Advertising Space Rate | |
| AUD | 1,993 |

▶ **ABC Sunshine and Cooloola Coasts (Sunshine Coast)**
Mornings - 7/12/2010 8:51 AM
Annie Gaffney
Station Phone 07 5475 5000

Gaffney speaks with Stirling Hinchliffe, Minister for Infrastructure and Planning about a meeting held last night addressing community concerns surrounding Caloundra South. Hinchliffe repeats his vow that there would be no canal estates at the development, and he goes on to talk about the water management designs which will be a central feature of Caloundra South. He says that the ULDA is using innovative water management practices, including storm water systems, and he explains what purple pipe water is. He says that the Sunshine Coast Regional Council will be working with the ULDA closely. Gaffney plays an excerpt from Bill Hoffman, journalist, The Sunshine Coast Daily in which he says that there is a measurable target for affordable housing in the region, saying that the numbers do not add up and people will not be able to afford housing in the development. Hinchliffe says that he does not think that the excerpt accurately represents what was said at the meeting, saying that Stockland said that they were struggling to hit the affordable housing mark with the materials available at the moment. He goes on to say that Paul Eagles, CEO, ULDA will be requiring Stockland to put a greater variety of housing through. Gaffney plays an excerpt from callback caller Peta who says that the average person could not afford the mortgage of housing at Caloundra South. Hinchliffe says that if you look at work the ULDA has done they have put houses on the market for under \$200,000. He said he was encouraged by the residents commitment to environmental protection and affordable housing.

Interviewees: Bill Hoffman, journalist, The Sunshine Coast Daily [excerpt]; Peta, Callback caller, ABC [excerpt]; Stirling Hinchliffe, Minister for Infrastructure and Planning

Duration: 9.10

Summary ID: W00041676018

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▶ **River FM (Ipswich)**
12:00 News - 7/12/2010 12:01 PM
Newsreader
Station Phone 07 3813 1000

Jeff Seeney, Qld Shadow Minister for Mines and Energy, says the Wivenhoe Dam levels are only around 40 percent capacity, not full as the Qld Government has indicated. The Government says filling the Dam above its capacity would risk the flood protection for the entire region.

Interviewees: Jeff Seeney, Queensland Shadow Minister for Mines and Energy

Duration: 0.40

Summary ID: W00041678167

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| Audience | |
|------------------------|-------|
| Male 16+ | 3,300 |
| Female 16+ | 3,800 |
| All People: | 7,100 |
| Advertising Space Rate | |
| AUD: | 2,312 |

| Audience | |
|------------------------|-----|
| Male 16+ | N/A |
| Female 16+ | N/A |
| All People: | N/A |
| Advertising Space Rate | |
| AUD: | 96 |

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Internet

- **Brisbane Times - www.brisbanetimes.com.au**
Water prices are set to fall in Queensland. Brisb...

Water prices are set to fall in Queensland. Brisbane's water retailer has vowed to save customers about \$20 on their water bills by slashing \$60 million from its operating costs. Queensland Urban Utilities chair Jude Munro, who until recently was...

Date Found: 8/12/2010 7:22 AM
Summary ID: 85457553
To view the web page: [click here>>](#)

| Audience | |
|------------------------|--------|
| Unique Daily | 22,250 |
| Visitors: | |
| Average Story | 207 |
| Audience: | |
| Advertising Space Rate | |
| AUD: | 107 |

- **Queensland Government - statements.cabinet.qld.gov.au**
Govt followed on water saving initiative

Minister for Natural Resources Stephen Robertson has welcomed an announcement today by Queensland Urban Utilities to follow the Bligh Governments lead in reducing water bill increases next year. On Sunday, the Government announced it had consolidated...

Date Found: 7/12/2010 11:47 PM
Summary ID: 85416757
To view the web page: [click here>>](#)

| Audience | |
|------------------------|-------|
| Unique Daily | 0 |
| Visitors: | |
| Average Story | 0 |
| Audience: | |
| Advertising Space Rate | |
| AUD: | 1,963 |

Press

- **Hanging out for a water reward**
Albert & Logan News, 08/12/10, Letters, Page 8
By: None

I TOO received another water bill from Allconnex on Friday and see that they have charged us like wounded bulls again.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085442111 |
| Circulation: | 22,280 |
| Number of words: | 164 |
| Article type: | News Item |
| Photo: | No |
| Advertising Space Rate | |
| AUD: | 799 |

- ▶ **Water debacle simply money down the drain**
Bayside Bulletin, 07/12/10, Editorials, Page 10
By: None

THE rain that keeps drumming down on rooftops across the state is beating out a different tune for the State Government. With dams at capacity and a rising tide of anger at the increasing cost of water, the Government at the weekend announced major reforms to South East Queensland's water supply grid.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085336760 |
| Circulation: | 47,303 |
| Number of words: | 318 |
| Article type: | Editorial |
| Photo: | Yes |
| Advertising Space Rate | |
| AUD: | 340 |

- ▶ **Refreshing drop**
Courier Mail, 08/12/10, Edition Changes - Late City, Page 24
By: Sarah Vogler

ABOUT 1.3 million southeast Queensland residents will receive a further discount on their water bills after a water body's board voted to find \$60 million in savings. Queensland Urban Utilities, which sells water to residents in Brisbane, Ipswich and the Scenic Rim, Lockyer Valley and Somerset regional council areas, has announced it will cut water bills by \$10 a year in 2011-12 and by \$20 in 2012-13.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085435163 |
| Circulation: | 211,230 |
| Number of words: | 282 |
| Article type: | News Item |
| Photo: | No |
| Advertising Space Rate | |
| AUD: | 2,028 |

- ▶ **Wyaralong Dam Open Day makes a splash**
Fassifern Guardian, 01/12/10, General News, Page 13
By: None

OVER 2,800 people turned out to the third and final Wyaralong Dam Open Day which featured bus tours of the site and entertainment. Queensland Water Infrastructure Chief Executive Officer Frankie Carroll, described the day as a success.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00084931836 |
| Circulation: | 2,912 |
| Number of words: | 210 |
| Article type: | News Item |
| Photo: | Yes |
| Advertising Space Rate | |
| AUD: | 442 |

- ▶ **Infrastructure rise causes anger**
Gatton Lockyer Brisbane Valley Star, 08/12/10, General News, Page 6
By: None

AUSTRALIA can be a costly place to live in 2010 especially when frustrated ratepayers face ever-increasing costs.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085436660 |
| Circulation: | 19,970 |
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| Article type: | News Item |
| Photo: | No |
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| AUD: | 243 |

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MEDIA MONITORS

► **Chat room**

Gold Coast Bulletin, 08/12/10, Letters, Page 25
By: DP

SNIPERS in Paradise. Thanks 2 do gooders & gutless politicians there is no respect 4 laws & police/courts no longer hay authority 2 take appropriate action.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085428418 |
| Circulation: | 39,593 |
| Number of words: | 1389 |
| Article type: | Letter |
| Photo: | No |
| Advertising Space Rate | |
| AUD: | 2,074 |

► **WARNING ON WATER**

Northside Chronicle, 08/12/10, General News, Page 11
By: None

WATER retailers must declare proposed charges three months in advance following legislation passed in State Parliament. Natural Resources, Mines and Energy Minister Stephen Robertson said the legislation was aimed at making Queensland Urban Utilities, Unitywater and Allconnex Water more transparent.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085324492 |
| Circulation: | 63,294 |
| Number of words: | 44 |
| Article type: | News Item |
| Photo: | No |
| Advertising Space Rate | |
| AUD: | 76 |

► **Professor joins panel on water**

South West News, 08/12/10, General News, Page 15
By: None

USQ professor John Cole has been invited by Queensland Urban Utilities to represent community, social and business sectors in company decisions. As director of the Australian Centre for Sustainable Business and Development, Professor Cole is part of the company's new Customer and Community Reference Group.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085329231 |
| Circulation: | 40,570 |
| Number of words: | 101 |
| Article type: | News Item |
| Photo: | No |
| Advertising Space Rate | |
| AUD: | 215 |

► **Ratepayers take fight to parliament**
Westerner The, 02/12/10, General News, Page 4
By: Ashleigh Elliott

Local ratepayers fed up with rising water charges have taken their fight one step further, storming Parliament House in Brisbane. Members and supporters of the Ratepayers Action Group Moreton Bay delivered a petition containing the signatures of more than 2000 people from the region, showing the growing discontent with the rising costs of water and sewerage treatment services.

| Article Information | |
|------------------------|-------------|
| Item ID: | 00085056346 |
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Hanging out for a water reward

I TOO received another water bill from Allconnex on Friday and see that they have charged us like wounded bulls again.

All the ratepayers in southeast Queensland bit the bullet when our dams were low.

We let our lawns and plants die.

We installed water tanks and had our shower roses

and faucets changed to use less water.

We had shorter showers and let our cars and houses stay dirty as well as many other sacrifices.

Now that the dams are so full they are releasing the excess water into the rivers to be wasted into the ocean, why don't they give us a little reward for the times we went without.

How about giving us one quarter without charging us for water, so we can put it to use instead of it going to waste.

But no, they won't give us a reward, they just charge us more and more each time.

Even a dog gets a free biscuit when it does something right.

**Glenn Breedon,
Eagleby**



07-Dec-2010

Page: 10

Editorials

Market: Brisbane

Circulation: 47303

Type: Suburban

Size: 126.20 sq.cms

-T-----

Bayside Bulletin

Tuesday, December 7, 2010

Water debacle simply money down the drain

THE rain that keeps drumming down on rooftops across the state is beating out a different tune for the State Government.

With dams at capacity and a rising tide of anger at the increasing cost of water, the Government at the weekend announced major reforms to South East Queensland's water supply grid.

Treasurer Andrew Fraser says these "tough steps" will maximise efficiencies across the entire water grid, saving around \$18 million a year – savings that will flow on to the Government's portion of household water bills.

For householders struggling with budgets already under pressure, it's a small concession – very small – in the order of \$5 next year, discounted down from an extra \$59 to \$54.

One of the big ticket items in the Government's \$9 billion water security plan – the trouble-plagued desalination plant at Tugun on the Gold Coast – has also been mothballed as part of the weekend's reform.

The \$1.126 billion project is now largely a white elephant, returning to full-time operation only if the region's dam capacity drops to 60 per cent. It's just part of around \$4 billion spent on water projects that may never benefit the State.

With the announcements of the weekend reforms, the Government has attempted to take a higher moral ground in its war of words with local councils, calling on them to pass on savings to householders. Last week Natural Resources Minister Stephen Robertson accused councils of lying about their responsibility for water pricing.

Redland City Mayor Melva Hobson is calling on the State and local governments to work together for a solution to relieve future price pressures.

Perhaps Brisbane Lord Mayor Campbell Newman has the right suggestion when he says the Government should write off the debt on the tangled mess that is the water grid and pass savings back to consumers.

This latest rejig of water management in South East Queensland indicates that some of the millions spent hastily to address inadequate planning is more money down the drain.



Refreshing drop

Sarah Vogler
COUNCILS REPORTER

ABOUT 1.3 million south-east Queensland residents will receive a further discount on their water bills after a water body's board voted to find \$60 million in savings.

Queensland Urban Utilities, which sells water to residents in Brisbane, Ipswich and the Scenic Rim, Lockyer Valley and Somerset regional council areas, has announced it will cut water bills by \$10 a year in 2011-12 and by \$20 in 2012-13.

It comes after the State Government offered all southeast Queensland

State water utility cuts bill by \$10

residents a \$5 discount as part of further reforms to its water grid.

The reforms include putting the Tugun desalination plant on standby mode and merging bulk water authorities Seqwater and Water-Secure.

QUU board chair Jude Munro said the savings would be passed on to consumers as part of a \$60 million efficiency-finding campaign agreed

on by the board on Monday afternoon.

She said the board also agreed to an independent review of capital projects in 2011-12 to ensure prudent investment and no "gold-plating" of new assets.

"We will balance the need to maintain frontline services to customers, while investing in the water and wastewater infrastructure needed to support our rapidly grow-

ing region," Ms Munro said.

Natural Resources and Mines Minister Stephen Robertson welcomed the decision yesterday.

He called on the other two water utilities, Unitywater and Allconnex, to do the same.

Lord Mayor Campbell Newman said the QUU's announcement was a good start but did not go far enough to find efficiencies.

"More needs to be done to reduce the cost impost on families and if the state cut their exorbitant bulk water costs and handed back control of water to councils, we could do that." Cr Newman said.



Wyaralong Dam Open Day makes a splash

OVER 2,800 people turned out to the third and final Wyaralong Dam Open Day which featured bus tours of the site and entertainment.

Queensland Water Infrastructure Chief Executive Officer, Frankie Carroll, described the day as a success.

"We had 2,800 visitors in four hours and people travelled from as far as Lismore, Toowoomba and the Sunshine Coast to see how the Dam is progressing.

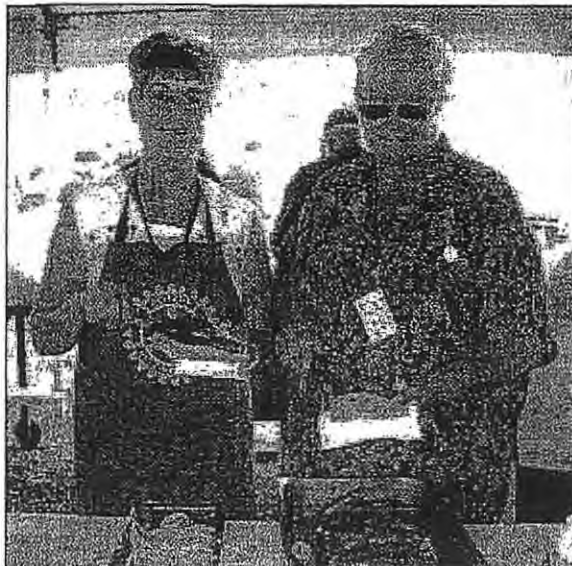
"The bus tours around the dam construction site were a huge hit - visitors left the site excited and ready to come back and enjoy the dam once complete.

"Everyone I spoke to had a great day out and were equally impressed by the work completed on the project."

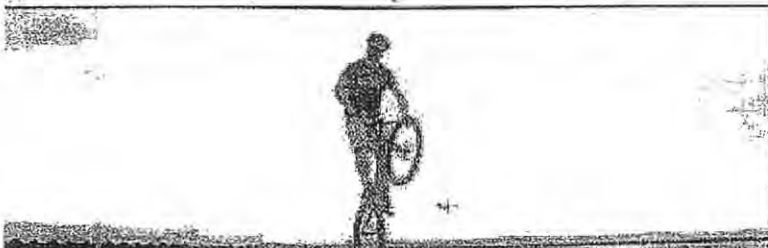
He said the day was also about education.

"This was our third and final public Open Day to keep the community informed on how the Dam project has progressed.

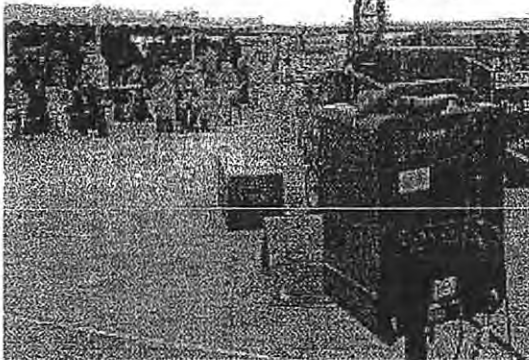
"A decision will be made in 2011 about the official opening of the dam."



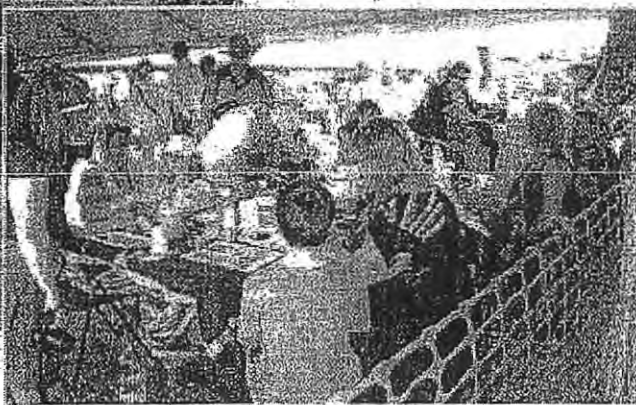
Members of Boonah Rotary had their hands full putting on a sausage sizzle for the 2800 people that attended the Open Day.



LEFT: Mountain bike demonstrations fit in well with the numerous tracks and trails that will feature as part of Wyaralong Dam's facilities.



RIGHT: Kids were kept entertained on the day with a range of activities, including having their faces painted.





08-Dec-2010

Page: 6

General News

Market: Gatton QLD

Circulation: 19970

Type: Regional

Size: 104.10 sq.cms

--W----

Infrastructure rise causes anger

AUSTRALIA can be a costly place to live in 2010 especially when frustrated ratepayers face ever-increasing costs.

Lockyer Valley Regional Council (LVRC) said they are facing the brunt of community complaints as skyrocketing rates continue to shock the region.

Mayor Steve Jones said infrastructure charges are being laid down by semi-corporate entities and he has never seen astronomical costs like it.

"We've never had this disgusting amount of charges and the community must stand up," Cr Jones said.

"We need to take a serious look at what's going on."

He said rural areas are losing big time.

"There is one rule for one and one

rule for another."

The Queensland Urban Utilities' (QUU) high costs and standards of infrastructure maintenance have cause more headaches within local government and increased dissent within the community.

"We get labelled as the ones who are increasing the charges," Cr Graham Moon said.

"The community must be aware that the council is not to blame."

Cr Jones said the State Government was trying to attract rural landholders into metropolitan developments and certain areas were being privileged over others.

LVRC is launching an official request into prices of available services and a comparison between State Government charges.



Chat room

0416 905 148

SNIPERS in Paradise. Thanks 2 do gooders & gutless politicians there is no respect 4 laws & police/courts no longer hav authority 2 take appropriate action. - DP

FAREWELL Mr. Squiggle and thank you Norman Hetherington. A sad loss of a great talent.

HA if yr goin to kill someone qld is the place. Cops and prosecution are hopeless. Plea bargains like the yank scuba diver wife killer make our judicial system an international joke. What about that bloke called omega who was murdered on a public street oz day 2yrs ago. No idea. Unless the offender is handed to them on a silver platter with full admission no one would be convicted in qld.

IF Julian Assange was a hero he would publish communications between the likes of Taliban and their cronies. It's our security he's exposing just for his 15 min of fame.

QLD girl. It should be left to each individual home owner whether they want their pool fenced or not. This new law wont stop kids from drowning. To that they need to be taught to swim from an early age.

JAMES, go inspect the fence round the very new Hilton forecourt fountain! I'll fence my already fenced pool when that one is! No fence, no supervision, right on main road middle Surfers. Inspected & approved by the council you work for I'm guessing! Teach your children pool safety & supervise them & stop blaming everyone else for your carelessness people!

GOOD on ya gc bulletin advertising how cheap and easy it is to get weapons on the street. keep fueling

the fire!!

4TH generation nuclear power fail-safe, no waste. In my back yard anyday, Virtual free power, U'd be mad not to-bring it on!

AS a long time resident of mudgeeraba village i am concerned about the future of the village if the mosque goes ahead. We will be outsiders in the village. Look what has happened in sydney suburbs. Do we want our village to turn into bankstown or lakemba?

BLIGH can't add up! Turn off desal save 32k per day x 365 days = \$11.7m @ \$5 per home per year saving that's 2.3million homes! There's only 1.7m homes and overflowing dams! - 1+1=3

GOVT. and police are focusing on revenue rising, that's why guns and crimes run wild. - Max

NO wonder the gold coast is the crime capital of Australia. Bikies and drug dealers do as they please while the government and cops sit on their hands and say there's no problem. What a pathetic joke!

MAKES me spew to see a speed camera near a shopping centre, where there has never been an accident. Then a drive up the M1 to witness high speed idiots. I saw 30 plus incidents of what I would imagine would be high range offences. No police! - Jaxon

JAMES, bet u are rubbing your hands & salivating at all the money u will make inspecting our pools. Mine did comply under old rules, but now Bligh has changed the rules it doesnt - I have 2 self closing doors to pool area, all adults in house, big lake unfenced across road, a spa

near river at back of house, have to fence spa, but not river!! Come on, this is ridiculous. U can drain & fill my pool cause I cant afford another fence! Also cant afford over \$300 for inspection. Last I had the Council did for free. U & Anna can go jump off something high. - LMR

TO the young gang on push bikes who tried to break into our house last night in tugun, could you please come back and get your push bikes you left behind. Also i have a present here for you. Yours - 308

CAN we reverse the desalination plant and salt up some of this excess water we have and replenish the ocean? Or maybe bottle it and sell to the chinese for their shark fin aquar-
OMG! Im a gal with 2 arms and a head! U MUST b talking about me! I guess we have 2 drink coffee now cause that's all the folk on here seem 2 do. Pj

TO the hot guy on white motorbike. Put that toy away and come for a ride with us. 3 mazda girls.

SD, more details about yaself i have no idea who you are! Peace Crema chic

TO the guy who laughed. Wanna be iums? Surely council has a hair brained scheme for it? They have one for everything else! Patrick

T bone at Canungra or Brooksy Beenleigh butchery for best hams and smoked chooks. - X Meat-worker

JEZ - more children and adults drown in pools than in creeks and lakes. Fence the pools. If you don't



08-Dec-2010

Page: 25

Letters

Market: Gold Coast QLD

Circulation: 39593

Type: Regional

Size: 510.88 sq.cms

MTWTF--

more specific to who it was :). What kind of maroon car? - interested blonde

TARYN u are my princess love you forever xx

2 the sexy council worker, with the mo in the big yellow truck that drives over D Bar hill every morning. Ur hot. Wanna catch up sometime? Hot surfer girl x

TO the girl in woolies runaway bay on monday night wearing the short like the bars effect get the safety glass, looks better.

WHAT a joke vodafone is! i get disconnected every two minutes and when i actually get thru again the reception is pathetic and i keep dropping out. Anyone, else got the same? - Wog

GUNS arnt the problem - criminals who arnt afraid of the law or punishment are part of the problem, the other part is polities and the legal system that fails dismally to punish criminals for their crimes. Honest gun owners dont walk the streets shooting at ppl but we are the easiest group to punish cos we cant afford the top lawyers to defend us.

INSTEAD of tightening gun laws, the government should scrap them. Then there would be a balance of power against the crims. Sam mermaid

QLD is in one huge mess - power and water rates going sky high, shutting down Tuguns Desal rustbucket to save residents a lousy \$5 a year, Bligh selling off public assests because this hopeless Labor Gov has sent Qld broke, yet useless Anna Bligh is bidding for the Commonwealth games and prepared to spend

green one piece suit, I kicked myself for not asking your name. Couldn't get you out of my head. How about the same time next monday?

TO the guy at sharks gym, boardies @ black singlet mon night. Want to work out with me. Pink top girl

ALEX @ deli, I'm probably a bit old 4 u but u get my fires burning!

B.R. I am the luckiest girl in the world. I Love you X :) me

tens of \$millions. The Qld Governor needs to sack this Bligh circus before Qld goes bankrupt. we can't wait til the election to boot them out. - KenW

LEDA Developments might think Cobaki Lakes is a wonderful place to live but they obviously don't care about the aquatic life of the eco system when you look at the photo taken 6/05/2010 on www.nearmap.com

THE Oz nat anthem is a rip-off. Simply google RAOOnline and sing along to "The Village Blacksmith" ha ha! - ydog

THE reason i used the catholic church re the simpsons was to shut up the people who claim it rots morality not to defend a church. I believe all religions are a business and should be taxed accordingly. - Corey

IF bill potts knows about illegal fire-arms on the coast then as a good citizen why doesn't he report it to the police? That's right, he's not a citizen he's a lawyer. - todorossi.

MCPEEVED stop eatin that mccrap then the only hair in ur food will be ur own!

OVER a billion dollars in speed camera fines last year and still the road toll increases! Clearly they dont reduce road deaths, and in some cases they have shown to increase it. Lets get rid of them!

NO pool fence stopped my son when he was young. Not only did we teach him to save himself if he did jump (fell) into a pool we had to Teach him not to climb.

GUNS laws mean nothing. Anyone can get a gun. Just up the price of bullets. No one will want to waste a \$10,000 bullet on an inocent bystander. If someones found with a bullet in them they must of done something wrong. If they hold a servo up they're not going to waste a bullet because there wouldn't be \$10,000 in the register. - Bullet salesman.

MY bro's a senior cop in nsw and he wont tell me wots goin down so how has da average joe got a chance of really knowin wots happening in his own backyard. This society is made for crime and criminals. Stuff it i'm goin bush. Where everyone knows whos who and whats what.

PEOPLE should really consider using there Blinkers!!!! I see them zipping in and out of traffic. they should really go back to do their driving tests. - over it

ANYONE who bags wikileaks obviously has skeletons in closet ! Jilian assange is doing the average Joe good in letting them know how corrupt some officials are and how big cover ups can be.

STOP blaming gcc for pool fence laws, its state gov & capt bligh new law. Fact.



08-Dec-2010

Page: 11

General News

Market: Brisbane

Circulation: 63294

Type: Suburban

Size: 16.37 sq.cms

--W----

WARNING ON WATER

WATER retailers must declare proposed charges three months in advance following legislation passed in State Parliament. Natural Resources, Mines and Energy Minister Stephen Robertson said the legislation was aimed at making Queensland Urban Utilities, Unitywater and Allconnex Water more transparent.



08-Dec-2010

Page: 15

General News

Market: Brisbane

Circulation: 40570

Type: Suburban

Size: 47.31 sq.cms

--W----

Professor joins panel on water

USQ professor John Cole has been invited by Queensland Urban Utilities to represent community, social and business sectors in company decisions.

As director of the Australian Centre for Sustainable Business and Development, Professor Cole is part of the company's new Customer and Community Reference Group.

Comments from the group will affect a submission to the Queensland Water Commission concerning a proposed new water and wastewater customer code.

"I wanted to be part of the reference panel partly because of the experience I've had in the government and the industry, but also because I'm a citizen, a ratepayer and a stakeholder," Professor Cole said.

➔ Visit www.urbanutilities.com.au.



Ratepayers take fight to parliament

By Ashleigh Elliott

Local ratepayers fed up with rising water charges have taken their fight one step further, storming Parliament House in Brisbane.

Members and supporters of the Ratepayers Action Group Moreton Bay delivered a petition containing the signatures of more than 2000 people from the region, showing the growing discontent with the rising costs of water and sewerage treatment services.

In the past six months the Ratepayers Action Group has been pivotal in arranging meetings for people to voice their concerns about the price hikes.

Within the petition was a request for the State Government that a Royal Commission be appointed to investigate the establishment and running of the South-East Queensland water grid.

It also requests that the Queensland Parliament appoint a water ombudsman to oversee and monitor the supply of water to residents in the south-east.

Amongst the group of ratepayers that took the petition to Parliament in a wheelbarrow was Geoff McKay, Chairman of the Pine Rivers South branch of the action group.

He said the petition was about voicing the concerns of many people in the state who are not happy with the "unjustified" price hikes since July.

Under Unitywater, which provides water and sewerage services in the Moreton Bay and Sunshine Coast regions, the cost of such services have risen by 34 per cent in the Caboolture area and by 27 per cent in the Pine Rivers district.

"It's just another increase to the list of things that are becoming more expensive

to live," Mr McKay said.

"The cost of living is increasing so much, and people are just not happy with Unitywater's big bang approach to apparently get Moreton Bay up to speed with what they should be paying for water.

"The mismanagement of water has gone on for years and even now there is more bureaucracy surrounding it.

"People are also concerned that it will have an adverse affect for the general economy as well, because they have less money to spend on other things if their income is all taken up by bills.

"Moreton Bay has suffered some of the highest increases and we want to let Parliament know what we would like to see done."



Ratepayers Action Group members present petitions to State Opposition MPs Jarrod Bleijie and Glen Elmes outside Parliament House in Brisbane.

Tab 92

Gina O'Driscoll

From: Rob Drury [REDACTED]
Sent: Thursday, 9 December 2010 12:11 PM
To: Barry Dennien; Jim Pruss
Cc: Dan Spiller; Peter Borrows
Subject: RE:

Barry,

To question 1, no it wasn't modelled mainly because the bigger the event, the much less impact of the reduced FSL. But yes to Question 2 in that this was considered. However the following may help summarise and also offer a way to give the proposal a more detailed analysis in the future.

Basically, there are an unlimited number of scenarios containing an infinite number of rainfall patterns and distributions producing flood events in the Brisbane River for flows both above and below 3500 cumecs. Seqwater has not attempted to model each scenario in the discussion paper or even a variety of scenarios. A major study would be required to undertake this exercise and the study that Seqwater has been commissioned to undertake for Water Commission relating to raising the Wivenhoe Dam Full Supply Level will consider these issues. This study is scheduled to commence in the new year and take in the order of six months.

The main point to be noted from the discussion paper is that having a relatively small volume of water to fill below the dam FSL provides only limited benefits and the larger the flood, the smaller these benefits will potentially be (although unusual rainfall patterns could produce exceptions). The reason for the reducing potential benefit as flood size increases is due to the reducing proportion of the available volume below FSL to the total flood volume. The other factor is that the available storage volume below FSL is generally only a very small proportion of the total flood storage unless the dam is below around 50% capacity.

Generally although the lower Wivenhoe Dam is at the commencement of the event, the smaller the downstream impacts, as the events get bigger the impact reduction will generally decrease and may be insignificant. And during smaller events, the impact is less significant anyway. Quantifying the exact size of the potential benefit for a range of scenarios will take a major study and as previously discussed, this work will commence in the new year.

Hence to gain any significant benefit, Wivenhoe would have to be considerably lower at the start of an event and assuming the dam would not be kept at 50% or 75% continually, the point to really consider is how does Seqwater lower the storage below FSL before an event. Once rain commences it will generally be too late, as a release strategy may already be optimised to control downstream flood impacts, so increasing releases to lower the storage level will likely worsen those downstream flood impacts. That is, if there are significant flows downstream, it is already too late to pre-release.

The other option is to pre-release based on forecast and before the rain event is underway. However, as seen in recent events, lowering storage levels based on forecast and before the event initiates, is a strategy containing many risks including:

- Causing unnecessary downstream impacts when rainfall below forecast levels is experienced.
- Standing accused of wasting precious water resources when rainfall below forecast levels is experienced.
- Unnecessarily extending bridge inundation times and disrupting irrigation activities downstream of Wivenhoe Dam.
- Unnecessarily increasing river turbidity downstream of Wivenhoe Dam.

In summary, much thought and investigation by many people has gone into developing the current Manual of Flood Mitigation for Wivenhoe and Somerset dams. The Manual should not be modified lightly and certainly not without suitable engineering investigations being undertaken. Seqwater will undertake extensive investigations for the Water Commission in the new year to examine the possibility of raising the full supply level of Wivenhoe Dam. At this stage it is suggested that the scope of this work be widened to consider not just raising the water level in the

dam, but also examining in detail the costs and benefits of modifying the manual of Flood Mitigation to allow "pre-lowering" of storage levels based on forecast rainfall at the onset of potential flood events.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and
flowing water is FA



Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

From: Barry Dennien
Sent: Wednesday, 8 December 2010 8:23 AM
To: Jim Pruss; Rob Drury
Cc: Dan Spiller; Peter Borrows
Subject:

Hi Jim Rob

The Minister is attending our Board meeting this Monday and given the public debate on Wivenhoe levels is very much front of mind (attached) he will ask on the status of the modelling work. I received your update the other day thank you, I had a few extra questions, is there any chance on your thoughts before Monday, not necessarily any new model runs before then.

Regards

Barry

Rob

Thanks for the report. Thanks for the additional BOM advice.

I note the good work on modelled sensitivities for flows below 1900m³/sec – W1 strategy (flood manual)

The report then jumps to greater than 3500m³/sec (W4 strategy) and comments how peak water levels would unlikely be impacted and it comments that dam volume reductions of 250,000 megalitres (reduction 20% dam level) would be needed for any significant reduction in water level peaks.

Q1. Was the >3500m³/sec modelled like the October event < 1900M³/sec to draw the above conclusions.

Q2. Was the flow between 1900 and 3500 m3/sec modelled (Strategy W2 W3) with various dam levels to ascertain benefits to peak levels or bridge outage durations

Q3. If no to 1 and 2 is it worth doing considering we make the comments above about maybe a benefit if we have 250,000 ML extra storage.

Regards

Barry

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

Tea
bar
es
3

Suzie Emery

From: Mike Foster [REDACTED]
Sent: Friday, 10 December 2010 12:07 PM
To: Dan Spiller
Cc: Barton Maher
Subject: URGENT REQUEST - Spillway Gate Operation Draw Down Buffer Recommendation
Attachments: Memo HDA Spillway Gate Operation Draw Down Buffer 101210.pdf; ATT08407.txt

Hi Dan,

Details of the proposed drawdown at Hinze is detailed in the attached memo as discussed.

In summary the Hinze Dam Alliance has requested to be allowed to draw down the storage level to EL81. (from EL 82.2)

This would involve releasing approx 12,000ML or dropping the storage by approx 7.4%. Approx 32,000ML has been released during current event to maintain storage level at EL 82.2.

Seqwater and the Hinze Dam Alliance would like to continue the current gate operations at the current rate to drawdown the storage level to (would be able to reach this level by Wednesday. The gate will then be shut and the excavation of the rockfill at the upstream side of the spillway would be commenced immediately. The lower storage level would allow us to use conventional excavators and complete the works in around 3 days.

Given that there is still inflows into the dam from the catchment, it is likely that the water level would rise from EL81 up to EL81.5 or higher before Christmas.

If there is any chance of running the water security model this afternoon or first up Monday and providing a response that'd be greatly appreciated.

Cheers Mike

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



[REDACTED]
Level 3, 240 Margaret St, Brisbane City QLD 4000
PO Box 16146, City East QLD 4002
Website | www.seqwater.com.au

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Memo

TO: Barton Maher, Seqwater **DATE:** 10 December 2010
CC: Christopher Dann, Mark Barkau, Peter Scanlon
FROM: Rohan Sutton
SUBJECT: Spillway Gate Operation Draw Down Buffer Recommendation

Background

This memo has been prepared to outline the current spillway gate operations and request for a Stage 2 Full Supply Level (FSL) draw down buffer to minimise further disruption to the Hinze Dam construction schedule.

Operation of the emergency spillway outlet gate is required to manage and release flood water temporarily stored above the Stage 2 FSL of 82.20mAHD. The current flood event (gate opened 03/12/2010) has involved progressively increasing the gate setting over almost a week, with continued rainfall across the catchment and increasing catchment baseflow, including prolonged overflowing of Little Nerang Dam. The current flood water release flow rate from Hinze Dam is approximately $65\text{m}^3/\text{s}$ (at gate opening setting of 2550mm).

Baseflow and Reservoir Response Following Gate Closure

As per the Gate Operations Plan, reservoir draw down back to Stage 2 FSL following the flood peak is undertaken by maintaining the current gate setting until the water level is just above the Stage 2 FSL, then the gate is gradually closed as the level returns to 82.20mAHD. With baseflow continuing to drain into the reservoir, the water level is expected to rise again immediately after the gate is closed.

This behaviour was observed during the October 2010 flood event, as illustrated in Figure 1. The gate was maintained at the 750mm gate setting to draw down the reservoir, and then progressively closed at 82.20mAHD. Following closure, the reservoir water level took just over a week to creep back to the trigger level to re-initiate gate operations (82.41mAHD). For the October 2010 event, due to the available storage at the time, the reservoir water level peak occurred approximately three days after the peak of the inflows from the catchment upstream. Furthermore, the time to draw down the reservoir was relatively long due to the low flood water release rate (gate setting 750mm, flow rate $18\text{m}^3/\text{s}$). Consequently the catchment baseflow draining into the reservoir had time to recede, such that the inflow at the time of closure was only minor. Note following gate closure, flood water had to be temporarily stored above the Stage 2 FSL for some period to avoid a sunny day release.

For the current flood event, the gate is currently operating at the 2550mm setting and releasing flood water from the dam at approximately $65\text{m}^3/\text{s}$. Due to the significantly higher flood water release rate compared to the October 2010 event, the time to draw the reservoir back to Stage 2 FSL will be relatively quick (assuming no continuing rainfall events). As



such, only a small reduction in catchment baseflow is expected until the time of gate closure. With significant inflow still draining into the reservoir following closing the gate, the time needed for the water level to reach the trigger level to re-initiate gate operations will be short.

In accordance with the Gate Operations Plan, the volume of flood water that is temporarily stored above the Stage 2 FSL (82.20mADH) in the reservoir before the trigger level to initiate gate operations (82.41mADH) is reached is 2,098ML. Similarly, the following table presents a range of catchment baseflows draining in the reservoir and the corresponding durations following gate closure for the reservoir water level to reach the trigger level to re-initiation of gate operations.

| Net Catchment Baseflow Inflow Rate (m ³ /s) | Period to Initiate Gate Operations (Days) |
|--|---|
| 24.3 | 1 |
| 12.1 | 2 |
| 8.1 | 3 |
| 3.5 | 7 |
| 1.7 | 14 |

Storage Draw Down Buffer Recommendations

With the current catchment baseflow above 30m³/s, draw down of the reservoir should include an adequate storage buffer below Stage 2 FSL, so that baseflow can have sufficient time to recede and not re-initiate gate operations.

Assuming an average catchment baseflow of 10m³/s draining into the reservoir following gate closure and to avoid re-initiation of gate operations for at least 2 weeks, a storage buffer in the order of 12,000ML would be required. This would mean reservoir drawn down to approximately 81.0mADH (1.2m below Stage 2 FSL).

Potential Reservoir Inflow Probabilities – Historic Review

For a more historic view of reservoir behaviour, provided below is a long term look at hydrological behaviour of the catchment upstream of Hinze Dam, and the likely yield expected (inflow volumes).

The following table presents the storage volume below the Stage 2 FSL (82.20mADH) at several storage elevations (80.0mADH to 82.20mADH), along with the probabilities of the reservoir receiving the inflow volumes to refill to Stage 2 FSL, during the individual months of January, February and March, and during the period from December till the end of April.



Figure 2 presents a plot of the storage volume below the Stage 2 FSL.

| Storage Elevation (mAHD) | Storage Volume Below Stage 2 FSL (ML) | Potential Inflow Volume Probabilities to Return to Stage 2 Full Supply Level (82.20mAHD) * | | | |
|--------------------------|---------------------------------------|--|------------------------|---------------------|---|
| | | During January (only) | During February (only) | During March (only) | December until the end of April (inclusive) |
| 82.2 (S2 FSL) | 0 | 100% | 100% | 100% | 100% |
| 82.0 | 1,968 | 50-75% | 75-90% | 75-90% | >90% |
| 81.5 | 6,685 | 25-50% | 50-75% | 50-75% | >90% |
| 81.0 | 11,402 | 25-50% | 25-50% | 50-75% | >90% |
| 80.5 | 16,119 | 25-50% | 25-50% | 25-50% | 75-90% |
| 80.0 | 20,836 | 10-50% | 25-50% | 25-50% | 75-90% |

* The potential inflow volumes probabilities presented have been extracted from IQQM model developed and supplied by DERM. The model uses a simulation period of 110 years from 1890 to 2000.

Summary

In summary, it is recommended that the current gate operations should include a draw down buffer below Stage 2 FSL, to limit further disruption to the construction schedule. Based on the current and expected catchment baseflow at the time of gate closure, drawing the reservoir down to 81.0mAHD (approximate 12,000ML buffer) is recommended.

As presented in the previous section, the long term historic hydrological behaviour of the catchment suggests that there is greater than 90% chance that if the reservoir is drawn down to 81.0mAHD, it will refill by the end of April 2011. With the current above average rainfall that has occurred over the last month and expected to continue throughout summer, refilling the reservoir is very much likely to occur during the 2011 wet season.

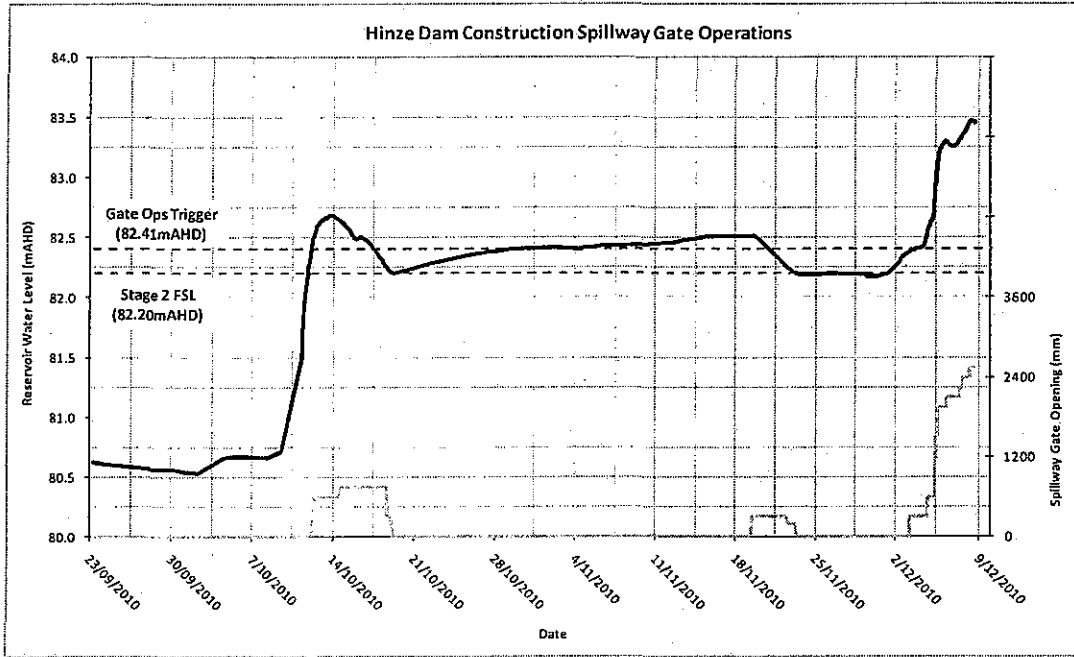


Figure 1 – Hinze Dam Construction Gate Operations (to date)

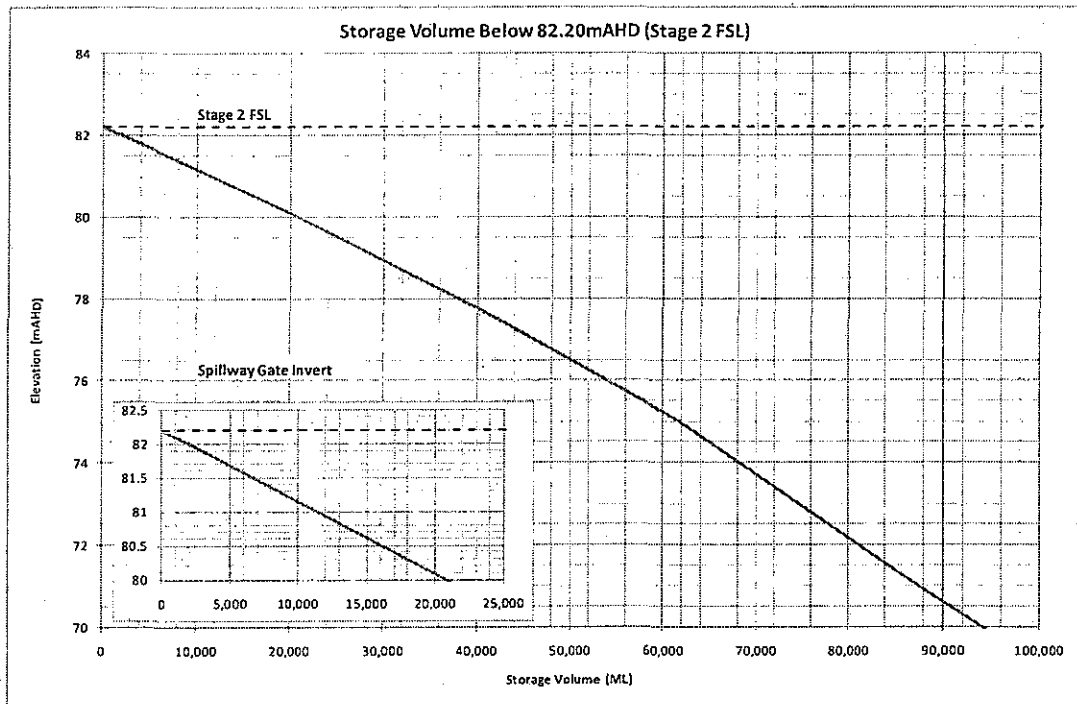


Figure 2 – Storage Volume Below 82.20mAHD (Stage 2 FSL)

Tab 94

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Friday, 10 December 2010 12:18 PM
To: Mike Foster
Cc: Barton Maher; [REDACTED]
Subject: RE: URGENT REQUEST - Spillway Gate Operation Draw Down Buffer Recommendation

Please call me.

I need to urgently confirm timeframes. My reading of the brief is that a response on Monday is too late to ensure project completion by Christmas.

As discussed with Paul, can you please amend the briefing note to state:

- The reason for reducing dam levels (integrating and expanding upon what is in your email)
- Project status, especially the risks of it not being delivered by Christmas
- Whether there are any downstream impacts of continuing releases at 65 m³/sec rather than 18 m³/sec.

○ We have modelled a 1 metre reduction, and confirmed no water security impact. We will update this afternoon for 1.2 metres. On this basis, we are preparing:

- internal approval documents
- a brief for the Minister
- questions and answers.

Can you please help with the brief and questions and answers.

Thanks,
Dan

From: Mike Foster [REDACTED]
Sent: Friday, 10 December 2010 12:07 PM
To: Dan Spiller
Cc: Barton Maher
Subject: URGENT REQUEST - Spillway Gate Operation Draw Down Buffer Recommendation

Hi Dan,

Details of the proposed drawdown at Hinze is detailed in the attached memo as discussed.

In summary the Hinze Dam Alliance has requested to be allowed to draw down the storage level to EL81. (from EL 82.2)

This would involve releasing approx 12,000ML or dropping the storage by approx 7.4%. Approx 32,000ML has been released during current event to maintain storage level at EL 82.2.

Seqwater and the Hinze Dam Alliance would like to continue the current gate operations at the current rate to drawdown the storage level to (would be able to reach this level by Wednesday. The gate will then be shut and the excavation of the rockfill at the upstream side of the spillway would be commenced immediately. The lower storage level would allow us to use conventional excavators and complete the works in around 3 days.

Given that there is still inflows into the dam from the catchment, it is likely that the water level would rise from EL81 up to EL81.5 or higher before Christmas.

If there is any chance of running the water security model this afternoon or first up Monday and providing a response that'd be greatly appreciated.

Cheers Mike

Mike Foster

Manager Strategic Relations & Communication
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 | www.seqwater.com.au

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Tea
table
5

Suzie Emery

From: Barton Maher [REDACTED]
Sent: Friday, 10 December 2010 2:37 PM
To: Grant Horton; Paul Bird
Cc: Dan Spiller
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation
Attachments: Memo HDA Spillway Gate Operation Draw Down Buffer 101210.pdf; ATT13359.txt

Revised Memo with additional data as requested.

Barton Maher
Principal Dams & Weirs Planning
QLD Bulk Water Supply Authority *trading as Seqwater*



[REDACTED]
Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia
PO Box 2437, North Ipswich QLD 4305
Website | www.seqwater.com.au

From: Rohan Sutton [REDACTED]
Sent: Friday, 10 December 2010 1:17 PM
To: Barton Maher
Cc: Christopher Dann external forward; Mark Barkau; Peter Kinsella; Peter Scanlon
Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

Barton,

Updated memo as requested.

Regards,
Rohan

From: Barton Maher [REDACTED]
Sent: Friday, 10 December 2010 11:47 AM
To: Peter Scanlon
Cc: Christopher Dann external forward; Mark Barkau; Rohan Sutton; Peter Kinsella
Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

Hi Gents,

I have been requested to amend Rohan's memo to get more info on why we need to do the work, why it is important and the need for doing it now. I also need the memo to show that the releases are not impacting anyone (i.e. a photo of the golf course crossing and how we are monitoring the flows. I have spoken to Rohan.

Regards,
Barton Maher
Principal Dams & Weirs Planning
QLD Bulk Water Supply Authority *trading as Seqwater*



Ph [REDACTED]

Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia
PO Box 2437, North Ipswich QLD 4305
Website | www.seqwater.com.au

From: Peter Scanlon [REDACTED]
Sent: Friday, 10 December 2010 10:57 AM
To: Barton Maher
Cc: Christopher Dann external forward; Mark Barkau; Rohan Sutton; Peter Kinsella
Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

Barton,

With the current opening of the emergency gate, the reservoir will likely draw down to RL82.2 meaning a full gate closure this Sunday. Ideally if Seqwater are going to approved the additional buffer, we need to know today to allow us to keep the emergency gate *fully open* until we reach to approved buffer level which I am calculating as being next Thursday morning. Note that this would indeed leave us sufficient time to complete the rock excavation upstream.

However leaving the approval till Monday means we will need to decrease the emergency gate opening over the weekend, then not be able to increase the opening after approval, meaning longer to drain down to the new approved buffer, which ultimately means would not be able to complete the upstream excavation works prior to Christmas.

Regards,

Peter

Construction Manager | Thiess Pty Ltd
Hinze Dam Alliance | Hinze Dam Stage 3
Advancetown Rd | Advancetown QLD 4211

[REDACTED]
www.hinzedamalliance.com.au

From: Rohan Sutton
Sent: Friday, 10 December 2010 10:05 AM
To: bmaher@seqwater.com.au
Cc: Peter Scanlon; Christopher Dann external forward; Mark Barkau
Subject: Spillway Gate Operation Draw Down Buffer Recommendation

Barton-

Please find attached a memo outlining our recommendation for a draw down buffer below the Stage 2 FSL to manage baseflow draining into the reservoir and limit further disruption to the Hinze Dam construction schedule.

It is worth mentioning, that should we not draw down the reservoir with a suitable buffer, the baseflow draining into the reservoir would quickly re-initiate gate operations. Following completion of the initial gate operation, river levels will drop and allow Weedons Crossing to re-open. The subsequent second flood wave will then mean a return of elevated river levels and Weedons Crossing may need to be closed again; which may impact the public if unaware

Rohan Sutton
Civil Engineer



Hinze Dam Stage 3

M: [REDACTED]
Post: PO Box 2346
Nerang Mail Centre, Queensland, 4211
Email [REDACTED]
Web: www.hinzedamstage3.com

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Memo

TO: Barton Maher, Seqwater **DATE:** 10 December 2010
CC: Christopher Dann, Mark Barkau, Peter Scanlon
FROM: Rohan Sutton
SUBJECT: **Spillway Gate Operation Draw Down Buffer Recommendation**

Background

This memo has been prepared to outline the current spillway gate operations and request for a Stage 2 Full Supply Level (FSL) draw down buffer to minimise further disruption to the Hinze Dam construction schedule.

Operation of the emergency spillway outlet gate is required to manage and release flood water temporarily stored above the Stage 2 FSL of 82.20mAHD. The current flood event (gate opened 03/12/2010) has involved progressively increasing the gate setting over almost a week, with continued rainfall across the catchment and increasing catchment baseflow, including prolonged overflowing of Little Nerang Dam. The current flood water release flow rate from Hinze Dam is approximately $65\text{m}^3/\text{s}$ (at gate opening setting of 2550mm).

Downstream of the site, Weedons Crossing is overflowing and was monitored as per plan when first closed. The Grand Golf Club access has not been impacted by the current flood water release, with the causeway remained opened at the current flow rate (see plate below).

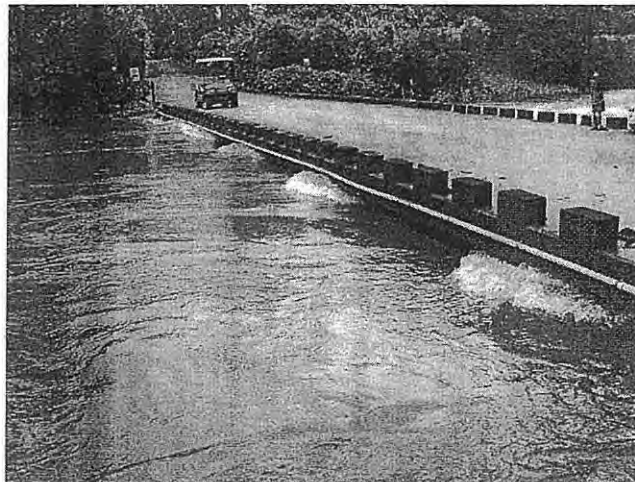


Plate 1 – Grand Golf Club

The draw down buffer is required to complete the critical construction task of excavating the rockfill in the channel upstream of the spillway. Removal of the rockfill must be completed



before the reservoir can be approved to commence storing water above Stage 2 FSL, as it is required:

- To ensure that the spillway and emergency spillway outlet have the required hydraulic capacity; and
- To minimise the risk of rockfill being drawn through the slide gate during gate operations.

In recent weeks this task has not been possible with high reservoir water levels and while the spillway outlet gate is in operation. The works include excavation of rockfill down to EL73m in the area directly upstream of the spillway outlet and the approach channel to EL75m from the spillway through to the main reservoir body. Temporarily drawing the reservoir below the Stage 2 FSL will provide a buffer to future gate operations due to continued reservoir inflows while these works are completed.

Baseflow and Reservoir Response Following Gate Closure

As per the Gate Operations Plan, reservoir draw down back to Stage 2 FSL following the flood peak is undertaken by maintaining the current gate setting until the water level is just above the Stage 2 FSL, then the gate is gradually closed as the level returns to 82.20mAHD. With baseflow continuing to drain into the reservoir, the water level is expected to progressively rise again after the gate is closed.

This behaviour was observed during the October 2010 flood event, as illustrated in Figure 1. The gate was maintained at the 750mm gate setting to draw down the reservoir, and then progressively closed at 82.20mAHD. Following closure, the reservoir water level took just over a week to creep back to the trigger level to re-initiate gate operations (82.41mAHD). For the October 2010 event, due to the available storage at the time, the reservoir water level peak occurred approximately three days after the peak of the inflows from the catchment upstream. Furthermore, the time to draw down the reservoir was relatively long due to the low flood water release rate (gate setting 750mm, flow rate $18\text{m}^3/\text{s}$). Consequently the catchment baseflow draining into the reservoir had time to recede, such that the inflow at the time of closure was only minor. Note following gate closure, flood water had to be temporarily stored above the Stage 2 FSL for some period to avoid a sunny day release.

For the current flood event, the gate is currently operating at the 2550mm setting and releasing flood water from the dam at approximately $65\text{m}^3/\text{s}$. Due to the significantly higher flood water release rate compared to the October 2010 event, the time to draw the reservoir back to Stage 2 FSL will be relatively quick (assuming no continuing rainfall events). As such, only a small reduction in catchment baseflow is expected until the time of gate closure. With significant inflow still draining into the reservoir following closing the gate, the time needed for the water level to reach the trigger level to re-initiate gate operations will be short.

In accordance with the Gate Operations Plan, the volume of flood water that is temporarily stored above the Stage 2 FSL (82.20mADH) in the reservoir before the trigger level to initiate gate operations (82.41mAHD) is reached is 2,098ML. Similarly, the following table presents



a range of catchment baseflows draining in the reservoir and the corresponding durations following gate closure for the reservoir water level to reach the trigger level to re-initiation of gate operations.

| Net Catchment Baseflow Inflow Rate (m ³ /s) | Period to Initiate Gate Operations (Days) |
|--|---|
| 24.3 | 1 |
| 12.1 | 2 |
| 8.1 | 3 |
| 3.5 | 7 |
| 1.7 | 14 |

Storage Draw Down Buffer Recommendations

With the current catchment baseflow approximately 30m³/s, draw down of the reservoir should include an adequate storage buffer below Stage 2 FSL, so that baseflow can have sufficient time to recede and not re-initiate gate operations.

Assuming an average catchment baseflow of 10m³/s draining into the reservoir following gate closure and to avoid re-initiation of gate operations for at least 2 weeks, a storage buffer in the order of 12,000ML would be required. This would mean reservoir drawn down to approximately 81.0mAHD (1.2m below Stage 2 FSL).

Potential Reservoir Inflow Probabilities – Historic Review

For a more historic view of reservoir behaviour, provided below is a long term look at hydrological behaviour of the catchment upstream of Hinze Dam, and the likely yield expected (inflow volumes).

The following table presents the storage volume below the Stage 2 FSL (82.20mAHD) at several storage elevations (80.0mAHD to 82.20mAHD), along with the probabilities of the reservoir receiving the inflow volumes to refill to Stage 2 FSL, during the individual months of January, February and March, and during the period from December till the end of April.

Figure 2 presents a plot of the storage volume below the Stage 2 FSL.



| Storage Elevation (mAHD) | Storage Volume Below Stage 2 FSL (ML) | Potential Inflow Volume Probabilities to Return to Stage 2 Full Supply Level (82.20mAHD) * | | | |
|--------------------------|---------------------------------------|--|------------------------|---------------------|---|
| | | During January (only) | During February (only) | During March (only) | December until the end of April (inclusive) |
| 82.2 (S2 FSL) | 0 | 100% | 100% | 100% | 100% |
| 82.0 | 1,968 | 50-75% | 75-90% | 75-90% | >90% |
| 81.5 | 6,685 | 25-50% | 50-75% | 50-75% | >90% |
| 81.0 | 11,402 | 25-50% | 25-50% | 50-75% | >90% |
| 80.5 | 16,119 | 25-50% | 25-50% | 25-50% | 75-90% |
| 80.0 | 20,836 | 10-25% | 25-50% | 25-50% | 75-90% |

* The potential inflow volumes probabilities presented have been extracted from IQQM model developed and supplied by DERM. The model uses a simulation period of 110 years from 1890 to 2000.

Summary

In summary, it is recommended that the current gate operations should include a draw down buffer below Stage 2 FSL, to limit further disruption to the construction schedule and allow the critical construction task of excavating rockfill upstream of the spillway to be completed. Based on the current and expected catchment baseflow at the time of gate closure, drawing the reservoir down to 81.0mAHD (approximate 12,000ML buffer) is recommended. To draw the reservoir down from the Stage 2 FSL to 81.0mAHD at the current release rate will take in the order of 2 to 3 days (depending on inflow draining into the reservoir).

As presented in the previous section, the long term historic hydrological behaviour of the catchment suggests that there is greater than 90% chance that if the reservoir is drawn down to 81.0mAHD, it will refill by the end of April 2011. With the current above average rainfall that has occurred over the last month and expected to continue throughout summer, refilling the reservoir is very much likely to occur during the 2011 wet season.

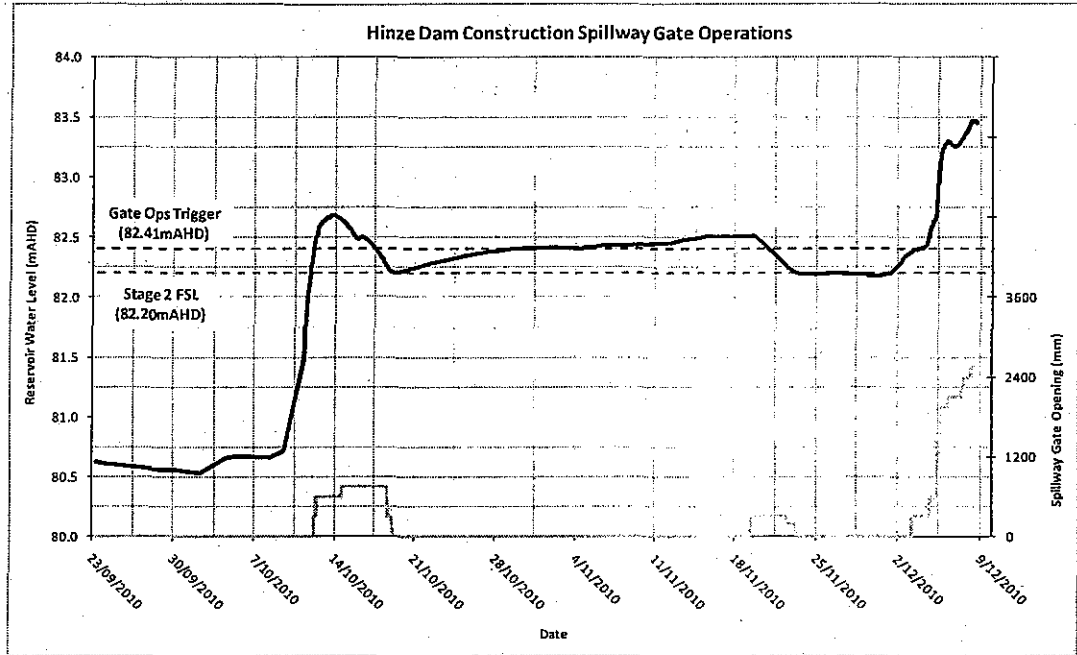


Figure 1 – Hinze Dam Construction Gate Operations (to date)

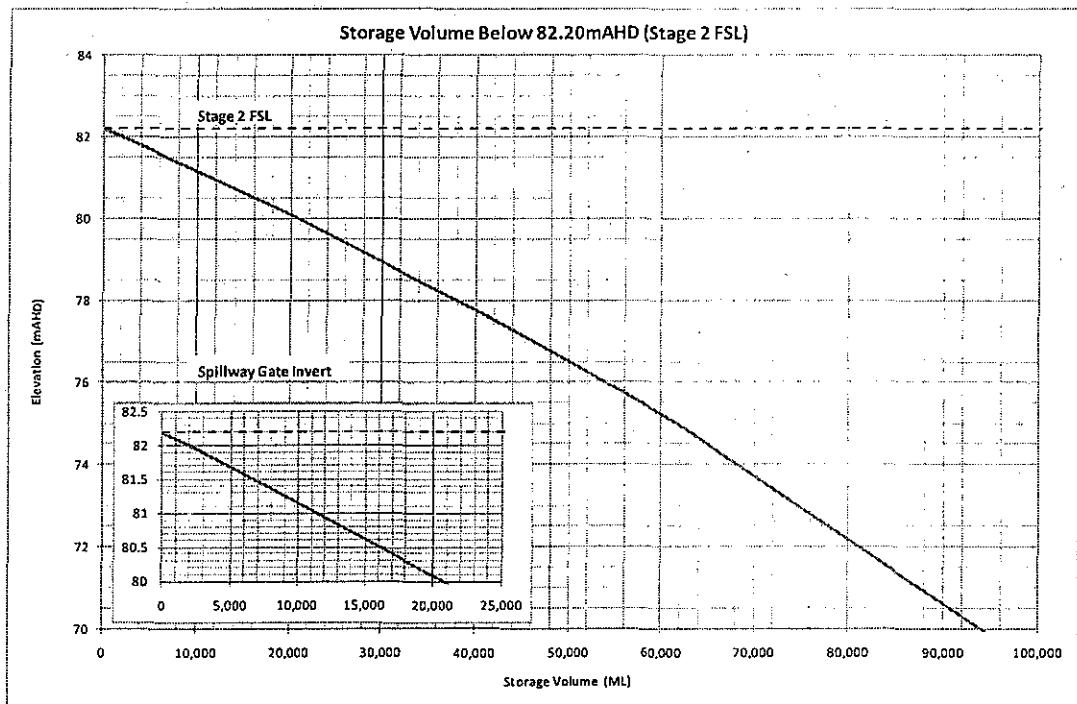


Figure 2 – Storage Volume Below 82.20mAHD (Stage 2 FSL)

Tea **69**

135

Dan Spiller

From: Barton Maher [REDACTED]
Sent: Friday, 10 December 2010 2:38 PM
To: Grant Horton
Cc: Dan Spiller; Paul Bird
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation
Attachments: nerang.csv

Hi Grant,

If you would like additional hydrograph data please email Terry Malone.

Regards,
Barton Maher
Principal Dams & Weirs Planning
QLD Bulk Water Supply Authority *trading as Seqwater*



[REDACTED]
Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia
PO Box 2437, North Ipswich QLD 4305
Website | www.seqwater.com.au

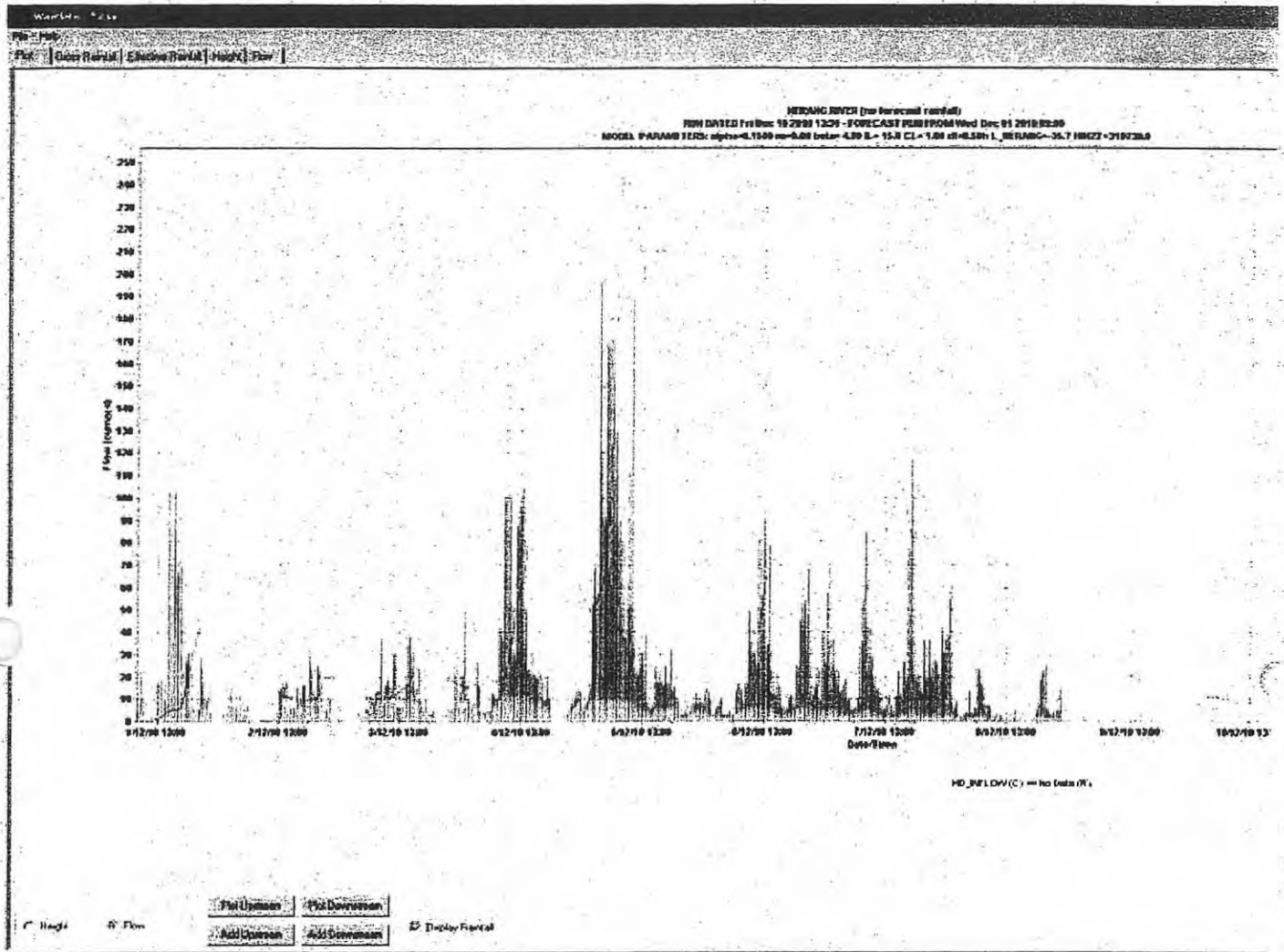
From: Terry Malone
Sent: Friday, 10 December 2010 1:40 PM
To: Barton Maher; 'Grant Horton'
Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

Barton

Below is my estimate of the inflow to Hinze Dam since 01/12/2010. It is also contained in the attached csv file. It suggests that the current inflow to Hinze is about 20 m³/s and with no more rain will halve every 24 hours. However, you should note that BoM is predicting widespread 50mm with isolated 100mm of rain in SE Qld commencing Saturday before easing during Sunday. I suggest the catchment above Hinze will get more than this.

The estimate inflow hydrograph is based upon the recorded hydrographs at Numinbah and Little Nerang with allowance for local runoff from catchment area downstream of these stations.

Terry



From: Barton Maher
Sent: Friday, 10 December 2010 12:58 PM
To: Grant Horton; Terry Malone
Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

... Grant,

The 30cumecs is the current measured flow in the Nerang and Numinbah arms of the storage. The 10 cumecs is an assumption based on the estimated inflows to the storage over the last three months. We have operated the gates three times to releases water and keep the dam at EL82.2.

I will try and get a couple of hydrographs for you form the last couple of inflow events.

Hi Terry,

Can I get the inflow hydrographs for the last lot of floods into Hinze?

Regards,
Barton Maher
 Principal Dams & Weirs Planning
 QLD Bulk Water Supply Authority *trading as* Seqwater



[REDACTED]
Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia
PO Box 2437, North Ipswich QLD 4305
Website | www.seqwater.com.au

From: Grant Horton [REDACTED]
Sent: Friday, 10 December 2010 12:35 PM
To: Barton Maher
Cc: Paul Bird; mfoser [REDACTED] Dan Spiller
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation

Hi Barton

The attached memo talks about the likelihood of certain inflows being received based on the IQQM model and goes onto make the statement below...

With the current catchment baseflow above 30m³/s, draw down of the reservoir should include an adequate storage buffer below Stage 2 FSL, so that baseflow can have sufficient time to recede and not re-initiate gate operations.

Assuming an average catchment baseflow of 10m³/s draining into the reservoir following gate closure and to avoid re-initiation of gate operations for at least 2 weeks, a storage buffer in the order of 12,000ML would be required. This would mean

Is the 30 cumecs based on derived inflow records Seqwater are keeping?

Are we able to get a look at the last few weeks/months of the inflow records you are using for this statement, just to get a sense of how far along the tail of the hydrograph we are sitting and how extended this is in the Hinze catchment??

We are currently looking at probabilities of the dam returning to FSL using our WathNet model (similar to what has been presented using the IQQM simulation results) and the real-time inflow information might just be another useful piece of information.

Ta

Grant Horton
Water Engineer
Water Grid Manager

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

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From: Dan Spiller
Sent: Friday, 10 December 2010 11:27 AM
To: Grant Horton; Storm Stickland
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation

From: Paul Bird [REDACTED]
Sent: Friday, 10 December 2010 11:22 AM
To: Dan Spiller
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation

Dan,

I'll call you about this

Paul


Paul Bird
Senior Communications Advisor
Queensland Bulk Water Supply Authority *trading as Seqwater*



[REDACTED]
Level 3, 240 Margaret St, Brisbane City QLD 4000
PO Box 16146, City East QLD 4002
Website | www.seqwater.com.au



No lifeguards here

A WATER SAFETY INITIATIVE FROM 

Swimming in weirs and fast flowing water is FATAL

REMARK IT

From: Barton Maher
Sent: Friday, 10 December 2010 11:19
To: Paul Bird
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation

Barton Maher
Principal Dams & Weirs Planning
QLD Bulk Water Supply Authority *trading as Seqwater*



[REDACTED]
Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia
PO Box 2437, North Ipswich QLD 4305
Website | www.seqwater.com.au

From: Barton Maher
Sent: Friday, 10 December 2010 11:18 AM
To: Mike Foster
Cc: Jim Pruss; Rob Drury
Subject: FW: Spillway Gate Operation Draw Down Buffer Recommendation

Hi Mike,

Details of the proposed drawdown at Hinze is detailed in the attached memo. Short version.

Seqwater and the Hinze Dam Alliance would like to continue gate operations at the current rate to drawdown the storage level to EL81. (would be able to reach this level by Wednesday. The gate will then be shut and the excavation of the rockfill at the upstream side of the spillway would be commenced immediately. The lower storage level would allow us to use conventional excavators and complete the works in around 3 days. Given that there is still inflows into the dam from the catchment, it is likely that the water level would rise from EL81 up to EL81.5 or higher before Christmas.

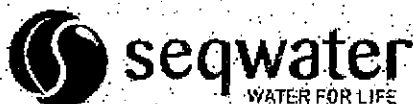
Can you pass by Dan Spiller please? We need to go ahead today to make this work.

Regards,

Barton Maher

Principal Dams & Weirs Planning

QLD Bulk Water Supply Authority *trading as Seqwater*



Karalee Office, 68 Junction Rd Karalee QLD 4306 Australia

PO Box 2437, North Ipswich QLD 4305

Website | www.seqwater.com.au

From: Peter Scanlon [mailto:pscanlon@hinzedamalliance.com.au]

Sent: Friday, 10 December 2010 10:57 AM

To: Barton Maher

Cc: Christopher Dann external forward; Mark Barkau; Rohan Sutton; Peter Kinsella

Subject: RE: Spillway Gate Operation Draw Down Buffer Recommendation

Barton,

With the current opening of the emergency gate, the reservoir will likely draw down to RL82.2 meaning a full gate closure this Sunday. Ideally if Seqwater are going to approved the additional buffer, we need to know today to allow us to keep the emergency gate *fully open* until we reach to approved buffer level which I am calculating as being next Thursday morning. Note that this would indeed leave us sufficient time to complete the rock excavation stream.

However leaving the approval till Monday means we will need to decrease the emergency gate opening over the weekend; then not be able to increase the opening after approval, meaning longer to drain down to the new approved buffer, which ultimately means would not be able to complete the upstream excavation works prior to Christmas.

Regards,

Peter

Construction Manager | Thiess Pty Ltd

Hinze Dam Alliance | Hinze Dam Stage 3

Advancetown Rd | Advancetown QLD 4211

www.hinzedamalliance.com.au

From: Rohan Sutton

Sent: Friday, 10 December 2010 10:05 AM

To: bmaher [REDACTED]
Cc: Peter Scanlon; Christopher Dann external forward; Mark Barkau
Subject: Spillway Gate Operation Draw Down Buffer Recommendation

Barton-

Please find attached a memo outlining our recommendation for a draw down buffer below the Stage 2 FSL to manage baseflow draining into the reservoir and limit further disruption to the Hinze Dam construction schedule.

It is worth mentioning, that should we not draw down the reservoir with a suitable buffer, the baseflow draining into the reservoir would quickly re-initiate gate operations. Following completion of the initial gate operation, river levels will drop and allow Weedons Crossing to re-open. The subsequent second flood wave will then mean a return of elevated river levels and Weedons Crossing may need to be closed again; which may impact the public if unaware.

Rohan Sutton

Civil Engineer



Hinze Dam Stage 3

M: [REDACTED]

Post: PO Box 2346

Nerang Mail Centre, Queensland, 4211

Email: [REDACTED]

Web: www.hinzedamstage3.com

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Table 197

Suzie Emery

From: Paul Bird [REDACTED]
Sent: Friday, 10 December 2010 3:22 PM
To: Shelley Banks; Dan Spiller
Cc: Mike Foster
Subject: RE: Hinze Q&As
Attachments: QA's Hinze Dam.docx

Dan / Shelley,

Have played with these and built on what Shelley has provided. – They should address the issues.

Cheers,

Paul

From: Shelley Banks [REDACTED]
Sent: Friday, 10 December 2010 14:42
To: Paul Bird
Subject: Hinze Q&As

Hi Paul

Very rough first draft of Q&As attached. Thanks for adding more information.

Shelley

Shelley Banks
Senior Communications Officer
SEQ Water Grid Communications Unit
SEQ Water Grid Manager
Phone: (07) 3247 3014 | Fax: (07) 3405 0373
Email: shelley.banks@seqwgm.com.au
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002
ABN: 14783 317 630



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Q&A's Hinze Dam

What is being done?

Hinze Dam Stage 3 will see the dam wall raised by 15 metres. Raising the Hinze Dam wall will provide improved flood mitigation for the downstream Nerang River valley, almost double the storage capacity of the dam and provide an increased yield into the SEQ Water Grid.

Why is water flowing down the Nerang River?

The Hinze Dam spillway was originally a passive spillway, in that whenever the water exceeded the full supply level, it would flow over the spillway and down the Nerang River.

The Stage 3 Upgrade has seen the installation of emergency release gates and water is currently flowing through those gates as the dam has exceeded its Stage 2 FSL and is not yet able to store additional water to the new Stage 3 FSL.

This flow down the Nerang River is no different to other spillway overtopping event prior to or during the Stage 3 Upgrade Project.

Why does the water need to be lowered below the Stage 2 FSL?

As part of construction, the Hinze Dam Alliance placed crushed rock on the upstream side of the spillway to provide an interim roadway and also a working pad for a 230 tonne crane which was used during the spillway construction work and the installation of the emergency gates.

This rockfill is no longer required and needs to be removed. To do this, the storage level of the dam needs to be reduced by approximately 7.4%. This means releasing approximately 12 000 megalitres through the gates. Once the water has been released and the lower storage level reached, the gate will be shut and the rockfill excavated from the site in around 3 days.

Once the rockfill has been removed, the water level will be allowed to return to Stage 2 FSL levels.

Why is it being done now?

To ensure regulatory completion of Hinze Dam Stage 3 by December 2010, the rockfill needs to be removed now.

Will there be impacts downstream?

There should be no impacts any properties downstream of Hinze Dam. There has been a flow from the gates (due to rainfall and levels above the Stage 2 FSL) for several days and this had not created any downstream impacts.

Will drinking water supplies be impacted?

There will be no impact on drinking water supplies. Hinze Dam will still provide 200 megalitres to the Water Grid – 170 megalitres for the Gold Coast and 30 megalitres for Logan.

What does this mean for flood mitigation?

Mitigation against potential flooding in the Nerang River catchment is the key driver behind the decision to raise the Hinze Dam wall.

Teardrop

Suzie Emery

From: Bagdon Tad [REDACTED]
Sent: Friday, 10 December 2010 4:06 PM
To: Gary.Humphrys@Ensham.Com.Au
Cc: Mary Boydell; Waldman Karen; Dan Spiller; McKenna Chris; Sanders Paul
Subject: RE: Recommended draw down of Hinze Dam

Gary

IN RESPONSE - YOUR DISCUSSION WITH MARY BOYDELL EARLIER TODAY;

The QWC has considered the request to allow drawdown of Hinze Dam to continue at a rate of 65 cubic metres per second until mid-week to draw down an additional 12,000 ML to assist in allowing construction to be finalised.

Noting that the Water Grid Manager has no concerns and advises that the drawdown will not infringe the risk criteria in the System Operating Plan or the interim operating strategy the Queensland Water Commission also endorses the action.

It is noted also that such releases are an operational matter for Seqwater, within the context of the Resource Operations Plan, where there is no condition in the System Operating Plan that regulates releases from Hinze Dam. It is recommended that Seqwater liaise with the Department of Environment and Resource Management to confirm their understanding of any conditions that apply.

It is suggested that consideration be given to maximising the use of water from Hinze Dam during the release period providing this is in accord with the interim operating strategy.

Tad Bagdon
Acting General Manager
Regional Planning and Policy
Queensland Water Commission
L16 53 Albert Street
Brisbane QLD 4000

www.qwc.qld.gov.au

From: Mary Boydell [mailto:mary.boydell@bigpond.com]
Sent: Friday, 10 December 2010 1:53 PM
To: Bagdon Tad
Subject: Fwd: Recommended draw down of Hinze Dam

Begin forwarded message:

From: "Gary Humphrys" [REDACTED]
Date: 10 December 2010 1:38:03 PM AEST
To: [REDACTED]

Subject: FW: Recommended draw down of Hinze Dam

Mary

As discussed

Ps Barry is away at present on A/L .

Kind regards

Gary Humphrys

Em

Tel

Mob

From: Dan Spiller
Sent: Friday, 10 December 2010 1:12 PM
To: Gary Humphrys; Gary Humphrys
Cc: Barry Dennien; Michael Lyons
Subject: Recommended draw down of Hinze Dam

Gary,

For information and advice, pending a more detailed brief for approval this afternoon.

Background

Seqwater has requested permission for the draw down. It proposes to release an additional 12,000 ML. Subject to our approval today, water would be released at the current rate until mid next week (about 65 cubic metres per second).

The drawdown has been requested to enable excavation of rockfill on the upstream side of the spillway. The lower storage level would allow conventional excavators to be used, which would complete the work in about three days.

Due to wet weather, project completion has now been delayed by one month to end January. The drawdown will assist in avoiding further delays.

Seqwater requires approval today, if it is to continue to release at 65 cubic metres per second. If it is not approved today, Seqwater will reduce releases over the weekend. At lower rates, the drawdown will not occur in sufficient time to complete the works before Christmas.

A similar request was considered last year, at which time the QWC had concerns about the public perception issues associated with releasing water at a time when the community was being actively encouraged to be water efficient. The context is now significantly different, with downstream flood immunity a significantly more important issue.

WGM assessment

The drawdown is needed for construction reasons.

Timely completion of the Hinze Dam upgrade is important, given rainfall forecasts for the remainder of the current wet season. Project completion provides the opportunity to fill the dam to the new full supply level and, more importantly, improved flood security for downstream areas.

WGM modelling has confirmed that the drawdown would have no impact on regional water security.

Modelling indicates that there would be no change to the likelihood of storages falling to 60 or 40 per cent of capacity within either three or five years. The probability of storages falling to these levels remains significantly less than the targets specified in the System Operating Plan.

With this security, it is recommended that the release and works be undertaken as soon as possible. This would minimise the delays to project completion and maximise the probability of the dam filling to the new full supply level within the current wet season. Releases at 65 cubic metres per second is consistent with this approach.

Roles and responsibilities

The water security impacts are an operational matter for the WGM. In considering these impacts, we must comply with the System Operating Plan.

Seqwater as dam operator has the ability to release the additional water.

Consultation

Ministerial advisers have no objections to the proposed drawdown. The advisers consider this to be an operational decision for the WGM. Should the WGM endorse the drawdown, they have request a brief for

information only. However, they have noted that they are concerned regarding any potential delays to project completion.

Seqwater officers are assisting in drafting briefing material and are briefing the Ministers advisers directly on the project delays.

I seek your guidance on consultation with the QWC. Beyond the risk criteria, the SOP and Operating Strategy do not contemplate this request.

Regards,

Dan

Daniel Spiller

Director, Operations

SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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Tea and

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Friday, 10 December 2010 4:17 PM
To: Barton Maher; Mike Foster
Cc: Barry Dennien; Gary Humphrys; Jim Pruss
Subject: Draw down of

Barton and Mike,

I refer to the recommendation from the Hinze Dam Alliance to draw down the reservoir to 81.0m AHD to enable the completion of the critical construction task of excavating the rockfill in the channel upstream of the spillway. I note that removal of the rockfill must be completed before the reservoir can be approved to commence storing water above the existing Full Supply Level.

I advise that the WGM has no objection to the drawdown, for the above purpose, from a water security perspective. We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the System Operating Plan or our ability to meet our supply obligations to Grid Customers.

In the event of further inflows, we have no objection to any further releases required to maintain the reservoir at this level until the excavation work is complete.

We would appreciate being notified once the rockfill excavation is completed, or if further changes to the dam level are required to complete the works.

Any releases should be managed by Seqwater and the Alliance in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

From a water security perspective, I am advised that the QWC also does not have any objections to the proposed release.

Please call me if you have any queries or require any further information.

Regards,

Dan

Daniel Spiller
Director, Operations
SEQ Water Grid Manager

Phone [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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Tea 100

138

Dan Spiller

From: Barton Maher [REDACTED]
Sent: Friday, 10 December 2010 4:23 PM
To: Dan Spiller
Subject: Re: Draw down of

Dan,
Thanks very much for the approval. We will keep you informed of our actions and progress.

If you are available we would be happy to show you around site at some stage to see the works.

Kind regards,
Barton
Barton Maher
Project Director Dam & Weirs
Queensland Bulk Water Supply Authority trading as Seqwater

[REDACTED]

From: Dan Spiller [REDACTED]
To: Barton Maher; Mike Foster
Cc: Barry Dennien [REDACTED]; Gary Humphrys [REDACTED]; Jim Pruss
Sent: Fri Dec 10 16:17:18 2010
Subject: Draw down of

Barton and Mike,

I refer to the recommendation from the Hinze Dam Alliance to draw down the reservoir to 81.0m AHD to enable the completion of the critical construction task of excavating the rockfill in the channel upstream of the spillway. I note that removal of the rockfill must be completed before the reservoir can be approved to commence storing water above the existing Full Supply Level.

I advise that the WGM has no objection to the drawdown, for the above purpose, from a water security perspective. We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the System Operating Plan or our ability to meet our supply obligations to Grid customers.

In the event of further inflows, we have no objection to any further releases required to maintain the reservoir at this level until the excavation work is complete.

We would appreciate being notified once the rockfill excavation is completed, or if further changes to the dam level are required to complete the works.

Any releases should be managed by Seqwater and the Alliance in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

From a water security perspective, I am advised that the QWC also does not have any objections to the proposed release.

Please call me if you have any queries or require any further information.

Regards,
Dan

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: 14783317 630

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Tab 101

Barry Dennien

From: Dan Spiller
Sent: Friday, 10 December 2010 4:26 PM
To: Tim Watts
Cc: Mike Foster; Barry Dennien
Subject: Hinze Dam drawdown
Attachments: QA's Hinze Dam.docx

Tim,

For information, Hinze Dam will be draw down 92.5% of capacity over coming days.

The drawdown is being done to enable the completion of the critical construction task of excavating the rockfill in the channel upstream of the spillway. Removal of rockfill must be completed before the reservoir can be approved to commence storing water above the existing Full Supply Level.

Without the drawdown, completion of construction would be delayed. The extent of delay would depend upon rainfall. The dam has not been at 92.5% of capacity since mid 2010.

An additional 12,000 ML will be released, in addition to releases required to draw the dam down to the existing full supply level (to date, about 36,000 ML has been released during the current event). Water will continue to be released at about the current rate, with releases continuing for several days more than would otherwise be required. The exact release rates and duration will depend upon whether there is any further rainfall in the catchment area.

Background

Timely completion of the Hinze Dam upgrade is important, given rainfall forecasts for the remainder of the current wet season. Project completion provides the opportunity to fill the dam to the new full supply level and, more importantly, improved flood security for downstream areas.

WGM modelling indicates that the drawdown would have no impact on regional water security. This modelling indicates no change to the likelihood of key Water Grid storages falling to 30 or 40 per cent of capacity within either three or five years following the release proposed. The probability of storages falling to these levels remains significantly less than the targets specified in the System Operating Plan.

With this security, there are benefits to undertaking the release and works as soon as possible. This would minimise the delays to project completion and maximise the probability of the dam filling to the new full supply level within the current wet season.

Seqwater and the Alliance will manage the release, in accordance with statutory and regulatory requirements. The WGM has advised that it has no objections from a water security perspective. The QWC agrees with this advice.

We are not proposing any public statements, but we have prepared some basic questions and answers for internal information only.

Please call me if you require any further information.

Regards,
Dan

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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Q&A's Hinze Dam

What is being done?

Hinze Dam Stage 3 will see the dam wall raised by 15 metres. Raising the Hinze Dam wall will provide improved flood mitigation for the downstream Nerang River valley, almost double the storage capacity of the dam and provide an increased yield into the SEQ Water Grid.

Why is water flowing down the Nerang River?

The Hinze Dam spillway was originally a passive spillway, in that whenever the water exceeded the full supply level, it would flow over the spillway and down the Nerang River.

The Stage 3 Upgrade has seen the installation of emergency release gates and water is currently flowing through those gates as the dam has exceeded its Stage 2 FSL and is not yet able to store additional water to the new Stage 3 FSL.

This flow down the Nerang River is no different to other spillway overtopping event prior to or during the Stage 3 Upgrade Project.

Why does the water need to be lowered below the Stage 2 FSL?

As part of construction, the Hinze Dam Alliance placed crushed rock on the upstream side of the spillway to provide an interim roadway and also a working pad for a 230 tonne crane which was used during the spillway construction work and the installation of the emergency gates.

This rockfill is no longer required and needs to be removed. To do this, the storage level of the dam needs to be reduced by approximately 7.4%. This means releasing approximately 12 000 megalitres through the gates. Once the water has been released and the lower storage level reached, the gate will be shut and the rockfill excavated from the site in around 3 days.

Once the rockfill has been removed, the water level will be allowed to return to Stage 2 FSL levels.

Why is it being done now?

To ensure regulatory completion of Hinze Dam Stage 3 by December 2010, the rockfill needs to be removed now.

Will there be impacts downstream?

There should be no impacts any properties downstream of Hinze Dam. There has been a flow from the gates (due to rainfall and levels above the Stage 2 FSL) for several days and this had not created any downstream impacts.

Will drinking water supplies be impacted?

There will be no impact on drinking water supplies. Hinze Dam will still provide 200 megalitres to the Water Grid – 170 megalitres for the Gold Coast and 30 megalitres for Logan.

What does this mean for flood mitigation?

Mitigation against potential flooding in the Nerang River catchment is the key driver behind the decision to raise the Hinze Dam wall.

Tab 102

Barry Dennien

From: Reilly Bob [REDACTED]
Sent: Saturday, 11 December 2010 8:28 AM
To: Barry Dennien
Subject: Fw: Grid Manager Investigation on whether water supply levels can be temporarily reduced during the wet season

Hi barry

Fyi

Regards

Bob

----- Original Message -----

From: Kathy Reilly <threereillys@bigpond.com>

To: Reilly Bob

Sent: Sat Dec 11 08:24:50 2010

Subject: Fw: Grid Manager Investigation on whether water supply levels can be temporarily reduced during the wet season

----- Original Message -----

From: Kathy Reilly [REDACTED]

To: Best Debbie [REDACTED]

Sent: Saturday, December 11, 2010 8:21 AM

Subject: Grid Manager Investigation on whether water supply levels can be temporarily reduced during the wet season

Hi Debbie

The Grid Manager was asked to investigate this issue and report back to the Minister by 30 November 2010. If this has not happened, then the likely floodwater release from Wivenhoe and North Pine dams this weekend will probably result in the DG/Minister's office querying what has happened to it.

In essence, the Grid Manager is looking at whether it is practical/reasonable to temporarily reduce, by a small amount, the water levels in dams such as Wivenhoe during the wet season (without affecting water yield) so as to avoid having to make small flood water releases (such as is likely to occur this weekend) on a number of occasions during the wet season. Several SEQ Councils (including Brisbane City Council) are aware that this matter is being considered, but not the timings--still they could raise the matter as this was the way in which the Leslie Harrison dam was managed when the councils owned it. Also this will be the second flood water release this week from North Pine dam--so Moreton Council may raise the matter as well.

For some reason, I finished up being the GM that was briefing on this issue, but it was going up to the DG/Minister through your position rather than Terry Wall. It is not primarily a dam safety/flood mitigation regulatory issue, although changes would need to be made to the flood mitigation regulatory arrangements for Somerset/Wivenhoe/North Pine if the policy changes proceeded. The Emergency Action Plans (a dam safety requirement) for several other dams e.g. Leslie Harrison would also require updating.

Regards

Bob

+-----+
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
+-----+

Table 103

Dan Spiller

From: Dan Spiller
Sent: Sunday, 12 December 2010 10:19 AM
To: Bradley John
Cc: Michael Lyons; Barry Dennien
Subject: Wivenhoe release

John,

Release has been delayed until tomorrow, to follow the peak in Lockyer Valley flows. Also provides time to advise people that will be affected by flooding of local bridges downstream.

All councils advised and comfortable, though Somerset did question whether the rainfall was sufficient to warrant an release (it is, as the trigger levels in the management plan have been breached).

We will probably make a media release this afternoon, primarily in order to advise
idents who may be affected by bridge closures.

More detailed brief to follow. Michael L has spoken to Lance.

Dan

Tab 104

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Sunday, 12 December 2010 4:31 PM
To: John Bradley [REDACTED]
Cc: Peter Borrows; Barry Dennien; bob.reilly [REDACTED]
Subject: Wivenhoe Dam release
Attachments: Technical Stuation Report W1.docx

Follow Up Flag: Follow up
Flag Status: Flagged

John,

Technical report attached for your notification, as flagged this morning. Notification to you is required under the draft protocol.

Details of the proposed release are outlined in the report, as drafted by the Seqwater team.

Note that this event is expected to be smaller than the October event. Seqwater is expecting release 70,000 to 100,000 ML at this time, compared to 650,000 ML released during the October event. More importantly, the flow rate will be only 20 per cent of the October event.

Seqwater has advised the downstream councils and BOM, as outlined in the report and as per the draft protocol. Councils and BOM have not provided written assessments at this stage. Seqwater will continue to consult with them.

We are preparing a media release for this afternoon, flagging the gate release and providing an overview of levels across Water Grid storages. We intend to keep it low key, reflecting that this is a smaller release than October (no TV interviews today). We are consulting with Lance on content. Let me know if you want an opportunity to comment.

Please call me if you require any further information.

Regards,
Daniel Spiller

TECHNICAL SITUATION REPORT

| | | | | | |
|------------|----|---------------------|------------|---------------------|-----|
| TSR Number | W1 | Date of TSR release | 12.12.2010 | Time of TSR release | 2pm |
|------------|----|---------------------|------------|---------------------|-----|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

Operational releases have been made from Wivenhoe and Somerset Dams over the last week discharging water that has come into the dams, however this is not sufficient to handle the current inflows. Rainfall in the last 24 hours will result in significant inflows to Somerset and Wivenhoe Dams which will require gate operations in the next few days.

At Somerset, two regulators have been opened around midday Sunday and remain open until at least Thursday. This will release approximately 45,000ML into Wivenhoe Dam. Water level in Somerset Dam is expected to peak around 99.7m AHD during Monday.

There is a peak flow of about 150m³/s expected in the mid Brisbane during Monday, mostly resulting from Lockyer Ck. This will be similar to, if not slightly higher than, the peak of 130 m³/s which occurred on Monday 6/12/2010.

Some 30,000 ML is expected to flow into Wivenhoe Dam from the upper Brisbane R during the next week. Coupled with the Somerset release, this will result in a rise at Wivenhoe during the next 24 to 48 hours with a peak water level around 67.6 m AHD. Releases from Wivenhoe will not be made until the runoff from the Lockyer and local areas has passed Savages Crossing so as not to exacerbate local flooding.

Releases from Wivenhoe are expected to commence on Monday afternoon depending on flows downstream and further possible rainfall, ramping up from the current release of 50m³/s to 300m³/s. The regulator will be closed and Gate 3 will be progressively opened to 3.0m. It is expected to remain at this level until Thursday when it will be reduced back to 50m³/s, at which stage the water level in the dam is expected to be below 67.25m AHD. Low level releases of 50m³/s through the hydro and regulator will then continue

It should be noted that a release of 300m³/s will impact upon Twin Bridges, Savages Crossing and Colleges Crossing. The release strategy is to discharge the stored floodwaters as quickly as possible to return the flood buffer in the dams in case there is further rainfall but in a manner that attempts to minimize disruption downstream.

The Dam Regulator has been advised of the planned actions to confirm the suitability of the planned release strategy.

Councils were contacted by phone and a follow up email sent however their phone advice is considered sufficient considering the minor actions required of councils. They can offer further comments if they desire at any stage.

The planned release strategy has been provided around 10am on 12.12.2010 by phone to
Brisbane City Council – Chris Lavin
Ipswich City Council – Tony Trace
Somerset Regional Council – Tony Jacobs

Although informal operational advice to Councils occurs at other times.

Issues raised by Councils were only a request to be advised when releases began to enable bridge closures. Somerset requested Burton's Bridge to remain open if possible or notice provided if we intend to release sufficient water to close it on purpose.

Actions taken will be to mobilise the flood centre on Monday and advise Councils as requested regarding releases.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| 0410378740 | |

BoM assessment

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

BoM was advised of planned releases via their flood information email. No formal advice is required of them as the release is a minor drawdown however there is ongoing advice provided by them on predicted rainfall and flows.

Actions taken will be to mobilise the flood centre on Monday and advise Councils as requested regarding releases and keep BoM up to date.

| | |
|--|--|
| 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)

BCC will advise internally for information purposes mainly re bridge closures in other council areas that may affect Brisbane residents.

Actions taken will be to mobilise the flood centre on Monday and advise Councils as requested regarding releases.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | [REDACTED] |

Ipswich City Council (ICC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

Ipswich will coordinate closure of Colleges Crossing as necessary and any other actions.

Actions taken will be to mobilise the flood centre on Monday and advise Councils as requested regarding releases

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [REDACTED] |

Somerset Regional Council (SRC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

Somerset Council will coordinate closure of Twin Bridges and Savages Crossing as necessary and any other actions.

Actions taken will be to mobilise the flood centre on Monday and advise Councils as requested regarding releases

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | [REDACTED] |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|------------|-------------|--|-----------------|--|
| Next TSR due | Date | 13.12.2010 | Time | | or Event | |
|---------------------|-------------|------------|-------------|--|-----------------|--|

Table 105

Barry Dennien

From: Barry Dennien
Sent: Friday, 17 December 2010 10:56 AM
To: 'Rob Drury'
Cc: Dan Spiller; 'Peter Borrows'; Michael Lyons
Subject: URGENT

Rob

I note the gates are opening once again tonight and that the dams (Wivenhoe / Somerset combined) only got to 102% approx during the first release.

For process clarity:

1. Was the plan for the original release to keep the dam above FSL
2. When and by who was the decision to reopen the gates tonight
3. Was a technical situational report reissued if so when we do not appear to have a copy however the communications unit do have a notification from Mike Foster.
4. What is the basis of the next release
 - a. What release time and combined Dam level targets are being set.

The reason for the questions is to Brief the minister and DG ASAP and to be prepared for the media questions.

Barry

From: SEQWGM Media
Sent: Friday, 17 December 2010 10:22 AM
Subject: Media update: dam releases

Media update – Dam releases – 17 December 2010 (Morning)

Following storm activity and rainfall in the Wivenhoe catchment area yesterday, a single spillway gate at Wivenhoe Dam will be opened at 6.00 pm tonight.

Based on the current forecast, the gate is expected remain open into next week. While releases will begin at approximately 8,000 megalitres per day, this amount may be increased over the weekend.

Releases from Somerset Dam into Wivenhoe Dam have been reduced to around 6,000 megalitres per day, however this amount may also be adjusted over the weekend if greater inflows are received.

A release was made overnight from North Pine Dam, in consultation with the Moreton Shire Regional Council. The spillway gates were closed before 7.00 am this morning.

Overnight releases are designed to have minimal impact on the surrounding community.

The Water Grid will continue to work with local councils regarding the release water from Wivenhoe Dam. All releases are being managed in accordance with approved flood management plans.

For further information on the Water Grid: www.watergrid.com.au

ENDS

Note to the Editor: While Wivenhoe is spilling routine updates will be provided mid morning and mid to late afternoon.

Community Assistance: Please direct the community to contact **telephone - 1800 613 122**. This number has been established for members of the public seeking information on which dams are spilling in South East Queensland.

Members of the public seeking information on **potential impacts in their local areas** should **direct inquiries to their local councils**.

About the SEQ Water Grid: Established in June 2008 in response to the crippling Millennium Drought, the SEQ Water Grid represents one of Australia's largest investments in water infrastructure.

Through a network of climate resilient water sources, treatment facilities, new two-way pipes and existing pipelines, the SEQ Water Grid gives the South East Queensland region the ability to support water demands, water quality, economic prosperity and lifestyle - regardless of climate change and population growth.

For further information visit www.seqwgm.com.au

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

Ph: [REDACTED]

Table 106

Barry Dennien

From: Rob Drury [rdrury [REDACTED]]
Sent: Friday, 17 December 2010 12:37 PM
To: Barry Dennien; Peter Borrows
Subject: Re: URGENT

Barry, will get a report through to you shortly. Was waiting til had a better idea of rain predicted but had informed councils to cover off. It will cover your requests as well. Rob

From: Barry Dennien [REDACTED]
To: Rob Drury
Cc: Dan Spiller [REDACTED] Peter Borrows; Michael Lyons [REDACTED]
Sent: Fri Dec 17 10:56:29 2010
Subject: URGENT

Rob

As the gates are opening once again tonight and that the dams (Wivenhoe / Somerset combined) only got to 2% approx during the first release.

For process clarity:

1. Was the plan for the original release to keep the dam above FSL
2. When and by who was the decision to reopen the gates tonight
3. Was a technical situational report reissued if so when we do not appear to have a copy however the communications unit do have a notification from Mike Foster.
4. What is the basis of the next release
 - a. What release time and combined Dam level targets are being set.

The reason for the questions is to Brief the minister and DG ASAP and to be prepared for the media questions.

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For further information visit www.seqwgm.com.au

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

Ph: [REDACTED]

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

Suzie Emery

From: Rob Drury [REDACTED]
Sent: Friday, 17 December 2010 1:28 PM
To: Dan Spiller
Cc: Barry Dennien; Peter Borrows; Jim Pruss; Mike Foster; Grant Horton
Subject: Technical Report W5
Attachments: Technical Stuation Report W5.docx

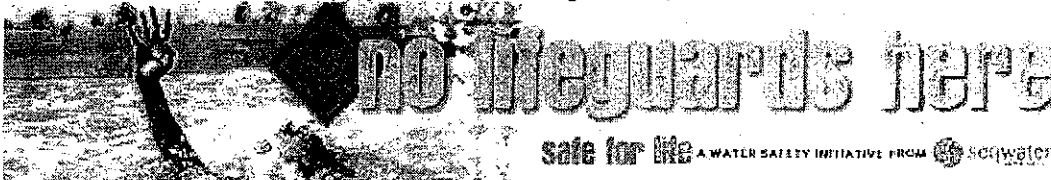
Attached is the Technical Report W5.

Barry,
It should cover off on your questions in your email before as well.

Hadn't sent this through earlier as for such minor releases, I send the Technical Report through when we have contacted Councils and have a fairly clear understanding of where we are heading so the technical info has been shared and there is communication with Councils and then rely on the Communications process to give the early update to WGM and others as was done this morning.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and
flowing water is FA

rethink



[REDACTED]
Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

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TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|----|----------------------------|------------|----------------------------|------|
| TSR Number | W5 | Date of TSR release | 17.12.2010 | Time of TSR release | 12pm |
|-------------------|----|----------------------------|------------|----------------------------|------|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

The previous release plan was to get Wivenhoe dam as close to FSL as possible without inundating Burtons bridge and balance this off against opening Colleges Crossing as soon as possible. The BOM forecasts on Wednesday when the decision was made to proceed with closure on Thursday morning indicated a low chance of significant rainfall until Sunday and unfortunately these forecasts did not prove correct and were revised upwards on Thursday.

A decision to commence a release tonight was made this morning by Duty Flood Engineers to provide as much notice to impacted Councils as possible. Due to the large storms experienced yesterday afternoon and night, the current rain on the ground will result in over 60,000ML needing to be released from Wivenhoe and Somerset Dams to achieve FSL. Additionally BOM are forecasting an additional 20 to 50 millimetres of rain tonight, with further rain forecast through the weekend. If this rain eventuates, substantial flood releases will occur impacting a number of bridges along the river.

The extent of the release commencing tonight will depend on the rain that falls in the catchment over the next 72 hours. This could vary between 10 and 100+ millimetres and the release strategy will be developed in accordance with the Manual of Flood Mitigation as the situation develops. The objectives of the release will be to protect the safety of the dam while minimising flooding impacts on the crossings downstream of the dam in the Brisbane River.

Councils were contacted this morning to advise of the strategy and they had no concerns with the strategy and agreed with the strategy.

Twin Bridges, Savages Crossing and Colleges Crossing may be impacted by releases but it depends to some extent on the rainfall tonight and weekend. Significant rainfall could result in other bridges being impacted by releases.

A follow up email will be sent in case Councils want to provide an assessment.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| 0410378740 | |

BoM assessment

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

BoM has been advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|--|
| 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)

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|---|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |

SRC Technical Officer contact details



Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|------------|-------------|--|-----------------|---------------------|
| Next TSR due | Date | 17.12.2010 | Time | | or Event | Gate opening |
|---------------------|-------------|------------|-------------|--|-----------------|---------------------|

Tab 107

Suzie Emery

From: Barry Dennien [REDACTED]
Sent: Friday, 17 December 2010 1:37 PM
To: Dan Spiller; Michael Lyons; John Bradley [REDACTED]
Subject: FW: Technical Report W5
Attachments: Technical Stuation Report W5.docx

Follow Up Flag: Follow up
Flag Status: Flagged

John

Latest technical report supporting the planned flood release tonight. We are continuing to discuss with Seqwater if this release can be extended in either time or volume to reduce the flood storage level below full supply level and possibly mitigate the on and off again releases during this wet period. Keep you updated.

Barry

From: Rob Drury [REDACTED]
Sent: Friday, 17 December 2010 1:28 PM
To: Dan Spiller
Cc: Barry Dennien; Peter Borrows; Jim Pruss; Mike Foster; Grant Horton
Subject: Technical Report W5

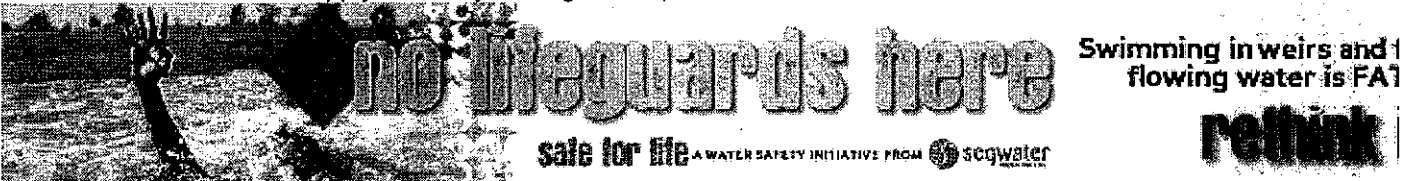
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Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority *trading as Seqwater*



Ph [REDACTED]
Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

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TECHNICAL SITUATION REPORT

| | | | | | |
|------------|----|---------------------|------------|---------------------|------|
| TSR Number | W5 | Date of TSR release | 17.12.2010 | Time of TSR release | 12pm |
|------------|----|---------------------|------------|---------------------|------|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

The previous release plan was to get Wivenhoe dam as close to FSL as possible without inundating Burtons bridge and balance this off against opening Colleges Crossing as soon as possible. The BOM forecasts on Wednesday when the decision was made to proceed with closure on Thursday morning indicated a low chance of significant rainfall until Sunday and unfortunately these forecasts did not prove correct and were revised upwards on Thursday.

A decision to commence a release tonight was made this morning by Duty Flood Engineers to provide as much notice to impacted Councils as possible. Due to the large storms experienced yesterday afternoon and night, the current rain on the ground will result in over 60,000ML needing to be released from Wivenhoe and Somerset Dams to achieve FSL. Additionally BOM are forecasting an additional 20 to 50 millimetres of rain tonight, with further rain forecast through the weekend. If this rain eventuates, substantial flood releases will occur impacting a number of bridges along the river.

The extent of the release commencing tonight will depend on the rain that falls in the catchment over the next 72 hours. This could vary between 10 and 100+ millimetres and the release strategy will be developed in accordance with the Manual of Flood Mitigation as the situation develops. The objectives of the release will be to protect the safety of the dam while minimising flooding impacts on the crossings downstream of the dam in the Brisbane River.

Councils were contacted this morning to advise of the strategy and they had no concerns with the strategy and agreed with the strategy.

Twin Bridges, Savages Crossing and Colleges Crossing may be impacted by releases but it depends to some extent on the rainfall tonight and weekend. Significant rainfall could result in other bridges being impacted by releases.

A follow up email will be sent in case Councils want to provide an assessment.

| | |
|---|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| 0410378740 | |

BoM assessment

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

BoM has been advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|--|
| 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)

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council was advised of the strategy.

Action taken was to mobilise the flood centre.

| | |
|---|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |

SRC Technical Officer contact details



Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|------------|-------------|--|-----------------|--------------|
| Next TSR due | Date | 17.12.2010 | Time | | or Event | Gate opening |
|---------------------|-------------|------------|-------------|--|-----------------|--------------|

Tea 108

Suzie Emery

From: Barry Dennien [REDACTED]
Sent: Sunday, 19 December 2010 9:34 AM
To: Michael Lyons; Rob Drury
Cc: Mike Foster; Bill Andrew; Peter Borrows; Paul Bird; Dan Spiller
Subject: Re: FOC Situation Report #3 0630 19/12/2010

Rob

Can we consider a longer faster release rate for both north pine and wivenhoe working between the parameters of plus and minus 5% of fsl

The release rate should consider maximum rates below closure of key crossings eg colleges and burtons bridge

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Regards
Barry Dennien

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Michael, geoff

See update below

Hotline will be updated to reflect the below

Chrs mike

From: Rob Drury
To: Mike Foster
Cc: Jim Pruss
Sent: Sun Dec 19 07:10:09 2010
Subject: FW: FOC Situation Report #3 0630 19/12/2010

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See below for details but main points are

NPD operated last night but closed and good chance again in next few days

W/S

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And the three bridges closed for several days to come. But further rain may change release strategy.

Rob

Robert Drury

Dam Operations Manager

Water Delivery

Queensland Bulk Water Supply Authority *trading as Seqwater*

<image001.jpg>

<image002.png>

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

Website | www.seqwater.com.au

From: Duty Engineer [mailto:dutyseq@uqconnect.net]

Sent: Sunday, 19 December 2010 6:38 AM

To: [REDACTED] Mike Foster; Rob Drury; [REDACTED]

kim.hang [redacted] Al Navaruk; Bill Stephens; David Pokarier; John West; Louw Van Bierk; Mark Tan; Neville Ablitt; John.Ruffin [redacted] John Tibaldi; Rob.ayre [redacted] Terry Malone; Brett Schultz; Malcolm Lane; Murray Dunstan; Agg Dagan; Doug Grigg; Graham Keegan; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Subject: FOC Situation Report #3 0630 19/12/2010

North Pine Dam

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MBRC were advised at 0615 that all gates will be closed by 0700 Sunday.

However, further rainfall is expected overnight Sunday into Monday and a catchment average in excess of just 30mm may require renewed gate openings during Monday.

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Forecast for Brisbane area:

Sunday Increasing rain periods, some moderate to heavy falls possible, especially late afternoon and overnight.

Monday Becoming dry, windy

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Wednesday Mostly fine, possible shower

Thursday A shower or two

Friday Showers

Saturday Showers

Terry Malone

Duty Engineer

Flood Operations Centre

Phone: 

Fax: 

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Tea 109

Barry Dennien

From: Rob Drury [REDACTED]
Sent: Sunday, 19 December 2010 11:39 AM
To: Barry Dennien; Michael Lyons
Cc: Mike Foster; Bill Andrew; Peter Borrows; Paul Bird; Dan Spiller
Subject: RE: FOC Situation Report #3 0630 19/12/2010
Attachments: image001.jpg; image002.png

Barry,
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As for North Pine, releasing down to say 95% may require an all day release or longer and we have been doing night time releases where possible which Council seems okay with as it has less impact. Trying for a night time release of higher volume to get to 95% may require much higher flow rates, possibly 2 or 3 times what we have been doing. This could have implications downstream apart from just closing Youngs Crossing.

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I might see if we can arrange a discussion with him tomorrow or early this week to go through possible scenarios and issues.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and
flowing water is FA



Ph [REDACTED]
Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

From: Barry Dennien [REDACTED]
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<image001.jpg>

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Terry Malone

Duty Engineer

Flood Operations Centre

Phone



Fax:

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Tea 110

Suzie Emery

Subject: FW: FOC Situation Report #3 0630 19/12/2010
Attachments: Seqwater_No-Lifeguards-Here_email_strap; ATT00001.htm; cidimage001.png@01CA24E1.BDB90020; ATT00002.htm

From: Barry Dennien
Sent: Sunday, 19 December 2010 11:57 AM
To: Rob Drury
Subject: Re: FOC Situation Report #3 0630 19/12/2010

Rob

Just for info what is the current release rate from wivenhoe and when did the rate get adjusted

Regards
Barry Dennien

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Terry Malone

Duty Engineer

Flood Operations Centre

Phone: XXXXXXXXXX

Fax:



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Tea **1111**

Barry Dennien

From: Barry Dennien
Sent: Monday, 20 December 2010 2:51 PM
To: 'Rob Drury'
Cc: Dan Spiller; Michael Lyons
Subject: Confirmation

Rob

Just confirming the follow ups from our phone call:

1. What the expected impacts to river heights will be due to the Wivenhoe releases
2. Confirmation BCC signed off this morning on the technical report (email exchange).

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

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.

Tab 112

Barry Dennien

From: Tim Watts [REDACTED]
Sent: Tuesday, 21 December 2010 4:15 PM
To: Dan Spiller
Cc: Lance McCallum; Barry Dennien
Subject: residents apparently not contacted before twin Bridges drowned out

Dan
As discussed the following person needs to be called re Englands Creek Road being cut by releases from Wivenhoe:

Barry Doull - [REDACTED]

Please provide info about how it came to be that he was not notified that releases would increase river level and cut access.

Please also provide info about when the water is expected to recede and the system that will be put in place to ensure the 20 or so households isolated when twin bridges are drowned out are given as much notice as possible of releases from the dam.

.m
Tim Watts
Policy Advisor
Office of the Minister for Natural Resources, Mines and Energy and Minister for Trade
Phone [REDACTED]
Mobil [REDACTED]
Fax: [REDACTED]

Tab 13

From: Jade Simmons
Sent: Tuesday, 21 December 2010 4:43 PM
To: 'Mike Foster'
Cc: Dan Spiller; Michael Lyons; John Adcock
Subject: FW: URGENT - Minister Robertson - Public Enquiry - Wivenhoe Dam release, flooding in Fernvale
Importance: High

Hi Mike,

Please see the DLO request (email trail) and my summary of our telephone call below.

The Ministers Office would now also like:

- Please provide info about how it came to be that he was not notified that releases would increase river level and cut access.
- Please also provide info about when the water is expected to recede and the system that will be put in place to ensure the 20 or so households isolated when twin bridges are drowned out are given as much notice as possible of releases from the dam.

While we had until 10am tomorrow to provide response to this request, however considering the escalation, I would like to put up information this afternoon.

Barry Doul
Englands Creek Road
[REDACTED]

Kindest regards

Jade Simmons
Senior Correspondence Officer
SEQ Water Grid Communications Unit
SEQ Water Grid Manager

Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002

From: Jade Simmons
Sent: Tuesday, 21 December 2010 2:42 PM
To: 'Paul Bird'; 'Mike Foster'
Subject: FW: URGENT - Minister Robertson - Public Enquiry - Wivenhoe Dam release, flooding in Fernvale
Importance: High

Hi Mike Hi Paul,

Received this DLO request, have just spoken to him and he is very, very unhappy gentleman that would like to speak to someone about reducing the release amount so they can have access to and from their house for Christmas. He says council used to change it so they could get out, why won't we?

Have given the gentleman the 1800 number and explained that road closures are the responsibility of council. Have also stated that someone from Seqwater will contact him.

Please note the short timeframe for response and if you are to give me a few dot points, will put up in a DLO response.

Kindest regards

Jade Simmons
Senior Correspondence Officer
SEQ Water Grid Communications Unit
SEQ Water Grid Manager

Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002

From: Marney Jared [REDACTED] **On Behalf Of** DLO NRMET
Sent: Tuesday, 21 December 2010 1:28 PM
To: Jade Simmons
Subject: URGENT - Minister Robertson - Public Enquiry - Wivenhoe Dam release, flooding in Fernvale
Importance: High

Jade,

The Minister's Office was contacted this morning by a Mr Barry Doole from Fernvale in relation to flooding in their area after the release of water from Wivenhoe Dam.

Could you please arrange to have an officer contact Mr Doole and assist him with his enquiry?

Please also provide a response back to me outlining the call and its outcomes by **10AM Wednesday, 22 December 2010**.

Apologies for the tight turnaround on this, however the Minister's Office has asked for all public enquiries to be responded to within 24 hours prior to Christmas leave.

Thanks,

Jared Marney
A/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

Telep: [REDACTED]
Email: [REDACTED]
[REDACTED]

From: Mulder Gayle
Sent: Tuesday, 21 December 2010 9:11 AM
To: DLO NRMET
Subject: Enquiry Member of the Public
Importance: High

Phone call log MO Reception

| Date Call Received | Title | First Name | Surname | Company Or Department | Address | Phone Number | Phone Message | Call From: | Allocate to: |
|--------------------|-------|------------|---------|-----------------------|---------|--------------|---|----------------------|--------------|
| 21/12/2010 | Mr | Barry | Doole | Fernvale | | [REDACTED] | Mr Doole and several other families have been flooded in due to | Member of the Public | DLO NRMET |

Phone call log MO Reception

| Date Call Received | Title | First Name | Surname | Company Or Department | Address | Phone Number | Phone Message | Call From: | Allocate to: |
|--------------------|-------|------------|---------|-----------------------|---------|--------------|---|------------|--------------|
| | | | | | | | the opening of the gates at Wivenhoe Dam. They went to go out xmas shopping this morning and the bridge was flooded. Mr Doole advised it they turn the volume down a notch they would be able to manage. Could someone please call him today. | | |

Kind Regards,

Gayle Mulder
 Administration Officer
 Reception / Correspondence Management Team
 Department of Employment, Economic Development and Innovation
 Level 17, 61 Mary Street Brisbane Qld, 4000
 Telep [REDACTED]
 Email [REDACTED]
www.deedi.qld.gov.au

-----+
 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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 QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

Tab 114

Barry Dennien

From: Reilly Bob [REDACTED]
Sent: Wednesday, 22 December 2010 9:27 AM
To: pborrows [REDACTED]
Cc: Barry Dennien; Michael Lyons; rdrury [REDACTED] Best Debbie
Subject: Wivenhoe floodwater releases: impacts on access arrangements for people

Hi Peter

The nature of the flood releases is such that a certain number of low level crossings are submerged for a longer period of time, than would be the case in the absence of the releases.

For many of the people whose access may be affected by the floodwater releases, alternative (albeit with longer travel times) access arrangements, are available.

However, are there people who do not have alternative access arrangements? If so, roughly how many, and in what locations? Has Council/Seqwater provided them with some support arrangements to deal with these access issues?

The reason I ask is that is one thing to ask for such people to be inconvenienced (in the absence of some support arrangements) for a few days once every 5 to 10 years, but it is another matter if these events occur on a monthly (or more frequent basis) basis—as may well happen over the next few months.

If you could give me a ring to discuss the matter later this week, then that would be appreciated.

Thanks

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Teleph [REDACTED]

Email: [REDACTED]

www.derm.qld.gov.au

Department of Environment and Resource Management

LVI 3 41 George Street, Brisbane Q 4000

GPO Box 2454, Brisbane Q 4001

-----+
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+-----+

Tea
1155

Barry Dennien

From: Barry Dennien
Sent: Wednesday, 22 December 2010 1:13 PM
To: 'Ken Smith'; John Bradley [REDACTED]
Cc: Dan Spiller
Subject: RE: Brisbane residents sandbagging against localised floods

Ken

Current release rate is 110,000 megalitres per day (1300 cubic meters per second) October releases were at a maximum of 1500 cubic meters per second. These are expected to continue until tomorrow and then cut back over the xmas break. However the variable in all of this is the rain forecast. Wivenhoe is at 106% and we are targeting 100% by tomorrow allowing for inflows still coming.

The forecast could change in the coming days with the low forming off the Mid East Coast of Queensland, getting the dam back to 100% is critical in case the rain event escalates.

☉ tide peaked today at 1.85m and tomorrow and Friday will peak slightly higher than at 1.95m this is higher than October 1.66m peak. Then the tides will start to decrease.

We remain in close communication with the BOM and BCC. The protocol is being followed.

Regards

Barry

From: Ken Smith [REDACTED]
Sent: Wednesday, 22 December 2010 12:53 PM
To: John Bradley (John.Bradley [REDACTED]) Barry Dennien
Subject: FW: Brisbane residents sandbagging against localised floods

John and Barry

Some very localised flooding. What are the current release levels from Wivenhoe?

☉
Regards

Ken Smith
Director-General
Department of the Premier and Cabinet

Phone [REDACTED]
Mobile [REDACTED]
Email: [REDACTED]

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www.towardQ2.qld.gov.au

♻️ Please consider the environment before printing this email (3 sheets of paper = 1 litre of water)

From: Kimberley Gardiner [REDACTED]
Sent: Wednesday, 22 December 2010 12:41 PM

To: Anna Bligh; Premiers Office - Media Unit; Stephen Beckett; Melissa Patch; Adam Shortman
Cc: Ken Smith
Subject: Brisbane residents sandbagging against localised floods

Brisbane residents sandbagging against localised floods

By Stephanie Smail ABC News

Posted 11 minutes ago

- [Map: Brisbane 4000](#)

Tidal flooding has inundated some suburbs along the Brisbane River this morning.

Days of heavy rain, storm-run-off and releases from the Wivenhoe Dam, north of Ipswich, have raised river levels.

There is minor flooding in suburbs including Windsor, Albion and Newstead.

The Brisbane City Council says some sandbagging is underway but the water levels are already dropping.

Kimberley Gardiner
Director, Government Media Unit
Office of the Premier of Queensland

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Tab 16

Barry Dennien

From: Ken Smith [REDACTED]
Sent: Wednesday, 22 December 2010 1:25 PM
To: Barry Dennien; John Bradley [REDACTED]
Cc: Dan Spiller; 'Jim McGowan'; Bruce Grady
Subject: RE: Brisbane residents sandbagging against localised floods

Thanks Barry. We are getting further advice from the Bureau on Friday at our SDMG meeting which John or his rep will attend.

Jim/ Bruce ...what are the impacts of the higher tide peak on Friday? 1.85 to 1.95?

Regards

Ken Smith
Director-General
Department of the Premier and Cabinet

Phone [REDACTED]
Mobile [REDACTED]
Email: [REDACTED]

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From: Barry Dennien [REDACTED]
Sent: Wednesday, 22 December 2010 1:13 PM
To: Ken Smith; John Bradley (John.Bradley [REDACTED])
Cc: Dan Spiller
Subject: RE: Brisbane residents sandbagging against localised floods

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We remain in close communication with the BOM and BCC. The protocol is being followed.

Regards

Barry

From: Ken Smith [REDACTED]
Sent: Wednesday, 22 December 2010 12:53 PM
To: John Bradley [REDACTED] Barry Dennien
Subject: FW: Brisbane residents sandbagging against localised floods

John and Barry

Some very localised flooding: What are the current release levels from Wivenhoe?

Regards

Ken Smith
Director-General
Department of the Premier and Cabinet

Phone [REDACTED]
Mobile [REDACTED]
Email: [REDACTED]

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Cc: Ken Smith
Subject: Brisbane residents sandbagging against localised floods

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By Stephanie Smail ABC News

Posted 11 minutes ago

- [Map: Brisbane 4000](#)

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Kimberley Gardiner
Director, Government Media Unit
Office of the Premier of Queensland

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Taber 117

Gina O'Driscoll

From: Bradley John [REDACTED]
Sent: Wednesday, 22 December 2010 1:35 PM
To: Armstrong Steve
Cc: Dan Spiller; Brown Damien; Leverington Andrea; Wall Terry; Barry Dennien; Best Debbie; Ellwood Dean
Subject: RE: Brisbane residents sandbagging against localised floods

Steve

Can you pls pull together for 4.00 or 5.00pm tomorrow a DERM portfolio SITREP discussion in advance of SDMG on Friday to run through latest on key issues.

We will need attendees at least as above....

My starting point for agenda is below but happy for others to add to it.

- Mines Preparation (Terry/Damien)
 - CQ Mines - TEP approvals etc
 - NW Mines - Current Status / Imminent Risks (Gulf System, etc)
- SEQ Flood Risk Management (Barry/Dan)
 - (Dam releases etc)
- Other regional Dam release issues (if any worth discussing, if not remove) - Terry / OWSR
- QPWS preparation (Andrea)

Intent would be to get a one pager or key SITREPs on each topic. Key focus should be on

- Current Status/Risk
- Incident management readiness
- Resource Availability and On Call arrangements if needed – eg. processing permits/approvals.

thanks alot

John Bradley
Director-General
Department of Environment and Resource Management
Teleph [REDACTED]
Email: [REDACTED]
www.derm.qld.gov.au

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

From: Barry Dennien [REDACTED]
Sent: Wednesday, 22 December 2010 1:13 PM
To: Ken Smith; Bradley John
Cc: spiller daniel @ SEQWGM
Subject: RE: Brisbane residents sandbagging against localised floods

Ken

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Barry

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Regards

Ken Smith
Director-General
Department of the Premier and Cabinet

Phone [REDACTED]
Mobile [REDACTED]
Email: [REDACTED]

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To: Anna Bligh; Premiers Office - Media Unit; Stephen Beckett; Melissa Patch; Adam Shortman
Cc: Ken Smith
Subject: Brisbane residents sandbagging against localised floods

Brisbane residents sandbagging against localised floods

By Stephanie Smail ABC News

Posted 11 minutes ago

- [Map: Brisbane 4000](#)

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Kimberley Gardiner
Director, Government Media Unit
Office of the Premier of Queensland

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Tea **118**

Suzie Emery

From: Barry Dennien [REDACTED]
Sent: Wednesday, 22 December 2010 2:03 PM
To: John Bradley (JOhn.Bradley@derm.qld.gov.au); Ken Smith
Cc: Michael Lyons; Dan Spiller
Subject: FW: Media update - Dam releases
Attachments: Technical Stuation Report W14.docx

Ken John

We will keep you updated on our press releases from now on.

Also see attached this morning's "Technical Situation Report"

This report is a key step in the Premier's flood release protocol.

Dan Spiller will shortly send through some advertising we are planning over the coming days with regards flood releases and Dam recreation.

Ken will send through a fact sheet on Wivenhoe Flood Management in the next few hours after it comes back from the editor.

Regards

Barry

From: SEQWGM Media
Sent: Wednesday, 22 December 2010 10:47 AM
Subject: Media update - Dam releases

22 December 2010 - Morning

Media update: Dam releases

Releases from Wivenhoe Dam continued overnight with all five spillway gates at Wivenhoe Dam opened.

The current release volume of 110,000 megalitres will be maintained until Thursday 23 December 2010, when releases are expected to reduce as the flood storage compartment empties.

Continued gate operations are being assessed depending on whether the forecasted level of rainfall and inflows is received over the Christmas period.

The Water Grid continues to work closely with local councils regarding the likely impacts of these releases on surrounding areas which include the closure of Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Crossing and Kholo Crossing.

Releases equivalent to about 35,000 megalitres per day are continuing from Somerset Dam into Wivenhoe Dam, and are expected to continue depending on forecast rainfall.

The gates at Leslie Harrison Dam closed at 4.00pm yesterday, after a minor release was made.

Members of the public seeking information on potential impacts in their local areas should direct inquiries to their local councils.

For recorded information on current dam releases in South East Queensland, members of the public are encouraged to call **1800 613 122**.

Recreation update

While every effort will be made to keep recreational sites open, public safety is paramount and it is possible that some sites may be closed at short notice due to heavy weather.

Therefore, members of the public who are considering recreational activities including camping at South East Queensland dams over the Christmas/New Year period are urged to explore other options – have a plan B.

Currently, Somerset Dam has been re-opened for all water-based recreational activities, however this may change.

Likewise, Wivenhoe Dam has also been re-opened for all water-based recreational activities, however the following recreation sites at Wivenhoe remain closed:

- Hamon Cove
- Captain Logan Camp
- Billies Bay

Atkinson's Crossing at Wivenhoe Dam is currently open however river access is closed.

Lake Maroon is currently closed to swimming and skiing due to recent heavy rainfall however boating and fishing are still currently allowed.

For further information on the Water Grid: www.watergrid.com.au

ENDS

Notes to the editor

About the SEQ Water Grid

Established in June 2008 in response to the crippling Millennium Drought, the SEQ Water Grid represents one of Australia's largest investments in water infrastructure.

Through a network of climate resilient water sources, treatment facilities, new two-way pipes and existing pipelines, the SEQ Water Grid gives the South East Queensland region the ability to support water demands, water quality, economic prosperity and lifestyle - regardless of climate change and population growth.

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

Ph: [REDACTED]

Jade Simmons
Senior Correspondence Officer
SEQ Water Grid Communications Unit
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|------------|----------------------------|--------|
| TSR Number | W14 | Date of TSR release | 22.12.2010 | Time of TSR release | 8.30am |
|-------------------|-----|----------------------------|------------|----------------------------|--------|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

Rainfall

No rainfall has occurred over the catchment of the dams since 03:00 on Monday 20 December 2010. All major streams have now peaked and inflows are receding.

Wednesday 22 December Rain developing

Thursday 23 December Rain easing to showers

Friday 24 December Showers tending to rain at times

Saturday 25 December Showers tending to rain at times

Sunday 26 December Rain increasing

Monday 27 December Rain at times

Tuesday 28 December Rain at times

Somerset Dam

Gate operations are occurring at Somerset Dam and are expected to continue until at least Wednesday 22 December 2010 assuming no further rainfall. Two sluice gates are currently releasing about 410 m³/s from the dam into Lake Wivenhoe.

Somerset Dam peaked at EL 100.43 m AHD at around 13:00 on Monday 20 December 2010 and the lake level is slowly falling. Somerset Dam is currently at EL 99.68 m AHD, (108 % of capacity).

The estimated inflow into Somerset Dam to date is 121,500ML, of which 103,000 ML has been discharged into Wivenhoe Dam.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

Wivenhoe Dam

Gate operations are occurring at Wivenhoe Dam and are expected to continue until Thursday 23 December 2010 assuming no further rainfall. Releases from the dam were increased slightly late yesterday as other river flows dropped and have been steady at a maximum release rate of about 1,440 m³/s since 18:00 Tuesday 21/12/2010. This flow rate will be maintained until early Thursday 23 December 2010, when releases will be reduced as the flood storage compartment is emptied.

Wivenhoe Dam peaked at a level of EL 68.24 m AHD at approximately 04:00 on Tuesday 21/12/2010. The current level is EL 67.71 m AHD (107% of capacity) and falling slowly.

The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 181,000 ML, of which 221,500 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 310,000 ML.

Continued gate operations may be necessary if forecast rainfall from Wednesday to Monday results in subsequent river rises.

Impacts of Releases

The increased release from Wivenhoe Dam has resulted in elevated levels in the Brisbane River from Wivenhoe to Colleges Crossing. Twin Bridges, Savages Crossing and Colleges Crossing were inundated earlier in the event. As a consequence of the increased release from Wivenhoe Dam, Burtons Bridge was inundated at around 00:40 on Tuesday 21 December 2010. Kholo Bridge was inundated around midday Tuesday 21 December 2010. In accordance with the adopted operational strategy these bridges should be back in service by late Thursday or Friday and all bridges (with the exception of Twin Bridges) should be trafficable for Christmas providing no further rainfall occurs. No future rainfall is currently included in these forecasts.

Advice from the BoM regarding predicted tides in the Brisbane River at the City Gauge, suggest that peak levels (1.7 to 1.8 m AHD) may reach or slightly exceed the minor flood level of 1.7 m AHD. The effect of the Wivenhoe release on these high tide values is estimated to be about 0.1m. Peak levels will coincide with high tides which are expected at about 11:00 am on Wednesday 22 December and around noon on Thursday 23 December. Tide levels will be monitored over the next few days and these estimates may be adjusted by BoM in light of changed observations. It is anticipated that this advice will be updated sometime today but no significant change to this advice is expected.

Emails have been sent to BCC, ICC and SRC this morning with similar information and requesting any assessments or concerns. If any are received they will be forwarded.

The BoM is aware of all releases.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

As above.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

BCC has been contacted by Flood Centre on ongoing basis.
 Email sent to request any assessment.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | [REDACTED] |

Ipswich City Council (ICC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

ICC has been contacted by Flood Centre on ongoing basis.
 Email sent to request any assessment.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [REDACTED] |

Somerset Regional Council (SRC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

SRC has been contacted by Flood Centre on ongoing basis.
 Email sent to request any assessment.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | [REDACTED] |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| Next TSR due | Date | Time | or Event | Closing strategy |
|--------------|------|------|----------|------------------|
| | | | | |

Tea **119** **e**

Barry Dennien

From: Dan Spiller
Sent: Wednesday, 22 December 2010 2:13 PM
To: John Bradley [REDACTED] Ken Smith
Cc: Michael Lyons; Barry Dennien
Subject: RE: Media update - Dam releases

Ken and John,

Advertisements below, as per Barry's email.

In addition to dam releases, we are worried about people going to the dams to camp just as they are closed – or that we may need to close the facilities during the week (we were expected 150,000 people to use the dam recreation facilities this Christmas holiday).

We are also anxious to highlight that closures of Council-owned roads is a matter for those Councils – and may occur for reasons other than dam releases, including local flooding and maintenance.

Newspaper and radio scripts below. Scripts have been approved by Council officers.

Cost of newspaper advertising is about \$25k, funded by WGM. Radio will be focussed on Thursday and Friday, with press advertising next week (no press spots available this week).

John: Advertising approved in principle by MO. Geoff is reviewing text now.

Dan

Approved text for print ads:

WATER GRID COMMUNITY SERVICE ANNOUNCEMENT

Wet weather means that water releases from dams across the region are likely to continue this holiday season.

For daily information on dam releases in South East Queensland, contact 1800 613 122.

While every effort will be made to keep recreational sites open, public safety is paramount and it is possible that some sites may be closed at short notice due to heavy weather.

The Water Grid is urging campers at South East Queensland dams to consider a plan B this holiday season.

For more information on the status of dam levels and Water Grid recreation sites visit www.watergrid.com.au

For information on local flooding, including road closures, contact the local council or visit their website.

The council areas that are affected by Wivenhoe Dam releases are:

- o Somerset Regional Council; [REDACTED] www.somerset.qld.gov.au
- o Ipswich City Council; [REDACTED] www.ipswich.qld.gov.au
- o Brisbane City Council; [REDACTED] www.brisbane.qld.gov.au

Approved radio script:

Wet weather means that water releases from dams across South East Queensland are likely to continue this holiday season.

To find out the latest information on dam releases call 1800 613 122.

The Water Grid is making every effort to keep recreational sites open, but public safety is paramount. Some sites may need to be closed at short notice. Visit www.watergrid.com.au for the latest information.

For information on local flooding, including road closures, contact the local council or visit their website.

From: Barry Dennien

Sent: Wednesday, 22 December 2010 2:03 PM

To: John Bradley; Ken Smith

Michael Lyons; Dan Spiller

Subject: FW: Media update - Dam releases

Ken John

We will keep you updated on our press releases from now on.

Also see attached this morning's "Technical Situation Report"

This report is a key step in the Premier's flood release protocol.

Dan Spiller will shortly send through some advertising we are planning over the coming days with regards flood releases and Dam recreation.

I will send through a fact sheet on Wivenhoe Flood Management in the next few hours after it comes back from the editor.

Regards

Barry

From: SEQWGM Media

Sent: Wednesday, 22 December 2010 10:47 AM

Subject: Media update - Dam releases

22 December 2010 - Morning

Media update: Dam releases

Releases from Wivenhoe Dam continued overnight with all five spillway gates at Wivenhoe Dam opened.

The current release volume of 110,000 megalitres will be maintained until Thursday 23 December 2010, when releases are expected to reduce as the flood storage compartment empties.

Continued gate operations are being assessed depending on whether the forecasted level of rainfall and inflows is received over the Christmas period.

The Water Grid continues to work closely with local councils regarding the likely impacts of these releases on surrounding areas which include the closure of Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Crossing and Kholo Crossing.

Releases equivalent to about 35,000 megalitres per day are continuing from Somerset Dam into Wivenhoe Dam, and are expected to continue depending on forecast rainfall.

The gates at Leslie Harrison Dam closed at 4:00pm yesterday, after a minor release was made.

Members of the public seeking information on potential impacts in their local areas should direct inquiries to their local councils.

For recorded information on current dam releases in South East Queensland, members of the public are encouraged to call **1800 613 122**.

Recreation update

While every effort will be made to keep recreational sites open, public safety is paramount and it is possible that some sites may be closed at short notice due to heavy weather.

Therefore, members of the public who are considering recreational activities including camping at South East Queensland dams over the Christmas/New Year period are urged to explore other options – have a plan B.

Currently, Somerset Dam has been re-opened for all water-based recreational activities, however this may change.

Likewise, Wivenhoe Dam has also been re-opened for all water-based recreational activities, however the following recreation sites at Wivenhoe remain closed:

- Hamion Cove
- Captain Logan Camp
- Billies Bay

Atkinson's Crossing at Wivenhoe Dam is currently open however river access is closed.

Lake Maroon is currently closed to swimming and skiing due to recent heavy rainfall however boating and fishing are still currently allowed.

For further information on the Water Grid: www.watergrid.com.au

ENDS

Notes to the editor

About the SEQ Water Grid

Established in June 2008 in response to the crippling Millennium Drought, the SEQ Water Grid represents one of Australia's largest investments in water infrastructure.

Through a network of climate resilient water sources, treatment facilities, new two-way pipes and existing pipelines, the SEQ Water Grid gives the South East Queensland region the ability to support water demands, water quality, economic prosperity and lifestyle – regardless of climate change and population growth.

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

Ph: [REDACTED]

Jade Simmons
Senior Correspondence Officer
SEQ Water Grid Communications Unit
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

Tab 120

Suzie Emery

Subject: FW: Premiers

From: Mike Foster [REDACTED]
Sent: Wednesday, 22 December 2010 5:05 PM
To: Michael Lyons
Cc: Rob Drury; Barry Dennien
Subject: RE: Premiers

Michael,

Wivenhoe could effectively fill in as little as 2-3 days.

In the Oct event the majority of the 650,000ML (more than a Sydney Harbour worth of water or a half of Wivenhoe's drinking water capacity) flowed into Wivenhoe in three days.

Cheers Mike

From: Michael Lyons [REDACTED]
Sent: Wednesday, 22 December 2010 4:44 PM
To: Mike Foster
Cc: Rob Drury
Subject: Premiers

Mate – very fast if you can. What was the fastest inflow rate into Wiv. Or how long did it take that 600,000 meg to get in into the Dam.. And how fast could Wiv fill up . Premier asking

From: Mike Foster [REDACTED]
Sent: Wednesday, 22 December 2010 2:01 PM
To: Michael Lyons; John Adcock
Subject: FW: Dam recreation - advertsing
Importance: High

C Gents,

Nice job

As discussed back at Oct let's see if we can use the approval of the current CSAs to expand to TV CSAs for summer.

Good to use it also as a basis for local MP briefings – at least information kits for local MPs to use with their electorate.

Cheers Mike

From: John Adcock [REDACTED]
Sent: Wednesday, 22 December 2010 1:11 PM
To: Mike Foster
Cc: Michael Lyons; Aleisha Coote
Subject: Dam recreation - advertsing
Importance: High

Mike

We have approval for \$30k of advertising re: warnings on recreation sites.

We need to get your input quickly into scope of this message (Wivenhoe only v's all dams). We need to get radio script in by 1.30pm

Give me a call asap

Many thanks

John Adcock
Stakeholder Relations Manager
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street Brisbane

Post: PO Box 16205, City East QLD 4002

ABN: 14783 317 630

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no lifeguards here

Swimming in weirs and
flowing water is **FA7**

A WATER SAFETY INITIATIVE FROM 

rethink

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Tab 121

Barry Dennien

From: Bradley John [REDACTED]
Sent: Wednesday, 22 December 2010 5:56 PM
To: Ken Smith
Cc: Dan Spiller; Barry Dennien; [REDACTED]; Tim Watts; Geoff Stead
Subject: FW: Wivenhoe Dam talking points
Attachments: speaking points - premiers - wivenhoe dam flood capacity.doc

Ken

Barry and Dan have prepared the attached which look good to me.

If you are OK with them, they can be used to enrich the earlier draft of the fact sheet which Barry sent you earlier today.

For consideration,

John Bradley
Director-General
Department of Environment and Resource Management
Telephone: [REDACTED]
Email: [REDACTED]
www.derm.qld.gov.au

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

From: Dan Spiller [REDACTED]
Sent: Wednesday, 22 December 2010 5:23 PM
To: Bradley John
Cc: Dennien Barry @ SEQWGM; Lyons Michael @ SEQWGM
Subject: Wivenhoe Dam talking points

John,

As requested.

Regards,
Dan

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

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

SEQ Water Grid flood preparation

- Firstly, I would like to reinforce a very important point. We will not take risks with the safety of South East Queensland during flood events.
- What 1974's flood taught us was that having flood storage capacity is necessary to ensure is a critical control for the safety of people and property in the Brisbane region. The past two months have only highlighted this.
- Wivenhoe Dam was designed with 1.45 million megalitres of flood storage – equivalent to two and a half times Sydney Harbour.
- It is this flood storage capacity that provides protection for South East Queensland during flood – it is the only lever we have to control flooding in Ipswich and Brisbane.
- The flood storage compartment means that we can hold back flood water, and make controlled releases when downstream flows subside. For example, we recently held back water in

Wivenhoe Dam until after flows from the Lockyer Valley had passed.

- This is a large storage, but can potentially fill within less than three days in heavy rain.
- In October, over just three days, 655,000 megalitres flowed into the dam – that's the equivalent of 262,000 olympic sized swimming pools. Without the dam, and these controlled releases, this water would have flooded parts of Brisbane.
- South East Queensland has a history of back to back weather events, including 1974 and 1999. We must ensure that the flood compartment is emptied in controlled way, to make room for another event.
- We designed the Wivenhoe Dam has proven itself on a number of occasions and can be relied upon in even larger events, if operated properly. This is exactly what we are doing – wbased on 1974 and why would we change this, – especially in this current wet period?

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- While the drinking water compartment of Wivenhoe Dam at 100 per cent can store 1.2 million megalitres, the dam also has flood capacity over and above the space for drinking water supply.

- ~~Wivenhoe flood storage has enormous capacity — 1.45 million megalitres. To put this in context, this amount is almost the equivalent of three times Sydney Harbour. This flood storage can fill up in three days after heavy rain.~~
- ~~It is this flood storage capacity that provides protection for South East Queensland during flood.~~
- ~~The flood storage compartment of Wivenhoe allows us to control two things, control when releases are made to allow downstream flows to subside and control the rate of releases to relieve downstream flooding impacts. The more we have stored in the flood compartment the less control we have.~~
- ~~Wivenhoe Dam has been designed to store and safely release a quantity of water equal to mammoth volumes.~~
- 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 and met the standards required by the Queensland Dam Safety Management Guidelines and the international ANCOLD Guidelines on Dam Safety Management.
- To further protect South East Queensland, the Water Grid also mobilises a Flood Control Centre during a flood event at North Pine, Somerset or Wivenhoe Dams. It operates 24 hours a day with teams of operators at each dam 24 hours a day managing releases.
- Once levels are reached in Wivenhoe which require controlled flood gate operations, release instructions are issued by the Flood Control Centre, which is part of the Water Grid.
- ~~We have also been able to best manage our dam release frequency. For example, recently with approval from the Flood Control Centre, Seqwater has held back water in Wivenhoe Dam while waiting for the Lockyer release flows to subside, which they now have.~~
- ~~With the SEQ Water Grid in place, we have never been in a better position to help protect SEQ from flooding.~~
- ~~Take October 2010's rain for example, during the time the gates were open, 655,000 megalitres were released from~~

Wivenhoe Dam, which is equivalent to 262,000 olympic sized swimming pools.

- Prior to any releases, Seqwater advises relevant councils, including Brisbane City Council, of impending gate operations including release volumes. Regular contact is made with relevant councils during the duration of the release event.
- Councils, working with emergency services, have the responsibility for determining the extent of any impact and any actions that may be required including local bridge and road closures.
- The Water Grid continues to work closely with local councils regarding the likely impacts of these releases on surrounding areas which include the closure of crossings.
- It is anticipated that during a large flood similar in magnitude to that experienced in 1974, by using the SEQ Water Grid mitigation facility within Wivenhoe Dam, flood levels will be reduced downstream by an estimated 2 metres.

Tab 122

Suzie Emery

Subject: FW: Impacts of dam releases on Somerset Council residents (eg: England's Creek Rd) [MCR-W.FID1884529]
Attachments: Radio text - Weather warning for campers.doc; Advertising text - Weather warning for campers.doc

From: John Adcock
Sent: Thursday, 23 December 2010 9:21 AM
To: Tony Jacobs
Subject: RE: Impacts of dam releases on Somerset Council residents (eg: England's Creek Rd)

Thanks Tony

Do you know when the letter might go out to these people?

FYI please find attached copies of Community Service Announcement materials being released today. The print advert will appear Monday and the radio will run today and tomorrow.

You raise some valid points Tony that our collective actions may miss some people however I guess we need to do, and be seen to do, as much as we possibly can to assist people impacted by these events.

A key message worth considering to put Somerset Regional Council website may be *"for information on dam releases please call 1 800 613 122 or go to www.watergrid.com.au"*

I'm sure Barry will be glad to hear from Bob and discuss the great work Somerset is doing by creating this database and sending out the letter.

Many thanks and regards
John

From: Tony Jacobs [REDACTED]
Sent: Thursday, 23 December 2010 8:41 AM
To: John Adcock
Subject: RE: Impacts of dam releases on Somerset Council residents (eg: England's Creek Rd)

John,

Council would have mailing info from the rates data base and I have seen a list that was extracted yesterday afternoon and a draft letter to those people offering to place their contact details on a data list with mobile contact details.

I believe Bob is to talk to Barry about making this offer and methods/options for making contact.

Although it may help one issue, I believe it will create other problems. There will be people other than the residents in the two areas isolated that will feel they need to be contacted. Should the data base be open to all and how do we control numbers? The success rate on contact via SMS that EMQ recently trialled was only about 60%. Managing negative customers in the 40% will be an issue.

Tony Jacobs
Manager Operations
Somerset Regional Council
2 Redbank Street, Esk QLD 4312

Ph: [REDACTED]
Fax: [REDACTED]
Email: [REDACTED]

From: John Adcock [REDACTED]
Sent: Wednesday, 22 December 2010 2:05 PM
To: Tony Jacobs
Cc: Michael Lyons; Shelley Banks
Subject: Impacts of dam releases on Somerset Council residents (eg: England's Creek Rd)

Tony

Thanks for your input into the Community Service Announcement which has just gone and for your support with key messages on your council's website.

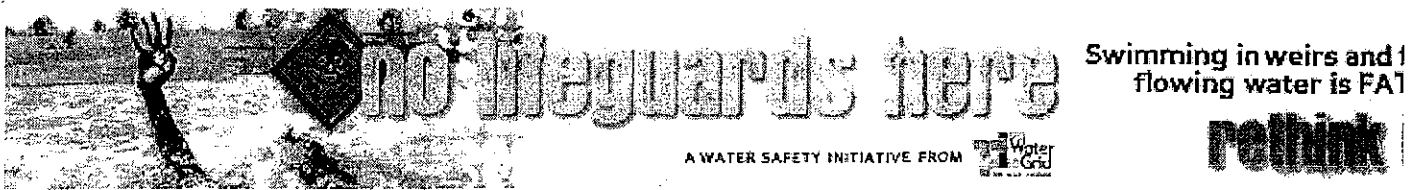
My CEO Barry Dennien has just advised he spoke with Bob Bain this morning regarding a resident complaint which came through via the Minister's office late yesterday. This chap was based around England's Creek Road and claims no-one contacted him and other residents regarding local road being cut-off.

Understand Bob and Barry discussed ensuring data regarding residents likely to be cut-off by dam releases is gathered and options for contacting these people. To what extent does Somerset Council have information on the location and contact details of these residents?

Cheers

John Adcock
Stakeholder Relations Manager
SEQ Water Grid Manager
Phone [REDACTED]
Email [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002
ABN: 14783 317 630

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Advertisement text
– recreation safety

RADIO TEXT – RECREATION SAFETY

WATER GRID COMMUNITY SERVICE ANNOUNCEMENT

Wet weather means that water releases from dams across South East Queensland are likely to continue this holiday season.

To find out the latest information on dam releases call 1800 613 122.

The Water Grid is making every effort to keep recreational sites open, but public safety is paramount. Some sites may need to be closed at short notice. Visit www.watergrid.com.au for the latest information.

For information on local flooding, including road closures, contact the local council or visit their website.



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– recreation safety

ADVERTISEMENT TEXT – RECREATION SAFETY

WATER GRID COMMUNITY SERVICE ANNOUNCEMENT

Wet weather means that water releases from dams across the region are likely to continue this holiday season.

For daily information on dam releases in South East Queensland, contact 1800 613 122.

While every effort will be made to keep recreational sites open, public safety is paramount and it is possible that some sites may be closed at short notice due to heavy weather.

The Water Grid is urging campers at South East Queensland dams to consider a plan B this holiday season.

For more information on the status of dam levels and Water Grid recreation sites visit www.watergrid.com.au

For information on local flooding, including road closures, contact the local council or visit their website.

The council areas that are affected by Wivenhoe Dam releases are:

- Somerset Regional Council; 5424 4000; www.somerset.qld.gov.au
- Ipswich City Council; 3810 6666; www.ipswich.qld.gov.au
- Brisbane City Council; 3403 8888; www.brisbane.qld.gov.au

Tab 123

Barry Dennien

From: Mike Foster [REDACTED]
Sent: Thursday, 23 December 2010 9:56 AM
To: Dan Spiller; Tim Watts; Geoff Stead
Cc: Barry Dennien; Peter Borrows; Jim Pruss; Barton Maher; Paul Bird
Subject: Hinze Dam draw down
Attachments: image001.png

Hi Dan,

Just a quick note to advise approval to lower of the storage levels of Hinze Dam below FSL to allow the excavation of rockfill placed for construction haul roads in the spillway approach channel has been successful.

Thanks to the lowering of the storage all of the rockfill was removed to a lower level than originally planned minimising any future risks. Your assistance and that of the Water Grid Manager is greatly appreciated.

Importantly with the recent rainfall and inflows the dam levels have now returned to FSL of EL 82.2. There is no requirement for the project to draw the dam down again.

On a related issue, the Hinze Alliance has today been contacted by the Gold Coast Mayor's office querying the drop in levels over the past week or so.

The Alliance will be advising releases were required to finalise dam construction noting that the dam levels have now returned to the current FSL.

Cheers Mike

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



[REDACTED]
Level 3, 240 Margaret St, Brisbane City QLD 4000
Box 16146, City East QLD 4002
Website | www.seqwater.com.au

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Tab 124

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Thursday, 23 December 2010 10:32 AM
To: Mike Foster; Rob Drury
Subject: Summary of objectives and considerations
Attachments: Technical Stuation Report W16.docx

Guys,

As discussed with Mike, I think it would be useful to include a summary in your section of the TSR about objectives and key considerations.

I have attached a proposed template for your consideration – with the content being indicative only. My aim was for this to include a neat summary of the Minister/DG/CEO level considerations – providing clarity about what you are seeking to achieve and why. For example, earlier this week we would have had something along the lines of waiting for Lockyer flows to pass and later in the week of deferring until people got home.

It would be good to get an agreed approach in place prior to Christmas.

Thanks,
Dan

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|------------|----------------------------|--------|
| TSR Number | W16 | Date of TSR release | 23.12.2010 | Time of TSR release | 8.00am |
|-------------------|-----|----------------------------|------------|----------------------------|--------|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

| | |
|---------------------------|--|
| Current objectives | <ul style="list-style-type: none"> • Reduce releases so that Burtons and Kholo Bridges and Savages and College's Crossings are open from 24/12 to 26/12, avoiding continued isolation of about 20 households and inconvenience of many more. • Maintain storage levels as close as possible to Full Supply Level, and no more than 67.25 m AHD (_% of combined capacity). • Time future gate releases to minimise downstream impacts, taking into account flows from the Lockyer and Bremer Rivers and other impacts. |
| Strategy | <ul style="list-style-type: none"> • Gate closure commenced 1600 on 22/12. Scheduled to be complete by 1500 on 23/12. • Continued releases through values (4,000 ML/day, strategy W1A). • Monitor inflows and need for further gate releases. |
| Key considerations | <p>Storage levels: Currently at 102% of combined capacity.</p> <hr/> <p>Inflows: _ ML of inflows expected based on rainfall to date.</p> <hr/> <p>Rainfall: Prediction of about 50 mm/day from _ to _ in catchment area.</p> <hr/> <p>Lockyer/Bremer: Flows increasing. With further rainfall, may inundate local bridges with further rainfall.</p> <hr/> <p>Brisbane River: Tide peaking on 23/12 and 24/12, at a level about 10 mm higher than on 22/12.</p> |

Somerset Dam

Sluice Gate operations are continuing with once sluice gate currently open. This gate will be closed at around 9:00am this morning. At this time the lake level will be around 99.10m or 100mm above the dam full supply level. A regulator may then be used to maintain the lake level near full supply level. The estimated inflow into Somerset Dam to date is 135,000ML, the majority of which has been discharged into Wivenhoe Dam.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

Wivenhoe Dam

Radial Gate operations are occurring at Wivenhoe Dam with the gate closure sequence currently underway. The gate closure sequence has been developed to minimise adverse river bank impacts downstream of the dam, while also aiming to allow downstream river crossings to be open for Christmas day. All gates are currently scheduled to be closed by 1500 on Thursday 23 December 2010 (today) to allow for fish recovery in daylight hours. This assumes that no further significant rainfall occurs during the day. When the gates are closed, the lake level will be around 67.20m or 200mm above the dam full supply level and 50mm below the radial gate opening trigger level of 67.25m. A regulator will then be used to maintain the lake level near to or below this level. The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 204,000 ML. A total of 324000 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 340,000 ML.

There is also the possibility of using a gate to make a low level ongoing release that may affect low levels bridges but keep the dam levels under control. Again this is rain dependent and will be decided later today.

Continued gate operations may be necessary if forecast rainfall results in subsequent river rises. The gate closure sequence will be reviewed throughout today and discussions with impacted Local Authorities will be ongoing.

Impacts of Wivenhoe Dam Releases

The releases from Wivenhoe Dam have resulted in elevated levels in the Brisbane River downstream to Colleges Crossing. Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently all closed due to inundation resulting from these releases. In accordance with the current operational strategy all bridges (with the exception of Twin Bridges) should be trafficable by Friday. Projected "early side" times for bridges becoming clear of water based on the current gate closure sequence and no Lockyer Creek outflows are as follows. (Note that rainfalls of up to 33mm have been observed in the Lockyer Creek Catchment over the last 24 hours, but no significant stream rises have been observed as yet). These are estimates only.

Burtens Bridge – 18:00 Thursday 23 December 2010.
Savages Crossing – 19:00 Thursday 23 December 2010
Kholo Bridge – 21:00 Thursday 23 December 2010
Colleges Crossing – 08:00 Friday 23 December 2010

Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows.

The BoM is aware of all releases.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| [Redacted] | [Redacted] |

BoM assessment

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

BoM has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| BoM Technical Officer position title | |
| BoM Technical Officer contact details | [Redacted] |

Brisbane City Council (BCC) assessment

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

Council has been advised and is in line with previous strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | [Redacted] |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and is in line with previous strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [Redacted] |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and is in line with previous strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| Next TSR due | Date | Time | or Event | Closure |
|---------------------|-------------|-------------|-----------------|----------------|
|---------------------|-------------|-------------|-----------------|----------------|

Tab 125

Gina O'Driscoll

From: Gina O'Driscoll on behalf of Barry Dennien
Sent: Thursday, 23 December 2010 10:53 AM
To: Williams Lynette
Cc: Barry Dennien
Subject: RE: Extraordinary SDMG Meeting - 24 December 2010 - AGENDA

Barry can attend required.

Gina O'Driscoll
Executive Assistant to Barry Dennien, Chief Executive Officer
SEQ Water Grid Manager
Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street, Brisbane
Post: PO Box 16205, City East Qld 4002
ABN: 14783 317 630

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

From: Williams Lynette [REDACTED]
Sent: Thursday, 23 December 2010 10:44 AM
To: Barry Dennien; Wall Terry; Best Debbie; Brown Damien
Subject: FW: Extraordinary SDMG Meeting - 24 December 2010 - AGENDA

Morning all

Please see email below regarding meeting called tomorrow.

John has asked if you can confirm your availability to attend at short notice, should you be required.

It may be clearer at today's 4pm meeting as to who is required.

Thanks
Lynette

From: Watkins, DeborahC [mailto:Watkins, DeborahC] **On Behalf Of**

Sent: Thursday, 23 December 2010 10:17 AM
To: alex.beavers; Pointing, BrettM; j.davidson; Dawson, AlistairE; Hahn, Richard; Barnett, RossE; Stewart, IanD; Henderson, AndrewC; Martin, Peter; Bruce, Grady; commissioner; david.m.stewart; gerard.bradley; Graeme, Newton; greg_hallam; Ian.fletcher; jeannette_young; Jim.McGowan; Bradley John; julie.grantham; ken.smith; linda.apelt; mal.grierson; Mick_Reid; Philip.Reed
Cc: Watson, AnnaMa; Sheila.King; ann.lane; bron_browning; cathy.cross; diane.fahey; donna.m.crawley; donna.jones; doris.galea; Helen.Batchelor; Jackie.Mooney; jasmine.love; jessica.redman; Karen.Cowell; kelly.skuse; Williams Lynette; paula.conaty; Rebecca.Pearce; sdmg; Sheila.King; Shona.Wilson; trish.nielsen; Vivien.Eckert; anne.lane; brad.smith; Dennis.Brown; donald.w.bletchly; graham.atkins

greg.hoffman [redacted] John.Gardiner [redacted] leanne.m.robertson [redacted]
Michael.Kinnane [redacted] Michael.Shapland [redacted] noel.gillard [redacted]
Phil.Carney [redacted] Trappett.Scotta [redacted] Wall Terry;
trevor.dann [redacted]

Subject: Extraordinary SDMG Meeting - 24 December 2010 - AGENDA

Good Morning SDMG Members (Departmental Contact Officers and Support Staff),

Please find attached the Agenda for the upcoming **Extraordinary SDMG Meeting** scheduled for **Friday 24 December 2010** from **10am to 11am** in the **Queensland Room**, Level 13 of the Executive Building, 100 George Street, Brisbane.

If you have not yet indicated your availability to attend this meeting can you please do so at your earliest convenience (via return email to [redacted])

Should you have any question with regards to the contents of this email or the SDMG meeting please don't hesitate to contact me on the numbers provided below:

Regards and Merry Christmas.
Deb

 **Watkins**

State Disaster Management Group - Secretariat

Disaster Management Unit
Disaster and Major Event Planning Branch
Operations Support Command
Queensland Police Service

Work: [redacted]
Email: [redacted]

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+-----+

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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

+-----+

Tab 126

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Thursday, 23 December 2010 11:28 AM
To: Bradley John; ken.smith [REDACTED]
Cc: Barry Dennien; Best Debbie; Tim Watts
Subject: FW: Brisbane City Council Community Service Announcement: Minor tidal flooding starting to occur in river
Attachments: IMG00128-20101223-1040.jpg; Technical Situation Report W16.docx

Ken and John,

The River has peaked at 1.95 m at the Port Office, up from 1.85 m yesterday (see <http://www.bom.gov.au/fwo/IDQ65389/IDQ65389.540198.tbl.shtml>).

Below is a media release issued by BCC communications team. They also provided us the attached image of Sandgate Road at the time of the peak.

Also attached is the latest Technical Situation Report. Gate closure commenced yesterday at 1600 and will be complete by 1500. Our current objective is to reopen local bridges for Christmas – providing respite for the 20 odd households that have been isolated and the others that are inconvenienced (as requested by the local Councils). Note that Lockyer Valley flows are increasing and may be sufficient to flood some of the lower crossings. If this occurs, we will review our release strategy in anticipation of further inflows.

Regards,

Dan

From: Lisa.M Martin [mailto:Lisa.M.Martin [REDACTED]]
Sent: Thursday, 23 December 2010 10:57 AM
To: Hunwick, Adrienne; Wilson, Alena; McNeil, Allan; Marshall, Amber; Buckwell, Andrew; Edwards, Belinda; Lawrence, Bethany; Wood, Brad; Walker, Brenda; Johnson, Bronwyn; Grace, Cassie; Coughlan, Cate; Chappell, Catherine; Nicholls, Chloe; Glanfield-Pook, Chris; Coomber, Christine; Salter, Christopher; Stevens, Craig; Harrison, Dana; Moody, David; McGhee, Eirin; Torcaso, Felicity; Archontoulis, Fiona; Longhurst, Freya; Kerr, Geoff.b; Foley, Gerry; Swain, Greg; Stevenson, Hannah; Kowaliauskas, Isis; Cooper, Jamie; Falconer, Jane; Flett, Jane; Hannan, Jess; Plowman, Jo; McGill, Joanne; Veraa, Joe; Ada, Joshua; Iles, Julia; Edwards, Karen; Murphy, Karen; Stepien, Kasia; Haddan, Kate; Keating, Katrina; Mather, Kimberley; deHesse, Kirsten; Booth, Krysten; Kerr, Lakshmi; Foster, Laura; Martin, Lisa.M; Dixon, Melissa; Nelson, Melissa; Forwood, Miranda; Talbot, Nerida; Pham, Nhi; Beveridge, Nic; O'Donnell, Nicholas; Gibson, Nicole; Shelley, Rosie; VonBayer, Sabrina; Cecchini, Samantha; Coffey, Sarah; Fox, Sarah; Wade, Sarah; Gibson, Scott; Graetz, Sonja; Spina, Steven; Leadbetter, Tanya; Doherty, Taryn; Whitelaw, Tracy; Parker, Victoria
Cc: Bell, Michael; Lavin, Chris; Logan, Craig; Oberto, Klynt
Subject: Fwd: Brisbane City Council Community Service Announcement: Minor tidal flooding starting to occur in river

FYI - this has just been distributed.

>>> "Media Release" [REDACTED] 23/12/2010 10:53 am >>>
Minor tidal flooding is starting to occur in some areas of Brisbane due to higher than usual tides.

This morning's high tide has already had an impact on CityCat and CityFerry services with the Bulimba, Teneriffe and Hawthorne terminals and services now closed. All operating services are now running at reduced speeds and not to timetable. These service changes are expected to be in effect until approximately midday.

Minor tidal flooding is expected to occur on low-lying roads, bikeways and parks this morning in parts of the following suburbs as previously advised: Windsor, Albion, Bowen Hills, Newstead, East Brisbane, Woolloongabba, Teneriffe, Lota, Wynnum and Hemmant.

Sandbags are available if required.

Motorists are advised that roads affected by tidal flooding may be closed during and following the high tide peak.

-ENDS-

4d5052656c526f7749643a[17169_2804189]

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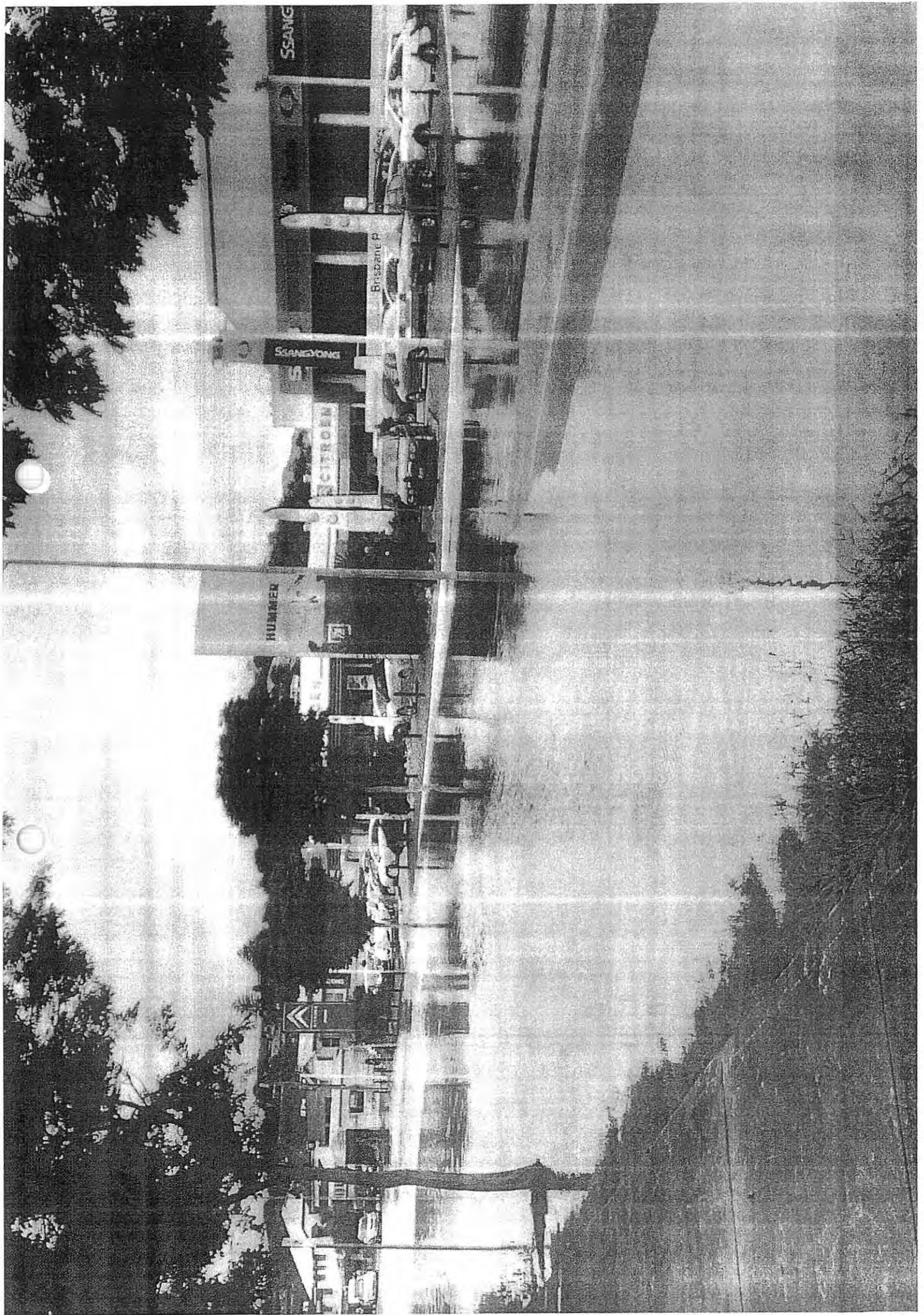
<http://www.mediamonitors.com.au>

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TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|------------|----------------------------|--------|
| TSR Number | W16 | Date of TSR release | 23.12.2010 | Time of TSR release | 8.00am |
|-------------------|-----|----------------------------|------------|----------------------------|--------|

Seqwater status of inflows and dam operations

Somerset/Wivenhoe Dams

Somerset Dam

Sluice Gate operations are continuing with once sluice gate currently open. This gate will be closed at around 9:00am this morning. At this time the lake level will be around 99.10m or 100mm above the dam full supply level. A regulator may then be used to maintain the lake level near full supply level. The estimated inflow into Somerset Dam to date is 135,000ML, the majority of which has been discharged into Wivenhoe Dam.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

Wivenhoe Dam

Radial Gate operations are occurring at Wivenhoe Dam with the gate closure sequence currently underway. The gate closure sequence has been developed to minimise adverse river bank impacts downstream of the dam, while also aiming to allow downstream river crossings to be open for Christmas day. All gates are currently scheduled to be closed by 1500 on Thursday 23 December 2010 (today) to allow for fish recovery in daylight hours. This assumes that no further significant rainfall occurs during the day. When the gates are closed, the lake level will be around 67.20m or 200mm above the dam full supply level and 50mm below the radial gate opening trigger level of 67.25m. A regulator will then be used to maintain the lake level near to or below this level. The estimated inflow into Wivenhoe Dam to date (excluding releases from Somerset Dam) is 204,000 ML. A total of 324000 ML has been released. The total estimated inflow into both dams for this event, based upon rainfall to date is 340,000 ML.

There is also the possibility of using a gate to make a low level ongoing release that may affect low levels bridges but keep the dam levels under control. Again this is rain dependent and will be decided later today.

Continued gate operations may be necessary if forecast rainfall results in subsequent river rises. The gate closure sequence will be reviewed throughout today and discussions with impacted Local Authorities will be ongoing.

Impacts of Wivenhoe Dam Releases

The releases from Wivenhoe Dam have resulted in elevated levels in the Brisbane River downstream to Colleges Crossing. Twin Bridges, Savages Crossing, Colleges Crossing, Burtons Bridge and Kholo Bridge are currently all closed due to inundation resulting from these releases. In accordance with the

current operational strategy all bridges (with the exception of Twin Bridges) should be trafficable by Friday. Projected "early side" times for bridges becoming clear of water based on the current gate closure sequence and no Lockyer Creek outflows are as follows. (Note that rainfalls of up to 33mm have been observed in the Lockyer Creek Catchment over the last 24 hours, but no significant stream rises have been observed as yet). These are estimates only.

Burtons Bridge – 18:00 Thursday 23 December 2010.
Savages Crossing – 19:00 Thursday 23 December 2010
Kholo Bridge – 21:00 Thursday 23 December 2010
Colleges Crossing – 08:00 Friday 23 December 2010

Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows.

The BoM is aware of all releases.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| 0410378740 | |

BoM assessment

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

BoM has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and is in line with previous strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and is in line with previous strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [REDACTED] |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and is in line with previous strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | [REDACTED] |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| Next TSR due | Date | Time | or Event | Closure |
|---------------------|-------------|-------------|-----------------|----------------|
|---------------------|-------------|-------------|-----------------|----------------|

Tab 127

Gina O'Driscoll

From: Paul Bird [pbird [REDACTED]]
Sent: Thursday, 23 December 2010 2:03 PM
To: SEQWGM Media; aroebuck [REDACTED]; greg.swain [REDACTED];
GSTUBBS [REDACTED]; lisa.m.martin [REDACTED];
tjacobs@somerset.qld.gov.au
Cc: Mike Foster; Michael Lyons; Reception; Tara King; Michael Fiechtner; Arminda Roberts;
Peter Borrows; Jim Pruss; Bill Andrew; Barry Dennien; Dan Spiller; Scott Denner
Subject: Afternoon Update

AS AT 3.00 PM THURSDAY 23 DECEMBER, THE FOLLOWING WATER RELEASES ARE BEING MADE:

WIVENHOE DAM:

WIVENHOE CONTINUES TO DISCHARGE AROUND 30,000 MEGALITRES THROUGH ONE GATE, WHICH IS EXPECTED TO REMAIN OPEN UNTIL THE AFTERNOON OF 24 DECEMBER.
INCREASED INFLOWS FROM OVERNIGHT RAIN HAVE MEANT LEVELS HAVE NOT DROPPED AS QUICKLY AS EXPECTED.

COUNCILS HAVE BEEN CONSULTED AND ARE AWARE THAT THE RELEASES FROM WIVENHOE DAM HAVE RESULTED IN ELEVATED LEVELS IN THE BRISBANE RIVER DOWNSTREAM TO COLLEGES CROSSING.

TWIN BRIDGES, SAVAGES CROSSING, COLLEGES CROSSING, BURTONS BRIDGE AND KHOLO BRIDGE ARE CURRENTLY ALL CLOSED DUE TO INUNDATION RESULTING FROM THESE RELEASES, COMBINED WITH INCREASED WATER LEVELS DUE TO RAINFALL.

KHOLO BRIDGE AND BURTONS BRIDGE ARE EXPECTED TO RE-OPEN TO TRAFFIC BY THE EVENING OF 23 DECEMBER WITH THE REDUCTION IN RELEASE VOLUMES.

THE REMAINING BRIDGES WILL REMAIN CLOSED UNTIL AT LEAST CHRISTMAS DAY.

SOMERSET DAM:

THE SLUICE GATES WERE CLOSED AT AROUND 9:00AM THURSDAY 23 DECEMBER. A VALVE MAY BE USED TO MAINTAIN THE LAKE LEVEL NEAR FULL SUPPLY LEVEL. HOWEVER, IF FORECAST RAINFALL RESULTS IN RIVER RISES, IT MAY BE NECESSARY TO RE-OPEN THE GATES.

NORTH PINE DAM:

NORTH PINE GATES WERE CLOSED AT 5:00 AM TUESDAY 21 DECEMBER. YOUNGS CROSSING IS OPEN. LEVELS ARE BEING MONITORED AND FURTHER RAINFALL MAY RESULT IN OVERNIGHT RELEASES.

LESLIE HARRISON DAM:

NO RELEASES

HINZE DAM:

NO RELEASES

RECREATION UPDATE:

WHILE EVERY EFFORT WILL BE MADE TO KEEP RECREATIONAL SITES OPEN, PUBLIC SAFETY IS PARAMOUNT AND IT IS POSSIBLE THAT SOME SITES MAY BE CLOSED AT SHORT NOTICE DUE TO HEAVY WEATHER.

THEREFORE, MEMBERS OF THE PUBLIC WHO ARE CONSIDERING RECREATIONAL ACTIVITIES, INCLUDING CAMPING, AT SOUTH EAST QUEENSLAND DAMS OVER THE CHRISTMAS/NEW YEAR PERIOD ARE URGED TO EXPLORE OTHER OPTIONS.

CURRENTLY, SOMERSET DAM HAS BEEN RE-OPENED FOR ALL WATER-BASED RECREATIONAL ACTIVITIES, HOWEVER THIS MAY CHANGE AT SHORT NOTICE.

LIKewise, WIVENHOE DAM HAS ALSO BEEN REOPENED FOR ALL PERMITTED WATER-BASED RECREATIONAL ACTIVITIES; HOWEVER THE FOLLOWING RECREATION SITES AT WIVENHOE REMAIN CLOSED:

- RIVER ACCESS AT ATKINSONS CROSSING
- BILLIES BAY

ALL OTHER RECREATIONAL SITES HAVE REOPENED, HOWEVER SOME CAMPING GROUNDS ARE FULLY BOOKED.

Paul Bird
Senior Communications Advisor
Queensland Bulk Water Supply Authority trading as Seqwater



P O [REDACTED]
Level 3, 240 Margaret St, Brisbane City QLD 4000
PO Box 16146, City East QLD 4002
Website | www.seqwater.com.au



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Tab 128

Barry Dennien

From: Barry Dennien
Sent: Thursday, 23 December 2010 2:44 PM
To: 'Mike Foster'; Rob Drury; Dan Spiller
Cc: John Adcock; Paul Bird
Subject: RE: Update

Thanks Mike don't mean to be pushy I am just interested in giving a "calm, in control, consistent" message for all of us.

One audience is getting more sophisticated with the understanding of flood releases, one might argue if the lockyer is flowing more we should be shutting down releases and that we already knew about the forecast rain.

Moving on, Dan and Rob are designing a process to have assumptions and strategies clearly articulated in the Technical reports.

Good job all round to date

Baz

From: Mike Foster [REDACTED]
Sent: Thursday, 23 December 2010 2:13 PM
To: Barry Dennien; Rob Drury; Dan Spiller
Cc: John Adcock; Paul Bird
Subject: FW: Update

Barry

Have spoken to John D on the below.

The communication information provided this morning at 8.16am was accurate and reflected the release strategy.

The Grid release did not go out until 10.50am. At that stage Operations had not yet decided on any change strategy but were monitoring conditions. At this stage it may well have been the afternoon before any decision to change releases was made.

However by 11.30am Operations, in conjunction with the BOM and noting the renewed flows down the Lockyer, decided to adjust the release strategy.

Given we are moving into a space where release strategy may well change during the day suggest we now include the following line in all future media releases.

As at (TIME & DATES) the following water releases are being made: Please note that the release strategy may change according to weather conditions.

Cheers Mike

From: Barry Dennien
Sent: Thursday, 23 December 2010 12:40 PM
To: Michael Lyons; Rob Drury

Cc: John Adcock; Dan Spiller
Subject: Fwd: Update

Mike rob

We have just sent out a media release that does not align with the latest strategy

Is there a set daily timeline for assessments or a process that ensures we appear on sync

Regards
Barry Dennien

Begin forwarded message:

From: Dan Spiller <[REDACTED]>
Date: 23 December 2010 12:14:56 PM AEST
To: Barry Dennien <[REDACTED]>, Scott Denner <[REDACTED]>, John Adcock <[REDACTED]>
Subject: Fwd: Update

For info

Begin forwarded message:

From: Rob Drury <[REDACTED]>
Date: 23 December 2010 11:37:08 AM GMT+10:00
To: Dan Spiller <[REDACTED]>
Cc: Mike Foster <[REDACTED]>, Jim Pruss <[REDACTED]>, Peter Borrows <[REDACTED]>
Subject: Update

Due to the rainfall last night and today and ongoing inflows, the strategy has been adjusted.

Instead of closing off totally this afternoon, gates will release at around 350m³/sec until tomorrow.

Councils are on board with this as it will give more security leading into the weekend but still allow the other bridges to come out of water as they isolate communities. It will keep Twin Bridges, Savages and Collèges Crossing out for longer.

I will send off another Report later this afternoon when the details have been worked out.

Rob

Robert Drury

Dam Operations Manager

Water Delivery

Queensland Bulk Water Supply Authority trading as Seqwater

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Tab 129

Gina O'Driscoll

From: Dan Spiller
Sent: Thursday, 23 December 2010 2:44 PM
To: steve.armstrong [REDACTED]
Cc: Best Debbie; Barry Dennien
Subject: FW: Brisbane residents sandbagging against localised floods
Attachments: information brief - DG - Meeting of the State Disaster Management Committee.doc

Steve,

As requested.

Dan

From: Bradley John [mailto:John.Bradley [REDACTED]]
Sent: Wednesday, 22 December 2010 1:35 PM
To: Armstrong Steve
Dan Spiller; Brown Damien; Leverington Andrea; Wall Terry; Barry Dennien; Best Debbie; Ellwood Dean
Subject: RE: Brisbane residents sandbagging against localised floods

Steve

Can you pls pull together for 4.00 or 5.00pm tomorrow a DERM portfolio SITREP discussion in advance of SDMG on Friday to run through latest on key issues.

We will need attendees at least as above....

My starting point for agenda is below but happy for others to add to it.

- Mines Preparation (**Terry/Damien**)
 - CQ Mines - TEP approvals etc
 - NW Mines - Current Status / Imminent Risks (Gulf System, etc)
- SEQ Flood Risk Management (**Barry/Dan**)
 - (Dam releases etc)
- Other regional Dam release issues (if any worth discussing, if not remove) - **Terry / OWSR**
- QPWS preparation (**Andrea**)

Intent would be to get a one pager or key SITREPs on each topic. Key focus should be on.

- Current Status/Risk
- Incident management readiness
- Resource Availability and On Call arrangements if needed – eg. processing permits/approvals.

thanks alot

John Bradley
Director-General
Department of Environment and Resource Management
Teleph [REDACTED]
Email: [REDACTED]
www.derm.qld.gov.au

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

From: Barry Dennien [REDACTED]
Sent: Wednesday, 22 December 2010 1:13 PM
To: Ken Smith; Bradley John
Cc: spiller daniel @ SEQWGM
Subject: RE: Brisbane residents sandbagging against localised floods

Ken

Current release rate is 110,000 megalitres per day (1300 cubic meters per second) October releases were at a maximum of 1500 cubic meters per second. These are expected to continue until tomorrow and then cut back over the xmas break. However the variable in all of this is the rain forecast. Wivenhoe is at 106% and we are targeting 100% by tomorrow allowing for inflows still coming.

The forecast could change in the coming days with the low forming off the Mid East Coast of Queensland, getting the dam back to 100% is critical in case the rain event escalates.

The tide peaked today at 1.85m and tomorrow and Friday will peak slightly higher than at 1.95m this is higher than October 1.66m peak. Then the tides will start to decrease.

We remain in close communication with the BOM and BCC. The protocol is being followed.

Regards

Barry

From: Ken Smith [REDACTED]
Sent: Wednesday, 22 December 2010 12:53 PM
To: John Bradley [REDACTED] Barry Dennien
Subject: FW: Brisbane residents sandbagging against localised floods

John and Barry

Some very localised flooding. What are the current release levels from Wivenhoe?

Regards

Ken Smith
Director-General
Department of the Premier and Cabinet

Phone [REDACTED]
Mobile [REDACTED]
Email: [REDACTED]

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www.towardQ2.qld.gov.au

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From: Kimberley Gardiner [REDACTED]
Sent: Wednesday, 22 December 2010 12:41 PM
To: Anna Bligh; Premiers Office - Media Unit; Stephen Beckett; Melissa Patch; Adam Shortman

Cc: Ken Smith

Subject: Brisbane residents sandbagging against localised floods

Brisbane residents sandbagging against localised floods

By Stephanie Smail ABC News

Posted 11 minutes ago

- [Map: Brisbane 4000](#)

Tidal flooding has inundated some suburbs along the Brisbane River this morning.

Days of heavy rain, storm run-off and releases from the Wivenhoe Dam, north of Ipswich, have raised river levels.

There is minor flooding in suburbs including Windsor, Albion and Newstead.

The Brisbane City Council says some sandbagging is underway but the water levels are already dropping.

Kimberley Gardiner

Director, Government Media Unit
Office of the Premier of Queensland

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TRIM reference: D/10/8082

Enquiry received: 22 December 2010

Purpose: Information Brief for DG - Meeting of the State Disaster Management Committee

SEQ Flood Risk Management

Current status

- Wivenhoe Dam is near full supply level, with about 1.45 megalitres of flood storage compartment available. A major flood would be managed in accordance with approved Wivenhoe Dam flood management plans.
- One of five gates remains open. Without further rainfall, it is likely to close tomorrow.
- Efforts are being made to ensure that Burtons and Kholo Bridges are accessible from the evening of the 23 December 2010, providing respite to residents who have been isolated by releases over previous weeks (approximately 19 families).
- Gate operations over the remainder of the Christmas period will depend on rainfall and inflows. At a minimum, operational releases will continue via cone valves.

Actions

- A draft protocol has been developed with Councils and the Bureau of Meteorology. The Water Grid is operating in accordance with this draft protocol, which has not yet been approved by Councils.
- Technical Situation Reports are being prepared daily, following consultation with Councils. Reports summarise operational actions. Report will continue to be prepared and distributed while gates are open.
- Daily media updates are being provided. Updates will be provided over Christmas only if the status changes.
- Communication messages are being aligned with Councils, to ensure consistency of messaging for releases and related impacts. The Water Grid has met all council requests for support, including daily briefings and provision of information.
- Releases continue to impact on some residents and holiday makers, through closure of roads and recreational areas.
- The Water Grid has established a phone service (1800 613 122) to provide updates on dam releases. The recorded message is updated by 9.00 am and 3.00 pm daily.
- Closure of Council-owned roads is a Council responsibility. Roads may be closed for a range of reasons aside from flooding, and may not be trafficable immediately after inundation.
- The Water Grid Manager is working with Somerset Regional Council to ensure that residents who may be isolated are proactively notified.
- Community service announcements are being run through radio and print mediums. The announcements explain how to find out more information about releases, recreational impacts and local roads. The announcements will be run from 23 December 2010 to 3 January 2011.

Table 30

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Thursday, 23 December 2010 4:52 PM
To: Mike Foster
Subject: RE: Summary of objectives and considerations

Mike,

With the prospect of major inflows, John has requested changes to the TSR along the lines of those I proposed this morning. He is also anxious to get BOM providing written input about storage levels, which I expect will take some work with BOM tomorrow.

Give me a call when you have a chance.

Dan

From: Mike Foster [REDACTED]
Sent: Thursday, 23 December 2010 2:27 PM
To: Dan Spiller; Rob Drury
Subject: RE: Summary of objectives and considerations

Dan ..have spoken to Rob and we are all on the same page.

This afternoon's TR will pick up on the suggested headings.

Cheers Mike

From: Dan Spiller [REDACTED]
Sent: Thursday, 23 December 2010 10:32 AM
To: Mike Foster; Rob Drury
Subject: Summary of objectives and considerations

Guys,

As discussed with Mike, I think it would be useful to include a summary in your section of the TSR about objectives and key considerations.

I have attached a proposed template for your consideration – with the content being indicative only. My aim was for this to include a neat summary of the Minister/DG/CEO level considerations – providing clarity about what you are seeking to achieve and why. For example, earlier this week we would have had something along the lines of waiting for Lockyer flows to pass and later in the week of deferring until people got home.

It would be good to get an agreed approach in place prior to Christmas.

Thanks,
Dan

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

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Tab 131

From: Barry Dennien
Sent: Friday, 24 December 2010 1:41 PM
To: tim.watts [REDACTED]
Cc: Dan Spiller; Gina O'Driscoll
Subject:

8

Tim

Please see attached letter with regards operating levels for Wivenhoe and North Pine Dams.

A letter will follow by mail

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

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24 December 2010

Hon Stephen Robertson MP
Minister for Natural Resources, Mines and Energy
and Minister for Trade
PO Box 15216
Brisbane Qld 4001

Dear Minister

I am pleased to respond to your letter of 25 October 2010 regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the current wet season. Our advice follows, based on discussions with Seqwater.

Only four of the dams in South East Queensland region are gated, with the ability to release significant amounts of water in anticipation of major inflows. These are Wivenhoe, Somerset, North Pine and Leslie Harrison dams.

Detailed operational procedures have been approved for each of the gated dams. The dams will continue to be operated in accordance with these procedures. These procedures generally relate to the management of the dams and should be managed above Full Supply Level. This advice relates to the water security aspect of the management of the dams below Full Supply Level.

Based on information currently available, Seqwater has advised that releasing water to below Full Supply Level may provide some benefits in terms of reduced community and operational impacts during minor inflow events, such as has occurred over the past month. For medium and major flood events, it considers that pre-emptive releases will provide negligible benefits.

Informed by this advice, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it has no in-principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, it has advised that it has no in-principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined Full Supply Level
- North Pine Dam being drawn down to 97.5 per cent of its Full Supply Level.

The SEQ Water Grid Manager has assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the System Operating Plan or our ability to meet our supply obligations to Grid Customers. From a water security perspective, the Queensland Water Commission has also confirmed that it does not have any objections to the potential release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

For future wet seasons, the SEQ Water Grid Manager will continue to work with Seqwater to investigate the optimal arrangements. In particular, we propose to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply be expanded to include options involving the release of the additional water once major inflows are forecast.

I trust that this advice is sufficient. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director Operations, by telephone on [REDACTED] or by email on [REDACTED]

Yours sincerely



Gary Humphrys
Chair

ATTACHMENT

Wivenhoe and Somerset dams

Wivenhoe Dam can store up to 1.15 million litres (ML) of drinking water. In addition, it has the capacity to store an additional 1.45 ML of flood water.

While large, the flood compartment can be filled within days. For example, following heavy rainfall in October 2010 Wivenhoe Dam received inflows equivalent to almost half of the flood storage compartment capacity in just a few days.

Several factors influence flood release strategies for Wivenhoe and Somerset dams.

First, rain events that have caused flooding have historically been prolonged events over several days, often with a second event occurring several days to a week after the first. As a result, the operational procedures for the dam are designed to ensure that all water held in the flood compartments is released within seven days of a rain event, ensuring that the flood compartment is available for any future inflows.

Secondly, the dam only controls flood waters from part of the Brisbane River catchment area. About 50 per cent of the catchment area of the Brisbane River is upstream of the Wivenhoe Dam wall, and can be potentially controlled by it. No flood mitigation structures exist for most of the potential run-off from the other 50 per cent of the catchment area.

Third, the Bureau of Meteorology has had limited success in plotting rainfall distribution accurately to assess where most flooding risk lies above or below the dam wall. Historical floods have demonstrated that flooding can occur from both. For example, the 1974 flood flows primarily occurred below the dam wall whilst the 1890's event occurred above the dam wall. As a result, when releasing water from Wivenhoe Dam it is very important to predict and monitor below the dam wall flows so as to understand combined river flows that cause flood impacts.

Taking these factors into account, the flood release strategy for Wivenhoe and Somerset dams has a hierarchy of objectives:

- Ensure the structural safety of the dam
- Provide optimum protection of urbanised areas from inundation
- Minimise disruption to rural life
- Retain full supply level after a flood event
- Minimise impacts to flora and fauna during the drain down phase.

Within this framework, flood releases from Wivenhoe Dam typically fall into two categories of flood events based on the impact they cause when combined with below the dam wall catchment runoff:

- Larger events typically involving combined river flows greater than 3,500 cubic meters per second measured at Moggill. These events would have flood impacts on

urban areas in Brisbane. This scale of release has not been required since Wivenhoe Dam was completed.

- Smaller events with combined river flows of less than 1,900 cubic meters per second measured at the Mt Crosby weir which can inundate up to seven rural bridges isolating up to 50 households and causing inconvenience to many more. There has been six of these events since 1984, when Wivenhoe Dam was completed.

Our assessment of the benefits of lowering dam storage levels to reduce flooding impacts is below for these two event types.

Large events

Seqwater has advised that releases of greater than 3,500 cubic metres per second (m³/s) from Wivenhoe Dam are likely to impact on urban areas in Brisbane. Events of this nature have not been experienced since Wivenhoe Dam was completed in 1984.

Seqwater has advised that:

- pre-emptive releases are likely to have negligible impacts on the extent of these impacts
- any impacts would require releases of at least 250,000 ML. This is equivalent to a release of about 16 per cent of the combined storage capacity of Wivenhoe and Somerset dams.

A pre-emptive release of this scale is not recommended, based on information currently available. The potential water security impacts are considered to be more significant than the negligible benefits. These potential security impacts include costs associated with the earlier or avoidable operation of the desalination facility at capacity, as well as the increased probability of triggering the implementation of a drought response plan.

More detailed investigation of opportunities to actively manage flood storage is recommended, including options to increase flood supply level on a temporary basis. These investigations need to be led by Seqwater, and involve the Bureau of Meteorology, Councils and the SEQ Water Grid Manager.

In particular, it has been identified that it is worth investigating the impacts on downstream flooding for intermediate level flows (flows between 1900 and 3500 m³/s).

Seqwater will undertake extensive investigations for the Queensland Water Commission in early 2011 to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply. We will recommend that the scope of this work be widened to consider the benefits of pre-lowering storage levels based on mid range rainfall events and the reduced impacts to river levels and subsequent property impacts. It is noted that predicting rainfall intensity and location, even as events are about to occur has not been accurate, however the Bureau of Meteorology is improving its methods.

Smaller events

Pre-emptive releases from Wivenhoe Dam may reduce the impacts of minor gate releases (strategies W1A to W1E in the operational procedures).

Minor gate releases may result in the closure of up to six bridges, isolating up to 50 dwellings and inconveniencing many more. As stated in existing flood management plans, releases should be managed to minimise the impacts on these residents. Over the immediate term, Councils have requested that bridge closures be avoided over the Christmas to New Year period, if at all possible. In addition:

- There are resource implications involved in the activation of the flood control centre. Under flood management plans, the centre must be staffed by suitability qualified officers at all times during gate releases. There are currently only four quality duty engineers, who have staffed the flood centre for much of period since the initial release in October.
- Gate releases during the Christmas holiday period would result in closure of dams to water based activities, impacting on up to 150,000 people who are expected to use the recreational facilities over the holiday period.

The Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released from Wivenhoe and Somerset dams to 95 per cent of storage capacity at any time until end March 2010.

Under this recommendation, storage levels could potentially be reduced by up to about 77,250 ML. This is equivalent to the amount of water released between 13 and 16 December 2010, through a single gate.

Pre-emptive releases will be managed so as to minimise the likelihood of gate releases due to small storms and local rainfall. Storage capacity will usually be reduced through a combination of:

- Extended gate releases, especially for strategy W1C. For comparison, up to 130,000 ML/day was released during in November and mid December 2010. At this rate, the additional releases could occur in about half a day.
- Ongoing gate releases of up to 30,000 ML/day, which do not isolate any residents but can inundate some lower bridges that cause inconvenience.
- Ongoing valve release of up to about 4,300 ML/day, which can be maintained without inundate any bridges.

Actual releases would be decided by Seqwater based on operational considerations and in accordance with its statutory and regulatory obligations.

Water security impacts

The water security impacts of releases will be zero if the dams fill over the remainder of the wet season. Current forecasts indicate that there is a high probability of this occurring:

- Heavy rainfall is forecast over the Christmas holiday period, as noted above.
- Over the remainder of the wet season, advice from the Bureau of Meteorology is that sea surface temperatures are likely to remain at levels typical of a La Niña event into the first quarter of 2011, with the majority of the models indicating the event will gradually weaken over the coming months.

The water security impacts will be minimal, even if there were no further inflows to the dams. Modelling indicates that the reduction would have a minimal impact on the probability of key water Grid storages falling to 40 per cent of capacity over the next five years.

North Pine and Leslie Harrison dams

North Pine and Leslie Harrison dams do not have flood mitigation potential. Once the dams have reached Full Supply Level, all water flows into the dam must be released to protect the structural safety of the dam.

Seqwater has advised that, without major releases, there are negligible benefits to reducing volumes stored in North Pine or Leslie Harrison dams for the purposes of reducing the extent or duration of any downstream flooding impacts.

For North Pine Dam, there may be some operational and community benefits to minor releases to below Full Supply Level in some circumstances. Any gate operation at North Pine Dam results in inundation of Youngs Crossing Road, which isolates a number of residents. These impacts are currently being minimised by releasing from North Pine Dam at night. With further rainfall forecast, Seqwater may choose to reduce the level to below Full Supply Level in order to reduce the frequency of night releases or the likelihood of releases being required during the day.

For this dam, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released to 97.5 per cent of storage capacity at any time until end March 2010.

For Leslie Harrison Dam, gate operations do not impact on public roads and generally only inconvenience the general public during large flood events. There is no scope to reduce this inconvenience through small pre-emptive releases. Accordingly, no in-principle approval be made for pre-emptive releases from this dam.

Tab 132

Gina O'Driscoll

From: Dan Spiller
Sent: Friday, 24 December 2010 8:13 AM
To: Barry Dennien; Scott Denner; John Adcock
Subject: FW: Technical Report W18
Attachments: Technical Stuation Report W18.docx

From: Rob Drury [REDACTED]
Sent: Friday, 24 December 2010 6:49 AM
To: Dan Spiller
Cc: Mike Foster; Paul Bird; Peter Borrows; Jim Pruss; Helen Moore; Alex Fisher; Bill Andrew
Subject: Technical Report W18

Dan,
Wouldn't normally do one as no change from yesterday but thought would update adding the extra info at top you requested as a trial.

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



[REDACTED]
[REDACTED]enhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

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TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|------------|----------------------------|--------|
| TSR Number | W18 | Date of TSR release | 24.12.2010 | Time of TSR release | 6.30am |
|-------------------|-----|----------------------------|------------|----------------------------|--------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | | | | | | | | | | | |
|---------------------------|--|-----------------|-----------|----------|--------------------|-----------|-----------|-----------------|--|-----------------|--|
| Current objectives | <ul style="list-style-type: none"> Reduce level of Wivenhoe as close as possible and still close off today and allow further bridge openings (dependent on other inflows). | | | | | | | | | | |
| Strategy | <ul style="list-style-type: none"> Wivenhoe releasing around 300 to 350m³/s through one gate but reducing during the day based on Lockyer flows to prevent Burtons Crossing going under. Continued releases through valves and hydro after gate is closed at 1pm but level based on Lockyer flows. Monitor inflows and need for further gate releases. | | | | | | | | | | |
| Key considerations | <table border="0"> <tr> <td>Storage levels:</td> <td>See below</td> </tr> <tr> <td>Inflows:</td> <td>Ongoing base flows</td> </tr> <tr> <td>Rainfall:</td> <td>See below</td> </tr> <tr> <td>Lockyer/Bremer:</td> <td>Flows increasing. With further rainfall, may inundate local bridges with further rainfall.</td> </tr> <tr> <td>Brisbane River:</td> <td>Any minor impact on tides will start decreasing.</td> </tr> </table> | Storage levels: | See below | Inflows: | Ongoing base flows | Rainfall: | See below | Lockyer/Bremer: | Flows increasing. With further rainfall, may inundate local bridges with further rainfall. | Brisbane River: | Any minor impact on tides will start decreasing. |
| Storage levels: | See below | | | | | | | | | | |
| Inflows: | Ongoing base flows | | | | | | | | | | |
| Rainfall: | See below | | | | | | | | | | |
| Lockyer/Bremer: | Flows increasing. With further rainfall, may inundate local bridges with further rainfall. | | | | | | | | | | |
| Brisbane River: | Any minor impact on tides will start decreasing. | | | | | | | | | | |

Rainfall

Little to no rainfall has been experienced in the dam catchments since yesterday morning. However BOM commenced issuing severe weather warnings last night for scattered showers, thunderstorms and general rain areas over eastern Queensland for the coming week.

Some locally heavy falls are expected to commence developing about the southeast coast during this evening. The current BOM forecast is:

Friday 24 December Rain Increasing
Saturday 25 December Rain at times
Sunday 26 December Rain at times
Monday 27 December Rain at times
Tuesday 28 December Rain easing
Wednesday 29 December Showers
Thursday 30 December Showers

With the current wet catchments, there is a high probability that the forecast rain will result in further flood releases from the dams over the coming week.

Somerset Dam

Sluice Gate operations ceased at 0900 yesterday and since that time the lake has risen around 100 millimeters. A regulator will be opened this morning to drain the lake to near full supply level. Further

gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises. The estimated total inflow into the dam for the event is in excess of 135,000ML, the majority of which has been released into Wivenhoe.

Wivenhoe Dam

Radial Gate operations are currently continuing at Wivenhoe Dam with the release being reduced by one gate increment every 5 to 6 hours to ensure that Brisbane River flows are not increased by the increasing Lockyer Creek outflows and to maintain Burtons Bridge open (water ceased to flow over Burtons Bridge at approximately 2030 yesterday). All gates are currently scheduled to be closed by 1300 today. When the gates are closed, the lake level will be around 67.07m or 70mm above the dam full supply level and 180mm below the radial gate opening trigger level of 67.25m. A regulator will then be used to maintain the lake level near to or below this level. The estimated inflow into Wivenhoe Dam for the event (excluding releases from Somerset Dam) is now 250,000 ML. A total of over 360,000 ML will have been released downstream from Wivenhoe Dam into the Brisbane River by this afternoon. The total estimated inflow into both dams for this event is now approaching 390,000 ML.

Further gate operations may be necessary in coming days if forecast rainfall results in subsequent river rises.

Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing and Colleges Crossing are currently closed and should remain so for some time due in part to current outflows into the Brisbane River from Lockyer Creek that will peak in excess of 200 cumecs late today. All other crossings downstream of the dam are currently open. Tide levels continue to be monitored closely with peak tide estimates being adjusted by BOM to account for Wivenhoe Dam outflows but will decrease continuously.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| 0410378740 | |

BoM assessment

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

BoM has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | [REDACTED] |

Ipswich City Council (ICC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [REDACTED] |

Somerset Regional Council (SRC) assessment (if required)
(to include predicted local inundation areas and depths of inundation based on the information)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | [REDACTED] |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|--|-------------|--|-----------------|----------------|
| Next TSR due | Date | | Time | | or Event | Closure |
|---------------------|-------------|--|-------------|--|-----------------|----------------|

Tab 133

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 10:17 AM
To: [REDACTED]
Cc: 'Waldman Karen'; Dan Spiller
Subject: URGENT
Attachments: Seqwater letter re Min s request on options for release of water.docx

Wiatong Tad

See attached a letter we are planning to send to Seqwater giving our permission to lower Wivenhoe below full supply level down to 95% and North Pine to 97.5% for flood mitigation purposes. This is only for the current wet season.

We request the QWC note this proposed strategy and reply appropriately by midday today.

We apologise in advance for the short turnaround period. Current weather events have made us progress is issue.

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street, Brisbane

Post: PO Box 16205, City East Qld 4002

ABN: 14783 317 630

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Trim Ref: D/10/8129

24 December 2010

Mr Peter Borrows
Chief Executive Officer
Seqwater
PO Box 16146
City East Qld 4002

Dear Mr Borrows

I refer to our letter of 11 December 2010 regarding the request from Minister Stephen Robertson to consider options to, and the benefits of releasing water from key storages in anticipation of major inflows over the coming summer period.

As you are aware, your officers have since provided advice about options and benefits.

I advise that, from a water security perspective, the SEQ Water Grid Manager has no in principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, we have no in principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined full supply level
- North Pine Dam being drawn down to 97.5 per cent of its full supply level.

Any specific releases to below Full Supply Level should be approved by myself or, if I am not available, the Director of Operations, SEQ Water Grid Manager.

Any releases should be managed by Seqwater in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

I acknowledge that these releases would have a negligible impact on the extent and duration of flooding during a major flood event. However, they may provide the ability to minimise the community and operational impacts of minor releases.

We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the *South East Queensland System Operating Plan* or our ability to meet our supply obligations to SEQ Water Grid customers.

From a water security perspective, I am advised that the Queensland Water Commission also does not have any objections to the proposed release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

I am keen to continue to work with you to investigate the optimal arrangements for future wet seasons. In particular, I am keen to work with you to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for increased water supply be expanded to include options to lower the full supply level for managing flood events.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director of Operations, by telephone on [REDACTED] or via email at [REDACTED]

Yours sincerely

Barry Dennien
Chief Executive Officer

Tab 134

Gina O'Driscoll

From: Sommer Peter [REDACTED]
Sent: Friday, 24 December 2010 10:59 AM
To: Barry Dennien
Cc: Wong Wai Tong; Sweet Anita; Waldman Karen
Subject: FW: URGENT
Attachments: Seqwater letter re Min s request on options for release of water.docx

To help with our response could you please provide the information provided from Seqwater on the options and benefits of the proposed release as referred to in your letter.

Regards

Peter Sommer
Director, Planning Projects
Regional Planning and Policy

Telephone: [REDACTED]

Mail: [REDACTED]

www.qwc.qld.gov.au

Queensland Water Commission
53 Albert Street, Brisbane Q 4000
PO Box 15087, City East Q 4002

From: Barry Dennien [REDACTED]
Sent: Friday, 24 December 2010 10:17 AM
To: Bagdon Tad; Wong Wai Tong
Cc: Waldman Karen; spiller.daniel@SEQWGM
Subject: URGENT

Wiatong Tad

See attached a letter we are planning to send to Seqwater giving our permission to lower Wivenhoe below 0.1 supply level down to 95% and North Pine to 97.5% for flood mitigation purposes. This is only for the current wet season.

We request the QWC note this proposed strategy and reply appropriately by midday today.

We apologise in advance for the short turnaround period. Current weather events have made us progress this issue.

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street, Brisbane

Post: PO Box 16205, City East Qld 4002

ABN: 14783 317 630

Trim Ref: D/10/8129

24 December 2010

Mr Peter Borrows
Chief Executive Officer
Seqwater
PO Box 16146
City East Qld 4002

Dear Mr Borrows

I refer to our letter of _ regarding the request from Minister Stephen Robertson to consider options to, and the benefits of releasing water from key storages in anticipation of major inflows over the coming summer period.

As you are aware, your officers have since provided advice about options and benefits.

I advise that, from a water security perspective, the SEQ Water Grid Manager has no in principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, we have no in principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined full supply level
- North Pine Dam being drawn down to 97.5 per cent of its full supply level.

Any specific releases to below Full Supply Level should be approved by myself or, if I am not available, the Director of Operations, SEQ Water Grid Manager.

Any releases should be managed by Seqwater in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

I acknowledge that these releases would have a negligible impact on the extent and duration of flooding during a major flood event. However, they may provide the ability to minimise the community and operational impacts of minor releases.

We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the *South East Queensland System Operating Plan* or our ability to meet our supply obligations to SEQ Water Grid customers.

From a water security perspective, I am advised that the Queensland Water Commission also does not have any objections to the proposed release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

I am keen to continue to work with you to investigate the optimal arrangements for future wet seasons. In particular, I am keen to work with you to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for increased water supply be expanded to include options to lower the full supply level for managing flood events.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director of Operations, by telephone on [REDACTED] or via email at [REDACTED]

Yours sincerely

Barry Dennien
Chief Executive Officer

Table 35

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 11:04 AM
To: 'Sommer Peter'
Cc: Dan Spiller; 'Waldman Karen'
Subject: RE: URGENT
Attachments: Internal memo for Wivenhoe and Somerset December 2010 flood releases.docx; image002.gif

Peter

Our advice reflects Seqwater's advice and our joint experiences over the past weeks of flood releases.

Barry

From: Sommer Peter [REDACTED]
Sent: Friday, 24 December 2010 10:59 AM
To: Barry Dennien
Cc: Wong Wai Tong; Sweet Anita; Waldman Karen
Subject: FW: URGENT

To help with our response could you please provide the information provided from Seqwater on the options and benefits of the proposed release as referred to in your letter.

Regards

Peter Sommer
Director, Planning Projects
Regional Planning and Policy

Telephone: [REDACTED]

Email: [REDACTED]

www.qwc.qld.gov.au

Queensland Water Commission
Albert Street, Brisbane Q 4000
Box 15087, City East Q 4002

From: Barry Dennien [REDACTED]
Sent: Friday, 24 December 2010 10:17 AM
To: Bagdon Tad; Wong Wai Tong
Cc: Waldman Karen; spiller daniel @ SEQWGM
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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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TRIM reference: D/10/7970**Date:** 7 February 2011

To: Gary Humphrys

From: Barry Dennien

Subject: Water security modelling for Wivenhoe Dam flood releases

Purpose

To seek in principle approval for water to be released from Wivenhoe and Somerset dams to 95 per cent (%) of storage capacity at any time until end March 2011.

Background

Minister Robertson wrote to our Chair on 25 October 2010 seeking advice regarding options to, and benefits of, releasing water from key SEQ Water Grid (Water Grid) storages in anticipation of major inflows over the coming summer (**Attachment 1**).

SEQ Water Grid Manager (WGM) officers have consulted with Seqwater regarding options and benefits of releasing water from key storages. Beyond the detailed advice outlined below, Seqwater officers have reiterated that Seqwater is confident of its ability to manage floods in accordance with the approved management plans and based on the existing Full Supply Level. While not necessary, Seqwater consider that in principle agreement to reduce storages to below Full Supply Level may provide operational advantages in some situations.

Relevant dams

In South East Queensland, Wivenhoe, Somerset, North Pine and Leslie Harrison dams are gated. Gates have also been installed as part of the Hinze Dam upgrade, which is scheduled to be completed by end January 2011. Other dams have a combination of small release valves and spillways and spill when above the Full Supply Level.

Gated dams provide an opportunity for water to be released to below the Full Supply Level in anticipation of future inflows.

Controlled releases impact upon downstream river levels, with the extent of impact dependent upon the amount releases. Controlled releases are only one of several factors that impact river levels, including tide and inflows downstream of the dam wall. For example, Wivenhoe and Somerset dams control only half of the Brisbane River catchment.

Probability of gate releases over the remainder of the wet season

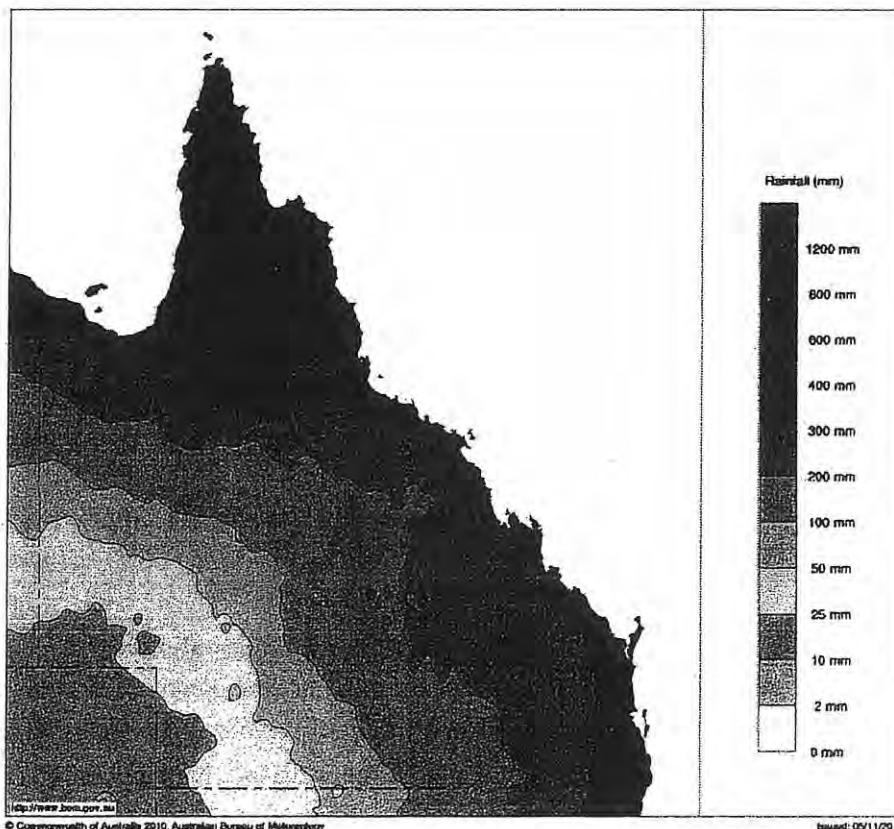
Grid 12 storages are at 100% of combined capacity, with further rainfall forecast. The Bureau of Meteorology has advised that:

- heavy rainfall is likely across South East Queensland over the Christmas holiday period
- higher than average rainfall to continue over the remainder of the traditional wet season, with 75% probability of exceeding at least 300 millimetres of rainfall across South East Queensland from December 2010 to the end February 2011.

Any further rainfall is expected to result in significant inflows to storages, due to catchments being wet. With storages being full, these inflows will trigger managed releases from Wivenhoe, Somerset and North Pine dams.

Figure 1: Rain outlook.

Rain Outlook: 75% chance of exceeding 1 December 2010 to 28 February 2011
Product of the National Climate Centre



Wivenhoe and Somerset dams: Medium to major flood events

Seqwater has advised that releases of greater than 3,500 cubic metres per second from Wivenhoe Dam are likely to impact on urban areas in Brisbane. Events of this nature have not been experienced since Wivenhoe Dam was completed in 1984.

Seqwater has advised that:

- Pre-emptive releases are likely to have negligible impacts on the extent of these impacts.
- Any impacts would require releases of at least 250,000 megalitres (ML). This is equivalent to a release of about 16% of the combined storage capacity of Wivenhoe and Somerset dams.

A pre-emptive release of this scale is not recommended, based on information currently available. The potential water security impacts are considered more significant than the negligible benefits. These potential security impacts include costs associated with the earlier or avoidable operation of the Gold Coast Desalination Plant (Desalination Plant) at capacity, as well as the increased probability of triggering the implementation of a drought response plan.

More detailed investigation of opportunities to manage flood storage is recommended, including options to increase flood supply level on a temporary basis. These investigations need to be led by Seqwater, and involve the Bureau of Meteorology, Councils and the Water Grid Manager.

Wivenhoe and Somerset dams: Minor flood events

Pre-emptive releases from Wivenhoe Dam may reduce the impacts of minor gate releases (strategies W1A to W1E in the operational procedures).

Minor gate releases may result in the closure of up to six bridges, isolating up to 50 dwellings and inconveniencing many more. As stated in existing flood management plans, releases should be managed to minimise the impacts on these residents. Over the immediate term, councils have requested that bridge closures be avoided over the Christmas to New Year period, if possible. In addition:

- There are resource implications involved in the activation of the flood control centre. Under flood management plans, the flood control centre must be staffed by suitability qualified officers at all times during gate releases. There are currently only four quality duty engineers who have staffed the flood centre for much of period since the initial release in October 2010.
- Gate releases during the Christmas holiday period would result in closure of dams to water based activities, impacting on up to 150,000 people who are expected to use the recreational facilities over the holiday period.

Recommendation

It is recommended that the WGM advise Seqwater that, from a water security perspective:

- in principle, we would not object to water being released from Wivenhoe and Somerset dams to 95% of storage capacity at any time until end March 2011
- any specific release should be endorsed by the Chief Executive Officer (CEO) or Director of Operations, prior to being made
- approval is for the existing wet season only and is subject to review prior to the 2011 wet season.

Under this recommendation, storage levels could potentially be reduced by up to about 77,250 ML. This is equivalent to the amount of water released between 13 and 16 December 2010, through a single gate.

Pre-emptive releases will be managed so as to minimise the likelihood of gate releases due to small storms and local rainfall. Storage capacity will usually be reduced through a combination of:

- Extended gate releases, especially for strategy W1C. For comparison, up to 130,000 ML per day was released during November 2010 and mid December 2010. At this rate, the additional releases could occur in approximately half a day.
- Ongoing gate releases of up to 30,000 ML per day, which would not isolate any residents but could inundate some lower bridges that cause inconvenience.
- Ongoing valve release of up to about 4,300 ML per day, which can be maintained without inundate any bridges.

Actual releases will be decided based on operational considerations.

The CEO and the Director of Operations will seek to ensure that storages are managed with the objective of being at Full Supply Level at the end of the wet season, in April 2011.

Water security impacts

The water security impacts of releases will be zero if the dams fill over the remainder of the wet season. Current forecasts indicate that there is a high probability of this occurring as:

- Heavy rainfall is forecast over the Christmas holiday period, as noted above.
- Over the remainder of the wet season, advice from the Bureau of Meteorology is that sea surface temperatures are likely to remain at levels typical of a La Niña event into the first quarter of 2011, with the majority of the models indicating the event will gradually weaken over the coming months.

The water security impacts will be minimal, even if there were no further inflows into the dams. Modelling indicates that the reduction would have a minimal impact on the probability of key Water Grid storages falling to 40% of capacity over the next five years.

Four cases were developed to assess the impact of the potential flood releases below Full Supply Level. Each was based on the model used to develop the October 2010 version of the Operating Strategy, with an update for the operation of the Desalination Plant. The outline of each case is shown below in **Table 1**.

The first two runs assess the difference in water security starting in January 2011 with storages at 100% and 95%. The second two cases assessed the scenario where dams were reduced to 95% and were not refilled this wet season, and therefore the simulation started in June 2011.

Table 1: Summary of models.

| Case | Wivenhoe and Somerset dam level | Start month |
|------|---------------------------------|--------------|
| 1 | 100% | January 2011 |
| 2 | 95% | January 2011 |
| 3 | 100% | June 2011 |
| 4 | 95% | June 2011 |

Results show that the ability to meet the risk criteria stated in the South East Queensland System Operating Plan (SOP) (refer **Table 2**) is not affected by this change in supply level in January 2011. In addition, the difference in probability of Wivenhoe and Somerset dams refilling is negligible after six months. If releases are made to bring Wivenhoe and Somerset dams to 95% of combined storage, hydrologic modelling using stochastically generated inflows indicates that the point at which the probability of reaching 40% was brought forward by two months (refer **Figures 2 and 3**).

Table 2: SOP rules.

| Trigger | 1 year | 3 years | 5 years |
|---------|---------------|---------------|---------|
| T1 | <0.2% | Not specified | <5% |
| T2 | Not specified | <0.5% | <1% |

Table 3: Current levels, starting January 2011 (case 1).

| Trigger | 1 year | 3 years | 5 years |
|------------------------------|--------|---------|---------|
| T1 | 0 | 0 | 0.01% |
| T2 | 0 | 0 | 0 |
| Brisbane System reaching 40% | 0.00% | 0.00% | 0.01% |

Table 4: Wivenhoe and Somerset dams at 95%, starting January 2011 (case 2).

| Trigger | 1 year | 3 years | 5 years |
|------------------------------|--------|---------|---------|
| T1 | 0 | 0 | 0.01% |
| T2 | 0 | 0 | 0 |
| Brisbane System reaching 40% | 0.00% | 0.00% | 0.01% |

Table 5: Current levels, starting June 2011 (case 3).

| Trigger | 1 year | 3 years | 5 years |
|------------------------------|--------|---------|---------|
| T1 | 0 | 0 | 0.01% |
| T2 | 0 | 0 | 0 |
| Brisbane System reaching 40% | 0.00% | 0.00% | 0.01% |

Table 6: Wivenhoe and Somerset dams at 95%, starting June 2011 (case 4).

| Trigger | 1 year | 3 years | 5 years |
|------------------------------|--------|---------|---------|
| T1 | 0 | 0 | 0.01% |
| T2 | 0 | 0 | 0 |
| Brisbane System reaching 40% | 0.00% | 0.00% | 0.01% |

Figure 2: Storage volume forecast Brisbane System (case 1).

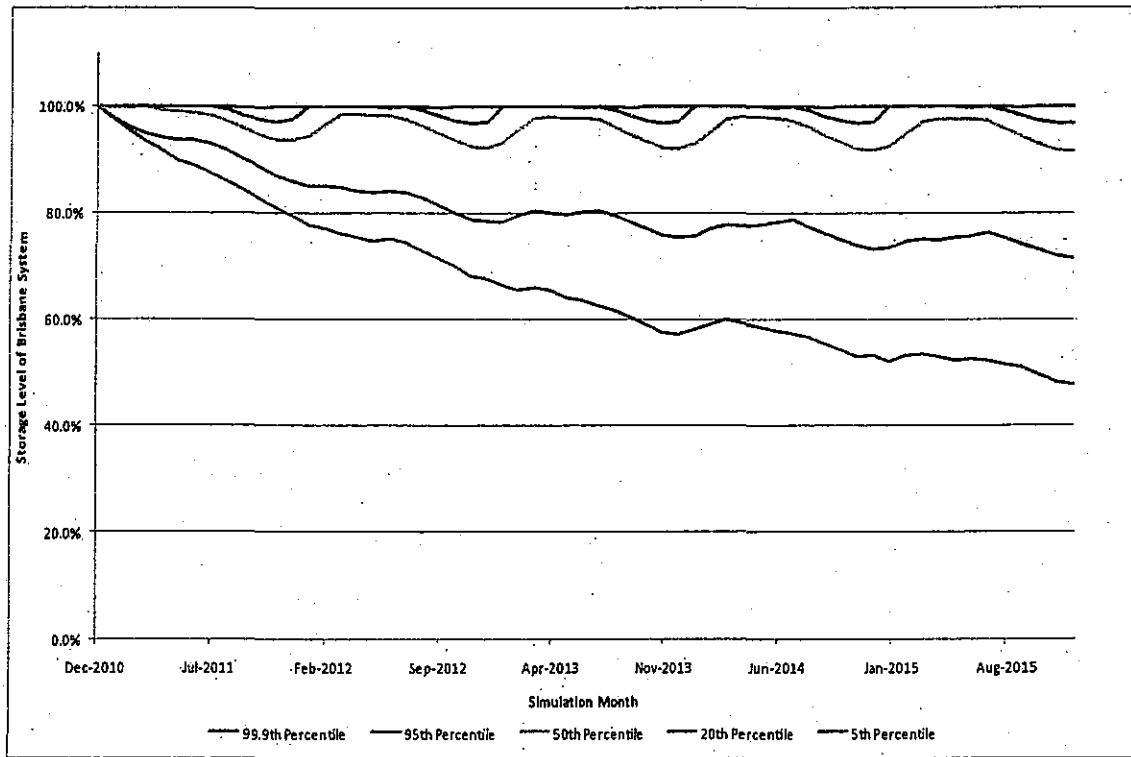


Figure 2: Storage volume forecast Brisbane System (case 2).

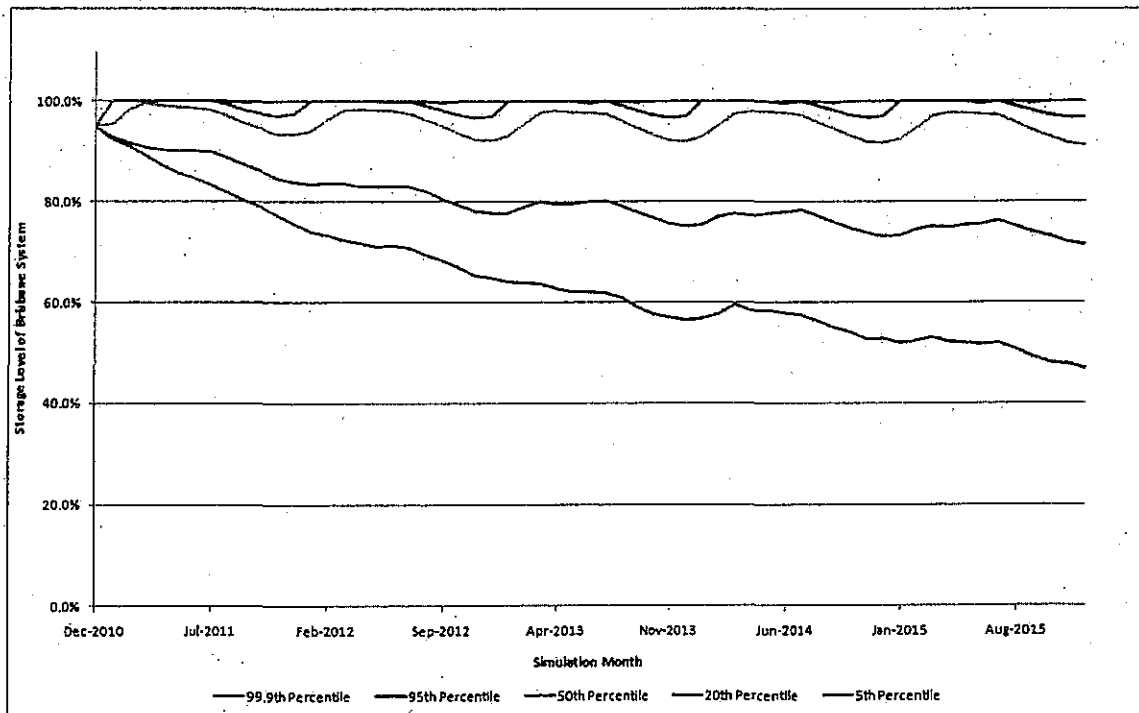


Figure 1 shows that, under the current case, 50% of long-term simulated inflow scenarios maintain the Brisbane System at full storage capacity over the next three months. With the release to 95% of Full Supply Level, 50% of simulated inflows return the dams to Full Supply Level in approximately four months.

As a worst case scenario, a scenario was run that reduced the Full Supply Level of Wivenhoe and Somerset dams to 95% of the current level for the full duration of the simulation (that is, a permanent reduction). This was undertaken to indicate the lower bound of results that could be expected when simulating the proposed dam release approach. Results for this scenario indicated that the probability of reaching 40% in the Brisbane System increased to 0.03% in five years, as compared to the base case of 0.01%.

North Pine and Leslie Harrison dams

North Pine and Leslie Harrison dams do not have flood mitigation potential. Once the dams have reached Full Supply Level, all water flows into the dam must be released to protect the structural safety of the dam.

Seqwater has advised that, without major releases, there are negligible benefits to reducing volumes stored in North Pine or Leslie Harrison dams for the purposes of reducing the extent or duration of any downstream flooding impacts.

For North Pine Dam, there may be some operational and community benefits to minor releases to below Full Supply Level in some circumstances. Any gate operation at North Pine Dam results in inundation of Youngs Crossing Road, which isolates a number of residents. These impacts are currently being minimised by releasing from North Pine Dam at night. With further rainfall forecast, Seqwater may choose to reduce the level to below Full Supply Level in order to reduce the frequency of night releases or the likelihood of releases being required during the day.

For this dam, it is recommended that the WGM advise Seqwater that, from a water security perspective:

- in principle, it would not object to water being released to 97.5% of storage capacity at any time until end March 2011
- any specific release should be endorsed by the CEO or Director of Operations prior to being made
- approval is for the existing wet season only, subject to review prior to the 2011 wet season.

For Leslie Harrison Dam, gate operations do not impact on public roads and generally only inconvenience the general public during large flood events. There is no scope to reduce this inconvenience through small pre-emptive releases. Accordingly, it is recommended that no in-principle approval be made for pre-emptive releases from this dam.

Summary of recommendations

It is recommended that the SEQ Water Grid Manager Board (Board) approve that:

- from a water security perspective, it would not object to water being released from Wivenhoe and Somerset dams to 95% of the Full Storage Level at any time until end March 2011
- from a water security perspective, it would not object to water being released from North Pine Dam to 97.5% of the Full Storage Level at any time until end March 2011
- any specific release should be endorsed by the CEO or Director of Operations prior to being made
- approval is for the existing wet season only, subject to review prior to the 2011 wet season.

The proposed letter from the Chair forms **Attachment 2**.

This advice is consistent with the verbal briefing provided to Minister Robertson at the 13 December 2010 Board meeting. The response to Minister Robertson will reflect this advice (refer **Attachment 3**).

Table 36

Gina O'Driscoll

From: John Adcock
Sent: Friday, 24 December 2010 11:08 AM
To: Susan Pitkin
Subject: RE: Draft letter attached from Somerset Regional Council
Attachments: 2010_12_24 Somerset Releases Wivenhoe Dam Letter (3).docx

Thanks Susan

The letter looks great. Our CEO asks if it is possible to make a minor addition per the highlighted part in the attached?

Per our discussion, Bob and Barry discussed a number of short-term initiatives by Somerset Council to assist local residents including broadcast emails and SMS messages.

As mentioned I spoke to Brisbane City Council's SMS service provider (Emergency Warning Network – Kerry Plowright [REDACTED] www.ewn.com.au) who can offer a 24/7 notification service for up to about 100 residents for \$100/month. All SRC would need to do is email them with the message and they could turn this around within a very short time as an SMS to those on the database provided by SRC. An alternative would be to install an appropriate app on an iPhone as discussed. Of course the choice of method is entirely SRC's decision.

As mentioned our key contact numbers for your Mayor and CEO over the Christmas/New Year break are:

Barry Dennien (CEO) - [REDACTED]

Dan Spiller (Director and Duty Officer) - [REDACTED]

If you get any media enquiries related to dams our duty media contact details are:

[REDACTED]

Would you please advise your Mayor and CEO mobile phone details and I will pass this onto Barry and Dan.

As discussed, please let me know (via the [REDACTED] email) what you decide regarding short-term contact with impacted residents and I'll pass this onto Barry.

Many thanks and regards

John Adcock
Stakeholder Relations Manager
SEQ Water Grid Manager
Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002
ABN: 14783 317 630

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no lifeguards here

A WATER SAFETY INITIATIVE FROM



Swimming in weirs and
flowing water is FAT

rethink

From: Susan Pitkin [REDACTED]
Sent: Friday, 24 December 2010 10:31 AM
To: John Adcock
Subject: Draft letter attached from Somerset Regional Council

Susan Pitkin

PA to the Mayor and Chief Executive Officer
Somerset Regional Council.

a | PO Box 117, ESK QLD 4312

p [REDACTED]
f [REDACTED]

www.somerset.qld.gov.au

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Date ... 2010

Merge
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Dear Sir or Madam

Releases from Wivenhoe Dam by SEQWater and impacts on local road access
Our Ref: emergency services - notifications - notices

I write to you as the owner of property within the Somerset Regional Council area on the eastern side of the Brisbane River.

As you would be aware, the operator of Wivenhoe Dam, the Queensland Bulk Water Supply Authority trading as SEQWater has been periodically releasing water from Wivenhoe into the Brisbane River.

As a result of these releases and flows from the catchment below Wivenhoe Dam, Council-owned bridges over the Brisbane River have been repeatedly submerged affecting access over the river.

In partnership with State Government water authorities, Council proposes to establish a Wivenhoe release notification system using mobile telephones for affected residents and property owners on a voluntary basis.

I ask that if you or if those residing on your affected property wish to be involved in such a notification system that you please advise your name, property address and mobile and landline telephone numbers to Council using the attached copy of this letter or pass the copy of this letter to the resident who does wish to be involved.

When calling, please ask for Debbie Chandler.

Yours sincerely,

Robert Bain
Chief Executive Officer

Privacy Declaration - I consent to Council providing the below details to the SEQWater Grid Manager, SEQWater or other relevant agencies for the purpose of establishing a Wivenhoe release mobile notification system.

(Please sign and date here.....)

Name(s)

Property address.....

Mobile telephone number

Landline telephone number

Tab 137

Gina O'Driscoll

From: Sommer Peter [REDACTED]
Sent: Friday, 24 December 2010 11:17 AM
To: Barry Dennien
Cc: Dan Spiller; Waldman Karen; Wong Wai Tong
Subject: RE: URGENT

Given that we will be guided by Seqwater's advice, as the experts for operating the dam, there advice would add weight to the argument.

Could you provide this?

Regards Peter

From: Barry Dennien [REDACTED]
Sent: Friday, 24 December 2010 11:04 AM
To: Sommer Peter
Cc: spiller daniel @ SEQWGM; Waldman Karen
Subject: RE: URGENT

Peter

Our advice reflects Seqwater's advice and our joint experiences over the past weeks of flood releases.

Barry

From: Sommer Peter [REDACTED]
Sent: Friday, 24 December 2010 10:59 AM
To: Barry Dennien
Cc: Wong Wai Tong; Sweet Anita; Waldman Karen
Subject: FW: URGENT

To help with our response could you please provide the information provided from Seqwater on the options and benefits of the proposed release as referred to in your letter.

Regards

Peter Sommer
Director, Planning Projects
Regional Planning and Policy
Teleph [REDACTED]
Email: [REDACTED]

www.qwc.qld.gov.au

Queensland Water Commission
53 Albert Street, Brisbane Q 4000
PO Box 15087, City East Q 4002

From: Barry Dennien [REDACTED]
Sent: Friday, 24 December 2010 10:17 AM
To: Bagdon Tad; Wong Wai Tong
Cc: Waldman Karen; spiller daniel @ SEQWGM
Subject: URGENT

Wiatong Tad

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We apologise in advance for the short turnaround period. Current weather events have made us progress this issue.

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street, Brisbane

Post: PO Box 16205, City East Qld 4002

ABN: 14783 317 630

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.....

Ta
ba
138

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 11:27 AM
To: 'Sommer Peter'
Cc: Dan Spiller
Subject: Discussion Paper on Dam Full Supply Level Investigations Seqwater Gated Storages
Attachments: Discussion Paper on Dam Full Supply Level Investigations Seqwater Gated Storages.docx

Peter, attached.

Regards
Barry

Attachment 1

Discussion Paper on Dam Full Supply Level Investigations Seqwater Gated Storages

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 around 15%. 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 pre-release 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 probabilistic 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.

| Event | Wivenhoe Dam | | | | | |
|------------------|----------------|------|------------------|-------------------|--------------|------------------|
| | 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 Full at Event Commencement | Approximate Duration of Wivenhoe Radial Gate Releases/ Twin Bridges Inundation (hours) | Approximate Duration of Savages Crossing and Colleges Crossing Inundation (hours) | Approximate Duration of Burtons Bridge and Kholo Bridge Inundation (hours) | Peak Flow at Moggill (m ³ /s) |
|---|--|---|--|--|
| 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 of 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 be 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 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:

| Level | Capacity | | | Rainfall Required to Operate | |
|-------------|----------|--------|---------|------------------------------|----------------|
| | | | | 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

Tea
3139

Gina O'Driscoll

From: Waldman Karen [REDACTED]
Sent: Friday, 24 December 2010 11:56 AM
To: Barry Dennien
Cc: Sommer Peter; Wong Wai Tong; Bagdon Tad; pborrows [REDACTED]
Subject: FW: URGENT

Importance: High

Hi Barry,

The QWC has considered the request by the SEQ Water Grid Manager to comment on the proposed drawdown of:

- Wivenhoe and Somerset dams to 95% of their combined full supply level
- North Pine Dam being drawn down to 97.5% of its full supply level

The Commission notes that the Water Grid Manager has no concerns and advises that the drawdown will not infringe the risk criteria stipulated in the SEQ System Operating Plan or the interim operating strategy. The Water Grid Manager has also stated that this drawdown will not impact on their ability to meet supply obligations to the Water Grid customers. Based on this advice, the Commission has no objection to the proposed release.

It is noted also that such releases are an operational matter for Seqwater, within the context of the Resource Operations Plan, where there is no condition in the SEQ System Operating Plan that regulates releases from the dams concerned.

It is however recommended that Seqwater liaise with the Department of Environment and Resource Management to confirm their understanding of any conditions that apply, particularly in relation to dam safety matters.

Regards, Karen

From: Barry Dennien [REDACTED]
Sent: Friday, 24 December 2010 10:17 AM
To: Bagdon Tad; Wong Wai Tong
Cc: Waldman Karen; spiller daniel @ SEQWGM
Subject: URGENT

Wiatong Tad

See attached a letter we are planning to send to Seqwater giving our permission to lower Wivenhoe below full supply level down to 95% and North Pine to 97.5% for flood mitigation purposes. This is only for the current wet season.

We request the QWC note this proposed strategy and reply appropriately by midday today.

We apologise in advance for the short turnaround period. Current weather events have made us progress this issue.

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

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

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Tab 140

Gina O'Driscoll

From: Bradley John [REDACTED]
Sent: Friday, 24 December 2010 12:45 PM
To: Boyle Michael
Cc: Dan Spiller; Barry Dennien
Subject: RE: Rain Event Update

Thanks for all your help Michael – can you please copy in Dan Spiller and Barry Dennien as attached to these circulars too? appreciated

John Bradley
Director-General
Department of Environment and Resource Management
Teleph [REDACTED]
Email: [REDACTED]
www.derm.qld.gov.au

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

From: Boyle Michael
Sent: Friday, 24 December 2010 12:40 PM
To: Bradley John; Wall Terry; Zubrinich Robert; Leverington Andrea; Brown Damien; Ellwood Dean; Williams Christine; Anderson Danielle; Withers Greg; Moody Annie; Best Debbie; Quincey Richard
Cc: Tyson Michelle; Robinson David; Short Michael; Allen Peter; Michaels Paul; Fry Wayne; Cook Clive; Ryan John
Subject: Rain Event Update

A state disaster co-ordination teleconference was held at midday today about the current rain event across Queensland. The following updates information from yesterday

- A state disaster co-ordinator has been appointed – Deputy Commissioner Ian Stewart from Police
- The monsoonal low is expected to cross the coast north of Cooktown on Saturday (Christmas) morning. Heaviest rain is still expected between Cooktown and St Lawrence. Rain forecasts elsewhere are downgraded
- The South East can still expect moderate to heavy falls late Sunday and into Monday
- There are a number of road closures across Queensland. Please check <http://131940.qld.gov.au/>
- DERM provided input to the teleconference on dam storages and integrity. All are performing as designed at present. The riskiest dam, Middle Creek near Sarina is releasing to reduce current capacity.
- Daily sitreps will now be issued. I will pass those on.
- Daily teleconferences will now be held (including one at 10:30 tomorrow)

Thanks and have a safe and merry Xmas.

Michael Boyle
Director, ICT Infrastructure
Department of Environment and Resource Management

[REDACTED]

Tab 141

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 1:38 PM
To: Peter Borrows
Cc: Dan Spiller; 'Rob Drury'
Attachments: image001.gif

Peter

Please see attached letter with regards lowering Wivenhoe and North Pine Dams operating levels below full supply level to assist in flood mitigation.

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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Tab 142

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 1:41 PM
To: 'tim.watts'
Cc: Dan Spiller; Gina O'Driscoll
Attachments: Letter to Minister - flood management.docx; image001.gif

Tim

Please see attached letter with regards operating levels for Wivenhoe and North Pine Dams.

A letter will follow by mail

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone:

Mail:

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.

24 December 2010

Hon Stephen Robertson MP
Minister for Natural Resources, Mines and Energy
and Minister for Trade
PO Box 15216
Brisbane Qld 4001

Dear Minister

I am pleased to respond to your letter of 25 October 2010 regarding options to and benefits of releasing water from key storages in anticipation of major inflows over the current wet season. Our advice follows; based on discussions with Seqwater.

Only four of the dams in South East Queensland region are gated, with the ability to release significant amounts of water in anticipation of major inflows. These are Wivenhoe, Somerset, North Pine and Leslie Harrison dams.

Detailed operational procedures have been approved for each of the gated dams. The dams will continue to be operated in accordance with these procedures. These procedures generally relate to the management of the dams and should be managed above Full Supply Level. This advice relates to the water security aspect of the management of the dams below Full Supply Level.

Based on information currently available, Seqwater has advised that releasing water to below Full Supply Level may provide some benefits in terms of reduced community and operational impacts during minor inflow events, such as has occurred over the past month. For medium and major flood events, it considers that pre-emptive releases will provide negligible benefits.

Informed by this advice, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it has no in-principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, it has advised that it has no in-principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined Full Supply Level
- North Pine Dam being drawn down to 97.5 per cent of its Full Supply Level.

The SEQ Water Grid Manager has assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the System Operating Plan or our ability to meet our supply obligations to Grid Customers. From a water security perspective, the Queensland Water Commission has also confirmed that it does not have any objections to the potential release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

For future wet seasons, the SEQ Water Grid Manager will continue to work with Seqwater to investigate the optimal arrangements. In particular, we propose to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply be expanded to include options involving the release of the additional water once major inflows are forecast.

I trust that this advice is sufficient. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director Operations, by telephone on [REDACTED] or by email on [REDACTED]

Yours sincerely



Gary Humphrys
Chair

ATTACHMENT

Wivenhoe and Somerset dams

Wivenhoe Dam can store up to 1.15 million litres (ML) of drinking water. In addition, it has the capacity to store an additional 1.45 ML of flood water.

While large, the flood compartment can be filled within days. For example, following heavy rainfall in October 2010 Wivenhoe Dam received inflows equivalent to almost half of the flood storage compartment capacity in just a few days.

Several factors influence flood release strategies for Wivenhoe and Somerset dams.

First, rain events that have caused flooding have historically been prolonged events over several days, often with a second event occurring several days to a week after the first. As a result, the operational procedures for the dam are designed to ensure that all water held in the flood compartments is released within seven days of a rain event, ensuring that the flood compartment is available for any future inflows.

Secondly, the dam only controls flood waters from part of the Brisbane River catchment area. About 50 per cent of the catchment area of the Brisbane River is upstream of the Wivenhoe Dam wall, and can be potentially controlled by it. No flood mitigation structures exist for most of the potential run-off from the other 50 per cent of the catchment area.

Third, the Bureau of Meteorology has had limited success in plotting rainfall distribution accurately to assess where most flooding risk lies above or below the dam wall. Historical floods have demonstrated that flooding can occur from both. For example, the 1974 flood flows primarily occurred below the dam wall whilst the 1890's event occurred above the dam wall. As a result, when releasing water from Wivenhoe Dam it is very important to predict and monitor below the dam wall flows so as to understand combined river flows that cause flood impacts.

Taking these factors into account, the flood release strategy for Wivenhoe and Somerset dams has a hierarchy of objectives:

- Ensure the structural safety of the dam
- Provide optimum protection of urbanised areas from inundation
- Minimise disruption to rural life
- Retain full supply level after a flood event
- Minimise impacts to flora and fauna during the drain down phase.

Within this framework, flood releases from Wivenhoe Dam typically fall into two categories of flood events based on the impact they cause when combined with below the dam wall catchment runoff:

- Larger events typically involving combined river flows greater than 3,500 cubic meters per second measured at Moggill. These events would have flood impacts on urban areas in Brisbane. This scale of release has not been required since Wivenhoe Dam was completed.

- Smaller events with combined river flows of less than 1,900 cubic meters per second measured at the Mt Crosby weir which can inundate up to seven rural bridges isolating up to 50 households and causing inconvenience to many more. There has been six of these events since 1984, when Wivenhoe Dam was completed.

Our assessment of the benefits of lowering dam storage levels to reduce flooding impacts is below for these two event types.

Large events

Seqwater has advised that releases of greater than 3,500 cubic metres per second (m³/s) from Wivenhoe Dam are likely to impact on urban areas in Brisbane. Events of this nature have not been experienced since Wivenhoe Dam was completed in 1984.

Seqwater has advised that:

- pre-emptive releases are likely to have negligible impacts on the extent of these impacts
- any impacts would require releases of at least 250,000 ML. This is equivalent to a release of about 16 per cent of the combined storage capacity of Wivenhoe and Somerset dams.

A pre-emptive release of this scale is not recommended, based on information currently available. The potential water security impacts are considered to be more significant than the negligible benefits. These potential security impacts include costs associated with the earlier or avoidable operation of the desalination facility at capacity, as well as the increased probability of triggering the implementation of a drought response plan.

More detailed investigation of opportunities to actively manage flood storage is recommended, including options to increase flood supply level on a temporary basis. These investigations need to be led by Seqwater, and involve the Bureau of Meteorology, Councils and the SEQ Water Grid Manager.

In particular, it has been identified that it is worth investigating the impacts on downstream flooding for intermediate level flows (flows between 1900 and 3500 m³/s).

Seqwater will undertake extensive investigations for the Queensland Water Commission in early 2011 to examine the opportunity of raising the full supply level of Wivenhoe Dam for water supply. We will recommend that the scope of this work be widened to consider the benefits of pre-lowering storage levels based on mid range rainfall events and the reduced impacts to river levels and subsequent property impacts. It is noted that predicting rainfall intensity and location, even as events are about to occur has not been accurate, however the Bureau of Meteorology is improving its methods.

Smaller events

Pre-emptive releases from Wivenhoe Dam may reduce the impacts of minor gate releases (strategies W1A to W1E in the operational procedures).

Minor gate releases may result in the closure of up to six bridges, isolating up to 50 dwellings and inconveniencing many more. As stated in existing flood management plans, releases should be managed to minimise the impacts on these residents. Over the immediate term, Councils have requested that bridge closures be avoided over the Christmas to New Year period, if at all possible. In addition:

- There are resource implications involved in the activation of the flood control centre. Under flood management plans, the centre must be staffed by suitability qualified officers at all times during gate releases. There are currently only four quality duty engineers, who have staffed the flood centre for much of period since the initial release in October.
- Gate releases during the Christmas holiday period would result in closure of dams to water based activities, impacting on up to 150,000 people who are expected to use the recreational facilities over the holiday period.

The Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released from Wivenhoe and Somerset dams to 95 per cent of storage capacity at any time until end March 2010.

Under this recommendation, storage levels could potentially be reduced by up to about 77,250 ML. This is equivalent to the amount of water released between 13 and 16 December 2010, through a single gate.

Pre-emptive releases will be managed so as to minimise the likelihood of gate releases due to small storms and local rainfall. Storage capacity will usually be reduced through a combination of:

- Extended gate releases, especially for strategy W1C. For comparison, up to 130,000 ML/day was released during in November and mid December 2010. At this rate, the additional releases could occur in about half a day.
- Ongoing gate releases of up to 30,000 ML/day, which do not isolate any residents but can inundate some lower bridges that cause inconvenience.
- Ongoing valve release of up to about 4,300 ML/day, which can be maintained without inundate any bridges.

Actual releases would be decided by Seqwater based on operational considerations and in accordance with its statutory and regulatory obligations.

Water security impacts

The water security impacts of releases will be zero if the dams fill over the remainder of the wet season. Current forecasts indicate that there is a high probability of this occurring:

- Heavy rainfall is forecast over the Christmas holiday period, as noted above.
- Over the remainder of the wet season, advice from the Bureau of Meteorology is that sea surface temperatures are likely to remain at levels typical of a La Niña event into the first quarter of 2011, with the majority of the models indicating the event will gradually weaken over the coming months.

The water security impacts will be minimal, even if there were no further inflows to the dams. Modelling indicates that the reduction would have a minimal impact on the probability of key water Grid storages falling to 40 per cent of capacity over the next five years.

North Pine and Leslie Harrison dams

North Pine and Leslie Harrison dams do not have flood mitigation potential. Once the dams have reached Full Supply Level, all water flows into the dam must be released to protect the structural safety of the dam.

Seqwater has advised that, without major releases, there are negligible benefits to reducing volumes stored in North Pine or Leslie Harrison dams for the purposes of reducing the extent or duration of any downstream flooding impacts.

For North Pine Dam, there may be some operational and community benefits to minor releases to below Full Supply Level in some circumstances. Any gate operation at North Pine Dam results in inundation of Youngs Crossing Road, which isolates a number of residents. These impacts are currently being minimised by releasing from North Pine Dam at night. With further rainfall forecast, Seqwater may choose to reduce the level to below Full Supply Level in order to reduce the frequency of night releases or the likelihood of releases being required during the day.

For this dam, the SEQ Water Grid Manager has advised Seqwater that, from a water security perspective, it would not object to water being released to 97.5 per cent of storage capacity at any time until end March 2010.

For Leslie Harrison Dam, gate operations do not impact on public roads and generally only inconvenience the general public during large flood events. There is no scope to reduce this inconvenience through small pre-emptive releases. Accordingly, no in-principle approval be made for pre-emptive releases from this dam.

Tab 143

Gina O'Driscoll

From: Reilly Bob [REDACTED]
Sent: Friday, 24 December 2010 1:44 PM
To: Barry Dennien
Subject: FW: Wivenhoe floodwater releases: impacts on access arrangements for people--possible assistance

Hi Barry

Could you give me a ring about this matter, when convenient.

Thanks

Bob

From: Best Debbie
Sent: Thursday, 23 December 2010 8:58 PM
To: Reilly Bob
Subject: RE: Wivenhoe floodwater releases: impacts on access arrangements for people--possible assistance

Bob

I am working on the assumption that you and the WGM are looking after this one.

Thanks

Debbie

From: Reilly Bob
Sent: Thursday, 23 December 2010 12:06 PM
To: Best Debbie; Dennien Barry @ SEQWGM
Cc: 'Peter Borrows'
Subject: FW: Wivenhoe floodwater releases: impacts on access arrangements for people--possible assistance

Debbie/Barry

Further to my email below, I have discussed this matter with Peter Borrows. I suggest we meet with Peter Borrows soon to discuss the best way forward, using the approach outlined below as a starting point.

Background

- We cannot afford to compromise the flood release strategy from Wivenhoe.
- There are 32 residents serviced by Bartons Crossing across the Brisbane River, who lose all access once the combined base flow in the river plus releases from Wivenhoe, exceed 300 cubic

meters per second. (This volume has been exceeded in the two releases this year) Unlike all other people affected by low level releases from Wivenhoe, they have no alternative access, and have lost access for over five days on each occasion.

- Somerset Council endeavours to notify them 24 hours before a release, but this does not always happen (However, this is the Council's responsibility)

Proposed approach

- Somerset Council be asked, by Seqwater, if they would be willing to arrange with the affected residents for the delivery of supplies e.g. by boat, if they lose access due to flood releases for more than, say, five days (or some other agreed number of days).
- Precise arrangements would be negotiated between Council and the residents, and these would be flexible to meet their needs.
- Seqwater would reimburse Council for the reasonable costs involved.
- The communication message would be that these residents are experiencing significant inconvenience (through having no alternative access) as a result of the flood releases, so it is reasonable for the wider community to make a financial contribution, through Seqwater, towards alleviating this inconvenience.

Regards

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator.

Email: [REDACTED]

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: Reilly Bob

Sent: Wednesday, 22 December 2010 9:27 AM

To: [REDACTED]

Cc: Dennien Barry @ SEQWGM; Lyons Michael @ SEQWGM; [REDACTED] Best Debbie
Subject: Wivenhoe floodwater releases: impacts on access arrangements for people

Hi Peter

The nature of the flood releases is such that a certain number of low level crossings are submerged for a longer period of time, than would be the case in the absence of the releases.

For many of the people whose access may be affected by the floodwater releases, alternative (albeit with longer travel times) access arrangements, are available.

However, are there people who do not have alternative access arrangements? If so, roughly how many, and in what locations? Has Council/Seqwater provided them with some support arrangements to deal with these access issues?

The reason I ask is that is one thing to ask for such people to be inconvenienced (in the absence of some support arrangements) for a few days once every 5 to 10 years, but it is another matter if these events occur on a monthly (or more frequent basis) basis—as may well happen over the next few months.

If you could give me a ring to discuss the matter later this week, then that would be appreciated.

Thanks

Bob

Bob Reilly

General Manager, Office of the Water Supply Regulator

Teleph [REDACTED]

Email: [REDACTED]

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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3 sheets of A4 paper = 1 litre of water

Tab 144

Gina O'Driscoll

From: John Adcock
Sent: Friday, 24 December 2010 2:05 PM
To: Barry Dennien; Dan Spiller; Scott Denner; Mike Foster; [REDACTED]
Cc: Michael Lyons
Subject: KHOLO BRIDGE DAMAGED - out of action until 2011

Importance: High

I've just been advised by BCC that KHOLO Bridge has been severely damaged. They are preparing Community Service Announcement now claiming this is due to dam releases. Will be unserviceable until early 2011. Am chasing pictures. Will advise more soon.

John Adcock
Stakeholder Relations Manager
SEQ Water Grid Manager
Phone: [REDACTED]
Email: [REDACTED]

Office: 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.



no lifeguards here

A WATER SAFETY INITIATIVE FROM 

Swimming in weirs and
flowing water is **FA**

rethink

Tab 145

Gina O'Driscoll

From: Bradley John [REDACTED]
Sent: Friday, 24 December 2010 2:08 PM
To: Ken Smith
Cc: Best Debbie; Barry Dennien; Wall Terry; Withers Greg; [REDACTED]
Subject: King Tides
Attachments: Document.pdf

Ken
et al

You'll recall the Premier asked at SDMG in the context of the SEQ flood risk when the next king tides were expected.

As per the attached - Brisbane north expected on 21 January 2011 with Gold Coast Seaway on 25 January 2011

Regards

John Bradley
Director-General
Department of Environment and Resource Management
Telephone: [REDACTED]
Email: [REDACTED]
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: Level 13 Digital Sender
[mailto:DigitalSender9200C@derm.qld.gov.au]
Sent: Friday, 24 December 2010 2:02 PM
To: Bradley John
Subject:

This document was digitally sent to you using an HP Digital Sending device.

+-----+
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
+-----+

Attachment 1 – KING TIDES 2011

| Place | Summer | | Winter | | HAT |
|-----------------------------|------------------|--------|------------------|--------|------|
| | Date Time | Height | Date Time | Height | |
| Gold Coast Seaway | 25/01/2011 09:17 | 1.81m | 18/05/2011 21:12 | 1.84m | 1.91 |
| Brisbane Bar | 21/01/2011 10:37 | 2.65m | 17/05/2011 21:41 | 2.63m | 2.73 |
| Mooloolaba | 21/01/2011 09:06 | 2.09m | 17/05/2011 20:13 | 2.09m | 2.17 |
| Noosa Head | 21/01/2011 09:06 | 2.20m | 17/05/2011 20:05 | 2.21m | 2.28 |
| Urangan | 19/02/2011 09:21 | 4.20m | 29/08/2011 20:55 | 4.06m | 4.28 |
| Fraser Island (Waddy Point) | 21/01/2011 08:55 | 2.23m | 18/05/2011 20:55 | 2.25m | 2.37 |
| | 26/11/2011 08:24 | 2.29m | | | |
| Bundaberg (Burnett Heads) | 19/02/2011 09:13 | 3.50m | 17/05/2011 20:42 | 3.35m | 3.67 |
| Gladstone | 19/02/2011 09:52 | 4.69m | 18/04/2011 21:35 | 4.57m | 4.83 |
| Port Alma | 18/02/2011 09:11 | 5.78m | 17/05/2011 21:20 | 5.55m | 5.98 |
| Roslyn Bay | 18/02/2011 09:00 | 5.00m | 17/05/2011 21:12 | 4.81m | 5.14 |
| Hay Point | 18/02/2011 10:44 | 6.99m | 17/05/2011 22:54 | 6.71m | 7.14 |
| Mackay Outer Harbour | 18/02/2011 10:47 | 6.45m | 17/05/2011 22:56 | 6.20m | 6.58 |
| Shute Harbour | 18/02/2011 10:40 | 4.17m | 17/05/2011 22:54 | 4.07m | 4.33 |
| Bowen | 18/02/2011 09:47 | 3.57m | 17/05/2011 22:13 | 3.42m | 3.73 |
| Abbot Point | 18/02/2011 09:34 | 3.43m | 17/05/2011 21:56 | 3.26m | 3.60 |
| Townsville | 18/02/2011 09:00 | 4.01m | 17/05/2011 21:19 | 3.75m | 4.11 |
| Lucinda Offshore | 18/02/2011 09:05 | 3.87m | 17/05/2011 21:23 | 3.62m | 3.96 |
| Mourilyan Harbour | 18/02/2011 09:05 | 3.41m | 17/05/2011 21:20 | 3.20m | 3.50 |
| Cairns | 18/02/2011 09:17 | 3.39m | 17/05/2011 21:33 | 3.19m | 3.50 |
| Port Douglas | 18/02/2011 09:05 | 3.26m | 17/05/2011 21:21 | 3.04m | 3.36 |
| Twin Island | 18/02/2011 12:12 | 3.65m | 16/06/2011 00:17 | 3.50m | 3.80 |
| Thursday Island | 17/02/2011 12:07 | 3.65m | | | 3.86 |
| Goods Island | 28/01/2011 10:53 | 4.01m | | | 4.07 |
| Booby Island | 28/01/2011 10:49 | 4.30m | | | 4.31 |
| Weipa | 21/01/2011 16:56 | 3.16m | | | 3.38 |
| Karumba | 20/01/2011 20:22 | 4.41m | | | 4.88 |
| | 26/12/2011 20:53 | 4.46m | | | |
| Mornington Island | 19/01/2011 20:50 | 3.69m | | | 3.67 |

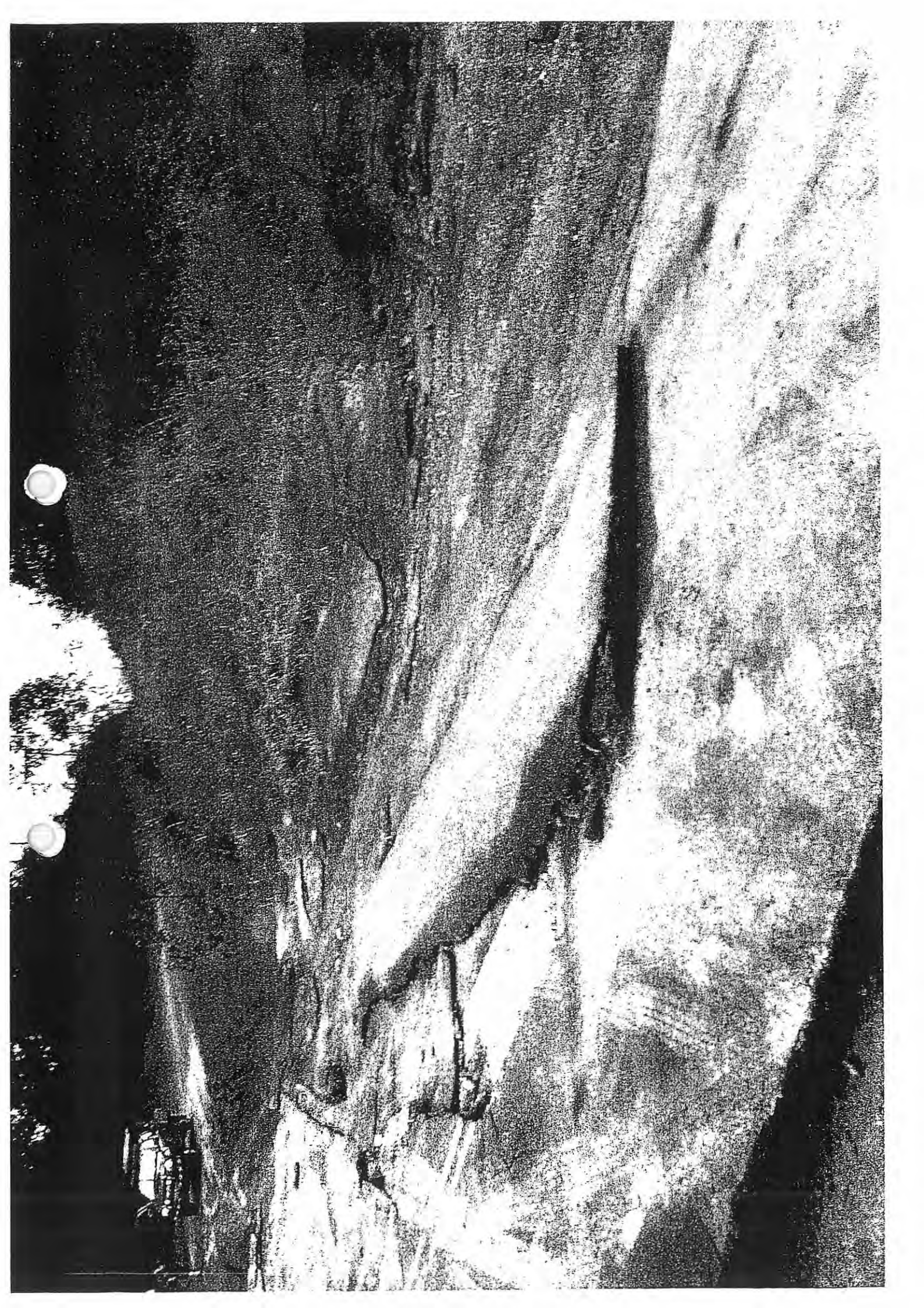
Tab 146

Gina O'Driscoll

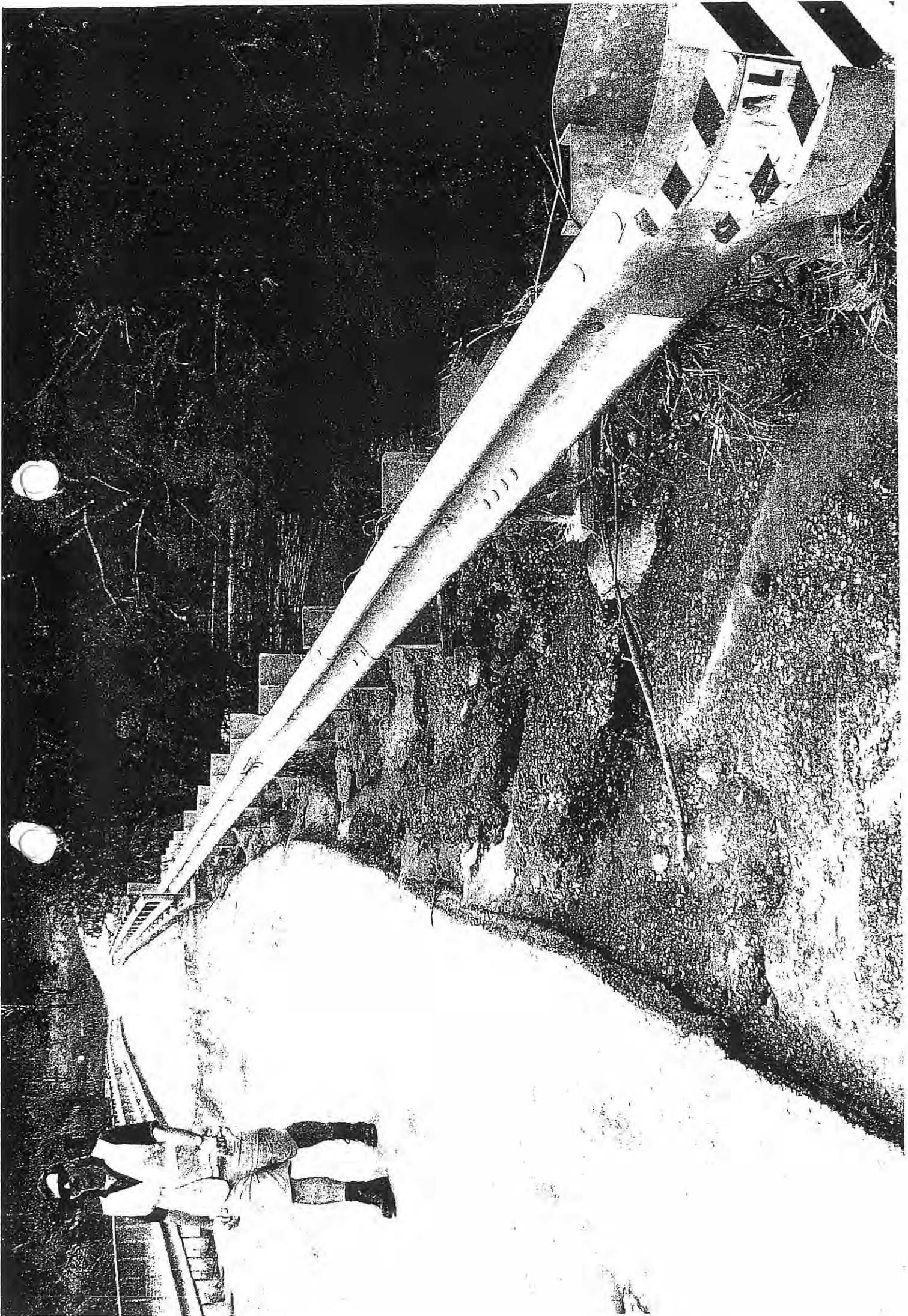
From: John Adcock
Sent: Friday, 24 December 2010 2:09 PM
To: Barry Dennien; Scott Denner; Dan Spiller; Mike Foster; Michael Lyons
Subject: FW: Kholo Bridge
Attachments: IMG_1431.JPG; IMG_1430.JPG; IMG_1432.JPG; IMG_1429.JPG

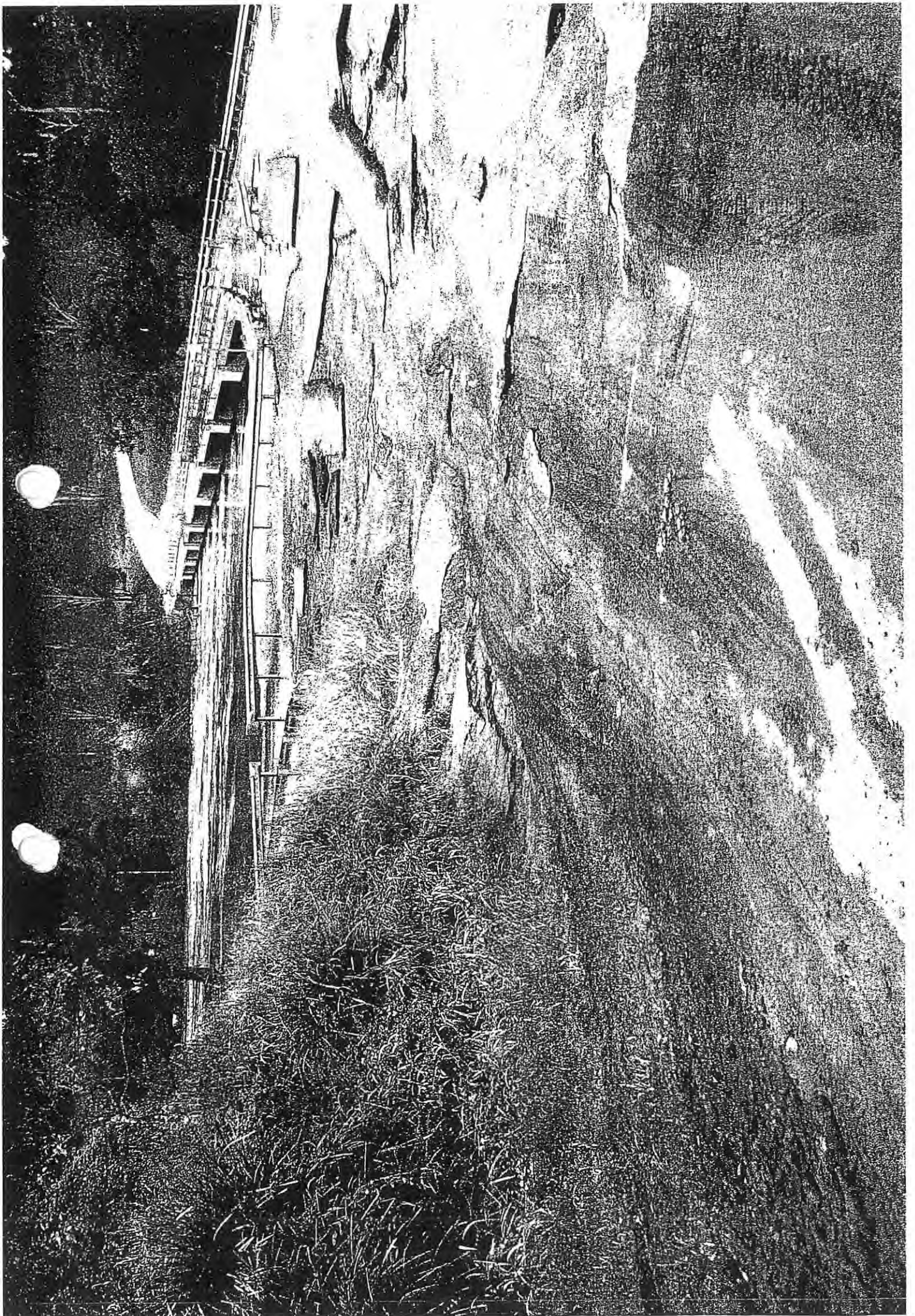
From: Lisa.M Martin [REDACTED]
Sent: Friday, 24 December 2010 2:04 PM
To: John Adcock
Subject: Kholo Bridge

This message has passed through an insecure network.
Please direct all enquiries to the message author.









Tab 147

Gina O'Driscoll

From: John Adcock
Sent: Friday, 24 December 2010 2:29 PM
To: Dan Spiller; Barry Dennien; Mike Foster
Cc: Michael Lyons; Scott Denner
Subject: Kholo Bridge damage

Discussion with Barry – initial key messages to consider

- Water Grid is concerned about potential for property damage associated with dam releases
- Damage to downstream infrastructure and property would be significantly greater in heavy weather events if the dam wasn't there
- Water Grid performs an important role balancing flood mitigation and water security
- The Kholo Bridge is designed to be covered by water from dam releases
- Any current damage to Kholo Bridge may be contained to the approaches to the bridge (suggested by Scott based on photos – TBC)

Mike F: can you confirm the Seqwater legal liability status associated with dam releases (I think this is fine if made in accord with gazetted flood release plans).

Media plan at this stage

- No proactive work
- draft preparatory talking points in case request for response after BCC release their announcement

To offer no comment may appear uncaring or seen to be dodging the issue

Cheers

John Adcock

Stakeholder Relations Manager

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.



Swimming in weirs and
flowing water is FA1

rethink

Tab 148

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 2:39 PM
To: Peter Borrows; Rob Drury [REDACTED]
Subject: FW: Wivenhoe Dam levels
Attachments: Seqwater letter re Min's request on options for release of water.docx; image001.gif

From: Barry Dennien
Sent: Friday, 24 December 2010 2:32 PM
To: [REDACTED]
Cc: Dan Spiller
Subject: FW: Wivenhoe Dam levels

Rob

Sorry not sure what happened there.

See document with regards lowering the levels of Wivenhoe and North Pine Dams below full supply level over this coming wet season to assist in flood mitigation.

Regards

Barry Dennien

Chief Executive Officer

SEQ Water Grid Manager

Phone [REDACTED]

Email: [REDACTED]

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.

Trim Ref: D/10/8129

24 December 2010

Mr Peter Borrows
Chief Executive Officer
Seqwater
PO Box 16146
City East Qld 4002

Dear Mr Borrows

I refer to our letter of [redacted] regarding the request from Minister Stephen Robertson to consider options to, and the benefits of releasing water from key storages in anticipation of major inflows over the coming summer period.

As you are aware, your officers have since provided advice about options and benefits.

I advise that, from a water security perspective, the SEQ Water Grid Manager has no in principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, we have no in principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined full supply level
- North Pine Dam being drawn down to 97.5 per cent of its full supply level.

Any specific releases to below Full Supply Level should be notified to myself or, if I am not available, the Director of Operations, SEQ Water Grid Manager.

Any releases should be managed by Seqwater in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

I acknowledge that these releases would have a negligible impact on the extent and duration of flooding during a major flood event. However, they may provide the ability to minimise the community and operational impacts of minor releases.

We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the *South East Queensland System Operating Plan* or our ability to meet our supply obligations to SEQ Water Grid customers.

From a water security perspective, I am advised that the Queensland Water Commission also does not have any objections to the proposed release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

I am keen to continue to work with you to investigate the optimal arrangements for future wet seasons. In particular, I am keen to work with you to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for increased water supply be expanded to include options to lower the full supply level for managing flood events.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director of Operations, by telephone on [REDACTED] or via email at [Dan.Spiller@\[REDACTED\]](mailto:Dan.Spiller@[REDACTED])

Yours sincerely

Barry Dennien
Chief Executive Officer

Tab 149

Gina O'Driscoll

From: Dan Spiller
Sent: Friday, 24 December 2010 2:41 PM
To: stephen.robertson [REDACTED] John Bradley [REDACTED]
Debbie Best [REDACTED] Tim Watts [REDACTED]
[REDACTED] Lance McCallum [REDACTED]
[REDACTED] Geoff Stead [REDACTED]
[REDACTED] lauren.sims [REDACTED]
Cc: Barry Dennien; John Adcock; bob.reilly [REDACTED] Damien Brown
(damien.brown [REDACTED] mfoster [REDACTED] Rob Drury
(rdrury [REDACTED])
Subject: Technical Situation Report and Kholo Bridge damage
Attachments: Technical Stuation Report W19.docx

All,

The Wivenhoe Dam gate closed at 1pm today, with the dam just above FSL. Releases through the valve will continue, with ongoing monitoring of inflows. Some more detail is contained in the attached technical report.

We have just been advised by BCC that Kholo Bridge has been severely damaged (I will forward photos seperately). They are preparing Community Service Announcement now claiming this is due to dam releases. The bridge will be unserviceable until early 2011.

☉ We will try to work with BCC officers regarding the wording of the release. For this event, the flows were due to a combination of the gate opening and significant Locker Valley flows. Flows have been no more than in October. In October, College's Crossing was damaged with Ipswich City Council making public statements at that time. EMQ dealt with the claims for damages. Seqwater is not liable, provided it made releases in accordance with the management plan.

For information, today's media updates is below. With the gate now closed, we will only issue updates as the situation changes. (Aside from the release to the CM on Monday around the Wivenhoe Dam fact sheet.)

From today, I am A/CEO. Please call on [REDACTED] if you have any queries or require any further information.

Regards,
Dan

WEEKLY GRID UPDATE FRIDAY 24 DECEMBER 2010

☉ Please note, this will be the last formal update from the Water Grid team until Tuesday January, unless there are significant changes to current operational procedures.

WATER GRID READY FOR HOLIDAY SEASON

Over the last few weeks, Water Grid operators have been managing controlled releases from the region's key storages to ensure the Grid is prepared for further rains this summer.

Water Grid spokesperson, Barry Dennien, said Brisbane's key storage, Wivenhoe Dam, has released more than 320,000 megalitres since the gates were opened earlier this month.

"With further rain expected this summer it is important we retain the dam at just below full drinking water supply level for the safety of South East Queensland," Mr Dennien said.

On top of storing 1.15 million megalitres of drinking water, Wivenhoe Dam can also temporarily store an additional 1.45 million megalitres, equal to 2.5 times the volume of Sydney Harbour.

"Although this may sound like a large flood buffer, Wivenhoe's flood storage compartment can fill in less than three days following heavy rainfall," Mr Dennien said.

"In fact, following heavy rainfall in October, Wivenhoe Dam received inflows equivalent to almost half the flood compartment capacity in just a few days.

"It is important for the flood storage compartment to be emptied through controlled releases following heavy rainfall and inflows into the dam. As a result of the recent releases, the flood compartment is now empty, ready for any inflows over the holiday season."

DAM RELEASES

As at 8am today the following water releases are being made: Please note that the release strategy may change according to weather conditions.

One gate at Wivenhoe Dam remains open, releasing a daily average of around 30,000 megalitres.

Kholo Bridge and Burtons Bridge have re-opened to traffic. Twin Bridges, Savages Crossing and Colleges Crossing are currently closed.

Releases from Wivenhoe will continue over the holiday period depending on rainfall and inflows. Releases from other key storages may also occur depending on the weather.

Water Grid representatives have been working closely with councils since the releases from Wivenhoe and other dams began to ensure any likely impacts in surrounding areas were minimised.

Members of the public seeking information on potential impacts in their local areas, including road closures, should direct inquiries to their local councils.

For recorded information on current dam releases in South East Queensland, members of the public are encouraged to call **1800 613 122**.

For information on local flooding, including road closures, contact the local council or visit their website.

The council areas that are affected by Wivenhoe Dam releases are:

- o Somerset Regional Council; 5424 4000; www.somerset.qld.gov.au
- o Ipswich City Council; 3810 6666; www.ipswich.qld.gov.au
- o Brisbane City Council; 3403 8888; www.brisbane.qld.gov.au

WEATHER CONSIDERATIONS FOR CAMPERS

Campers heading to South East Queensland dams are being urged to consider alternative arrangements this holiday season, with further wet weather expected over coming weeks.

Water Grid spokesperson Barry Dennien said every effort will be made to keep recreational sites open, however public safety is paramount.

"It is possible that some sites may be closed at short notice due to heavy weather and we are asking campers to explore other options."

The region's dam operators, Seqwater, are closely monitoring the levels, inflows and releases at all of South East Queensland's major dams.

Seqwater is offering a refund to those campers who wish to cancel bookings at Water Grid assets due to raised dam levels and flooding.

Mr Dennien said those campers wishing to continue with their plans are being advised that if lakes rise to unsafe levels, Seqwater rangers will be asking people to leave.

"Safety is a top priority for us, and we are asking members of the public to cooperate with all warnings and requests, to ensure everyone is kept safe."

Wivenhoe and Somerset dams are currently open for all water-based recreational activities, however this may change at short notice depending on weather.

The following recreation sites at Wivenhoe Dam remain closed:

- Billies Bay
- River access at Atkinsons Crossing

All other recreational sites have reopened however this status could change due to weather.

For more information on the status of Water Grid recreation sites visit www.watergrid.com.au

Some camping grounds are fully booked, but if further heavy rainfall is received, it may be necessary for one or more of the campgrounds to close. Please contact the operators of the various camp grounds of information specific to each site.

GRID TWELVE

The current supply capacity of the **Grid Twelve is 100.0 %**, no change from last week. The Grid Twelve makes up nearly 90 % of South East Queensland's total water storage volume. See below for further breakdowns:

| Dam | Current capacity (%) | Change in capacity on last week (%) | Rainfall (mm) over past seven days |
|-----------------|----------------------|-------------------------------------|------------------------------------|
| Wivenhoe | 100% | No change | 93mm |
| Somerset | 100% | No change | 111mm |
| North Pine | 97.0% | 2.6% ↓ | 86mm |
| Linze | 97.2% | 3.6% ↑ | 73mm |
| Baroon Pocket | 100% | No change | 110mm |
| Leslie Harrison | 96.8% | 2.5% ↓ | 81mm |
| Ewen Maddock | 100% | No change | 134mm |
| Cooloolabin | 100% | No change | 149mm |
| Lake Kurwongbah | 100% | No change | 86mm |
| Lake MacDonald | 100% | No change | 109mm |
| Little Nerang | 100% | No change | 73mm |
| Wappa | 100% | No change | 149mm |

The current supply capacity of the **Grid Three 3 (Wivenhoe, Somerset and North Pine) is 100 %**, no change from last week.

Note: The Grid Twelve and Grid Three % full is calculated by dividing the combined current storage volume of the dams in the group by the combined full storage volume.

DID YOU KNOW?

In times of heavy rainfall, the strategic management of dams is essential to assist in the protection of South East Queensland against flood. In accordance with the requirements of the Water Supply Act 2008, Seqwater, who are part of the Water Grid, maintains a comprehensive Dam Safety Management Program covering its 25 referable dams.

CONTACT DETAILS

Please direct all media enquiries to the Water Grid Communications Unit:

Phone: [REDACTED]

Email: [REDACTED]

Website: www.watergrid.com.au

TECHNICAL SITUATION REPORT

| | | | | | |
|------------|-----|---------------------|------------|---------------------|--------|
| TSR Number | W19 | Date of TSR release | 24.12.2010 | Time of TSR release | 1.30pm |
|------------|-----|---------------------|------------|---------------------|--------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | | | | | | | | | | | |
|--------------------|--|-----------------|----------------|----------|--------------------|-----------|--|-----------------|--|-----------------|---|
| Current objectives | <ul style="list-style-type: none"> Monitor the rain overnight and ongoing inflows. | | | | | | | | | | |
| Strategy | <ul style="list-style-type: none"> Close gates at Wivenhoe at 1.00pm Wivenhoe continues to release 4,200ML per day through hydro and valves. | | | | | | | | | | |
| Key considerations | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Storage levels:</td> <td>Just above FSL</td> </tr> <tr> <td>Inflows:</td> <td>Ongoing base flows</td> </tr> <tr> <td>Rainfall:</td> <td></td> </tr> <tr> <td>Lockyer/Bremer:</td> <td>Flows increasing. With further rainfall, may inundate local bridges with further rainfall.</td> </tr> <tr> <td>Brisbane River:</td> <td>Any minor impact on tides still decreasing.</td> </tr> </table> | Storage levels: | Just above FSL | Inflows: | Ongoing base flows | Rainfall: | | Lockyer/Bremer: | Flows increasing. With further rainfall, may inundate local bridges with further rainfall. | Brisbane River: | Any minor impact on tides still decreasing. |
| Storage levels: | Just above FSL | | | | | | | | | | |
| Inflows: | Ongoing base flows | | | | | | | | | | |
| Rainfall: | | | | | | | | | | | |
| Lockyer/Bremer: | Flows increasing. With further rainfall, may inundate local bridges with further rainfall. | | | | | | | | | | |
| Brisbane River: | Any minor impact on tides still decreasing. | | | | | | | | | | |

Somerset Dam

Sluice Gate and valve operations have ceased for the time being.

Wivenhoe Dam

Radial Gate operations ceased at 1.00pm.
A regulator and hydro will be opened to release around 4,200ML per day.

The Flood Centre will monitor overnight and consider options tomorrow morning based on inflows and rainfall.

Further gate operations may be necessary in coming days.

Impacts of Wivenhoe Dam Releases

Twin Bridges, Savages Crossing and Colleges Crossing may still be affected by flows from the Lockyer.

| | |
|---|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

BoM has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|--------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | |
|--------------|------|------|--------------|
| Next TSR due | Date | Time | Gate opening |
|--------------|------|------|--------------|

Table 50

Gina O'Driscoll

From: Dan Spiller
Sent: Friday, 24 December 2010 2:41 PM
To: stephen.robertson [REDACTED]; John Bradley (john.bradley [REDACTED])
Debbie Best (debbie.best [REDACTED]); Tim Watts (tim.watts [REDACTED]); Lance McCallum (lance.mccallum [REDACTED]); Geoff Stead (geoff.stead [REDACTED]); Lauren Sims (lauren.sims [REDACTED])
Cc: Barry Dennien; John Adcock; bob.reilly [REDACTED]; Damien Brown (damien.brown [REDACTED]); mforster [REDACTED]; Rob Drury (rdrury [REDACTED])
Subject: Kholo Bridge release and photos
Attachments: IMG_1431.JPG; IMG_1430.JPG; IMG_1432.JPG; IMG_1429.JPG

All,

Further to previous email, we have just received a copy of the draft release from BCC (see below). Reference to the bridge is factual.

Barry and I spoke to the CEO of BCC about flood impacts this morning, and I will continue to do so over coming days.

Photos are also attached.

Regards,
Dan

Tidal flooding continues but water levels decreasing

23 December, 2010

Minor tidal flooding again occurred in some areas of Brisbane earlier today due to a higher than usual tide, however water levels are starting to decrease from what was seen earlier in the week as part of the normal tide cycle.

Minor tidal flooding occurred today on roads, parks and bikeways in Albion, Newstead, Windsor, Bowen Hills and East Brisbane.

Roads affected included Waterloo and Ross Street in Newstead, Sandgate Road at Albion, and Windsor's Northey Street.

The roads affected today are expected to experience some tidal flooding tomorrow at high tide, which is due at 12:21pm (Brisbane Bar), and also possibly on Sunday.

Motorists are advised to avoid parking in the areas that may be affected by tidal flooding over the weekend and to be aware that some sections of these roads and bikeways may be closed to vehicles and bikes for a short period during and following the high tide peak.

Residents are also advised that Kholo Bridge on Kholo Road is currently closed due to major flood damage. Repairs will commence next week and the crossing is expected to reopen in the first week of January. Motorists will need to seek alternative routes while works are undertaken.

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

For more information, phone Council on 3403 8888.

Table 151

Gina O'Driscoll

From: Mike Foster [REDACTED]
Sent: Friday, 24 December 2010 2:45 PM
To: John Adcock; Dan Spiller; Barry Dennien
Cc: Michael Lyons; Scott Denner; Peter Borrows; Rob Drury
Subject: Re: Kholo Bridge damage

As discussed as long as seqwater operates in accordance with the flood manual any liability for damage etc rests with state. Emergency services qld is the contact in relation to any damage claims

Chrs mike

From: John Adcock <John.Adcock [REDACTED]>
To: Dan Spiller <Daniel.Spiller [REDACTED]>; Barry Dennien <Barry.Dennien [REDACTED]>; Mike Foster
Cc: Michael Lyons <Michael.Lyons [REDACTED]>; Scott Denner <Scott.Denner [REDACTED]>
Sent: Fri Dec 24 14:29:10 2010
Subject: Kholo Bridge damage

Discussion with Barry – initial key messages to consider

- Water Grid is concerned about potential for property damage associated with dam releases
- Damage to downstream infrastructure and property would be significantly greater in heavy weather events if the dam wasn't there
- Water Grid performs an important role balancing flood mitigation and water security
- The Kholo Bridge is designed to be covered by water from dam releases
- Any current damage to Kholo Bridge may be contained to the approaches to the bridge (suggested by Scott based on photos – TBC)

Mike F: can you confirm the Seqwater legal liability status associated with dam releases (I think this is fine if made in accord with gazetted flood release plans).

Media plan at this stage

- No proactive work
- draft preparatory talking points in case request for response after BCC release their announcement

To offer no comment may appear uncaring or seen to be dodging the issue

Cheers

John Adcock

Stakeholder Relations Manager

SEQ Water Grid Manager

Phone [REDACTED]

Email: [REDACTED]

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.



no inguards here

A WATER SAFETY INITIATIVE FROM



Swimming in weirs and
flowing water is FAT

Retink

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

Tab 152

Gina O'Driscoll

From: Peter Baddiley [REDACTED]
Sent: Friday, 24 December 2010 3:24 PM
To: Dan Spiller
Cc: James Stuart; Barry Dennien
Subject: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]
Attachments: Brisbane City rating - BOM - use with caution.jpg; SEQ_flood_info.xls

Dan

As discussed ...

1. Pls find attached a diagram which relates total Brisbane River flow at Brisbane City gauge with expected river level, conditional on tide levels in Moreton Bay - very high tide (at the Brisbane Bar, the "pink" line) and low tide (the "blue" line). Pls use as guidance only and note that the flows in various Brisbane River model studies are not consistent with each other. The flows I have provided are based on the Bureau's modelling. Please do not distribute this figure.

2. The attached spreadsheet provides some guidance material supplied to EMQ but note that it refers to max point rainfalls relating to flood magnitude. Areal rainfalls are clearly less than the localised maximums - but given an indication that the Brisbane R catchment requires a large scale rain situation persisting over days with embedded locally high rainfall totals.

3. For example, a report on the Brisbane 1974 flood is at:

http://www.bom.gov.au/hydro/flood/qld/fld_reports/brisbane_jan1974.pdf

Fig 7, page 27, shows the rainfall totals for a critical 5 day period - extensive areas of above 300mm-400mm with highest rainfall totals of 1000mm - to cause 1974 flooding (without Wivenhoe Dam).

There are studies (incl Bureau modelling) which show the reduction of the 1974 flood with the current Somerset/Wivenhoe dams mitigation - in broad terms, for an identical rainfall pattern as 1974, the flood peak in Brisbane of 5.5 metres in 1974 could be reduced by somewhere around 2 metres. (Check with BCC and SEQWater studies on this.) So 1974 type rainfalls (replicated) could produce about 3.5 metres at the Brisbane City gauge which is the threshold of major flooding in Brisbane.

4. Very coarse modelling indicates that a widespread uniform 200mm over 24 hours could produce a flood around 3 metres plus at Brisbane City, but this would could be generated from the lower Brisbane catchment (below Wivenhoe Dam). This rainfall scenario would require a significant meteorological mechanism, certainly not on the forecast horizon now.

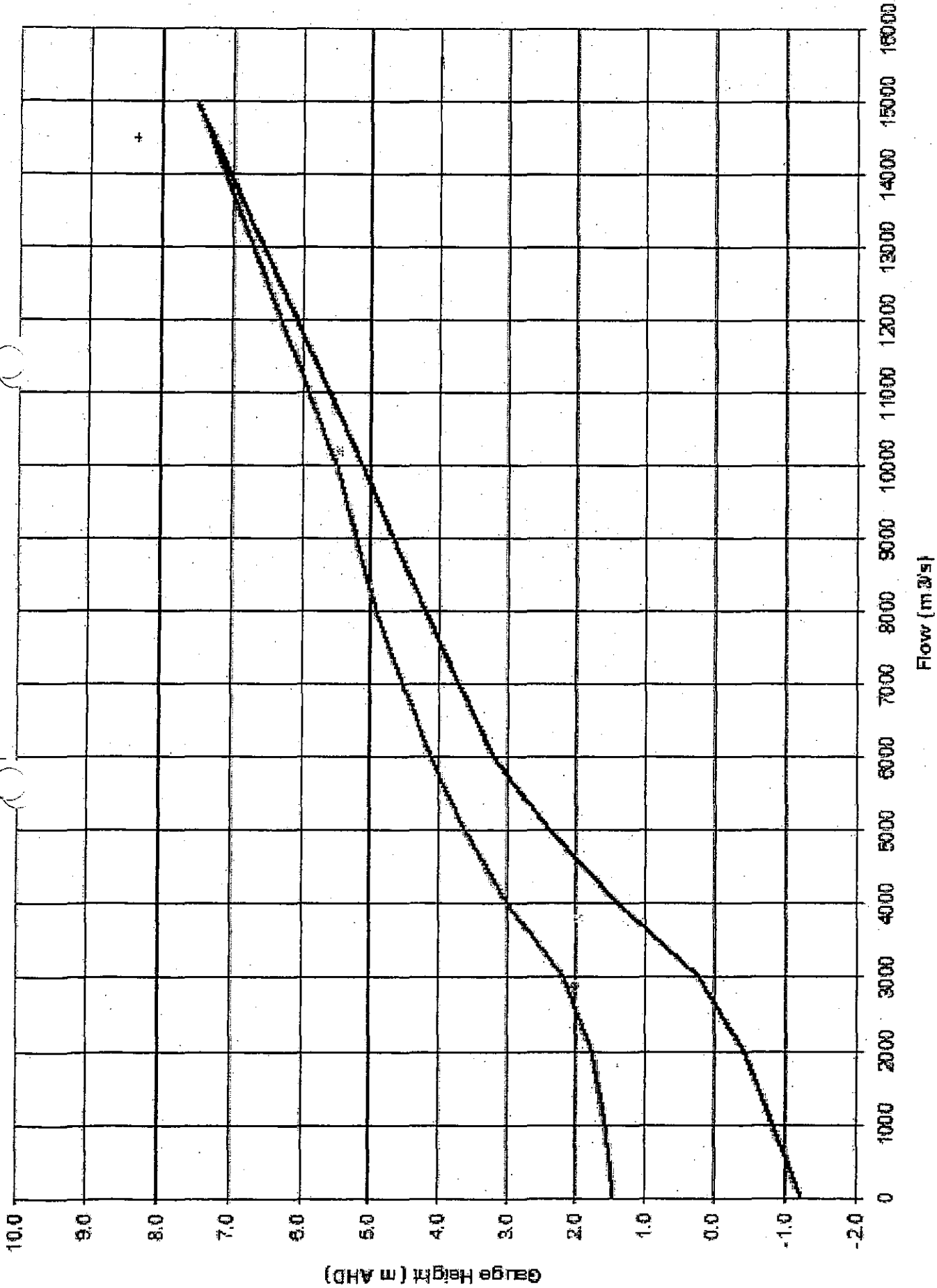
Again I emphasise that there is difficulty in making flood estimations from "average" rainfalls over the entire Brisbane catchment.

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: ([REDACTED])
EMAIL: ([REDACTED])

EMAIL for flood matters: flood.qld@bom.gov.au

WWW : www.bom.gov.au



RIVERINE FLOODING

| River Basin | Location | Recent Highest | Record Flood | Max Rainfall (record flood) | Lead Time (Peak Rain to peak flood) |
|--------------|-------------------|-------------------|--------------------|-----------------------------|-------------------------------------|
| Brisbane | Laidley | 8.5 (02/02/2001) | 8.5 (5/5/1996) | 300 to 600mm | 6 hours |
| | Gatton | 11.4 (5/5/96) | 16.33 (4/2/1893) | up to 1700 | 8 hours |
| | Brisbane | 2.0 (5/5/96) | 8.43 (14/1/1893) | up to 1700 | 48 to 72 hours |
| | Ipswich | 20.70 (28/1/1974) | 24.50 (5/2/1893) | 600 to 900mm | 12 to 18 hours |
| Albert/Logan | Beaudesert PS | 9.01 (6/3/2004) | 9.20 (12/6/1967) | 300-900mm | 24 hours |
| | Waterford | 7.33 (6/04/1990) | 13.70 (25/1/1887) | unknown | 48 hours |
| Mary | Kenilworth Bridge | 11.90 (9/2/1999) | 13.67 (27/03/1955) | widespread 400mm | 2 hours |
| | Gympie | 21.95 (10/2/1999) | 25.45 (4/2/1893) | | 20 hours |
| | Maryborough | 8.75 12/02/1999 | 12.27 (5/2/1893) | 600-2000mm | 48 hours |
| Nerang | Evandale | 2.87 (26/1/1974) | 2.87 (11/2/1954) | 750mm to 1700mm | 4 hours * |
| | Clearview | 5.48 (06/05/1996) | 10.18 (12/06/67) | 600mm to 1200mm | 2 hours * |
| Noosa | Tewantin | 1.10 (10/02/1999) | 2 (01/1968) | 300-350mm | 24 hours |

* Effect of Stage 3 Hinze Dam not included.
May be longer.

FLASH FLOODING IN COASTAL AREAS MARYBOROUGH TO NSW BORDER

For guidance only.

| | Flash flooding | | Severe flash flooding | |
|----------------------|-------------------------|-------------------|-----------------------|-------------------|
| | Localised flooding only | Widespread/creeks | Localised | Widespread/creeks |
| Duration of rainfall | 1 hour | 6 hour | 1 hour | 6 hour |
| Amount of rainfall | 25-50mm | 75-150mm | 75-100mm | 150-200mm |

Tab 153

Gina O'Driscoll

From: Peter Borrows [REDACTED]
Sent: Friday, 24 December 2010 4:31 PM
To: Barry Dennien
Cc: daniel.spiller [REDACTED] Jim Pruss; Rob Drury; Peter Borrows
Subject: Fw: Wivenhoe Dam levels
Attachments: Seqwater letter re Min s request on options for release of water.docx; ATT13094.txt

Hello Barry.

My reading of your letter is that you have no objection to Seqwater releasing water from Wivenhoe/Somerset and NP to levels below full water supply level (FSL). As you are aware, our operating procedures are to release to FSL.

To be clear, is your letter dated 24 December meant to be a direction to release to levels below FSL for these storages?

Regards Peter

From: Barry Dennien [REDACTED]
To: Peter Borrows; Rob Drury
Sent: Fri Dec 24 14:38:32 2010
Subject: FW: Wivenhoe Dam levels

From: Barry Dennien
Sent: Friday, 24 December 2010 2:32 PM
To: peter.borrows [REDACTED] rob.drury [REDACTED]
Cc: Dan Spiller
Subject: FW: Wivenhoe Dam levels

Rob

Sorry not sure what happened there.

See document with regards lowering the levels of Wivenhoe and North Pine Dams below full supply level over this coming wet season to assist in flood mitigation.

Regards

Barry Dennien
Chief Executive Officer
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

Visit: Level 15, 53 Albert Street, Brisbane

Post: PO Box 16205, City East Qld 4002

ABN: 14783 317 630

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

Trim Ref: D/10/8129

24 December 2010

Mr Peter Borrows
Chief Executive Officer
Seqwater
PO Box 16146
City East Qld 4002

Dear Mr Borrows

I refer to our letter of _ regarding the request from Minister Stephen Robertson to consider options to, and the benefits of releasing water from key storages in anticipation of major inflows over the coming summer period.

As you are aware, your officers have since provided advice about options and benefits.

I advise that, from a water security perspective, the SEQ Water Grid Manager has no in principle objection to minor releases from Wivenhoe, Somerset and North Pine dams to minimise the operational and community impacts of gate releases. Specifically, we have no in principle objection to:

- Wivenhoe and Somerset dams being drawn down to 95 per cent of their combined full supply level
- North Pine Dam being drawn down to 97.5 per cent of its full supply level.

Any specific releases to below Full Supply Level should be notified to myself or, if I am not available, the Director of Operations, SEQ Water Grid Manager.

Any releases should be managed by Seqwater in accordance with any statutory and regulatory obligations, such as the flood operations manuals and Resource Operations Plan. We recommend that you liaise with the Department of Environment and Resource Management to confirm any conditions that apply.

I acknowledge that these releases would have a negligible impact on the extent and duration of flooding during a major flood event. However, they may provide the ability to minimise the community and operational impacts of minor releases.

We have assessed the water security implications of the release to be negligible, having no impact on our ability to meet the risk criteria specified in the *South East Queensland System Operating Plan* or our ability to meet our supply obligations to SEQ Water Grid customers.

From a water security perspective, I am advised that the Queensland Water Commission also does not have any objections to the proposed release.

Please note that these arrangements are intended to apply for the current wet season only, taking into account the level of storages and the rainfall forecasts over coming months.

I am keen to continue to work with you to investigate the optimal arrangements for future wet seasons. In particular, I am keen to work with you to further investigate options that may reduce the frequency or duration of intermediate level flows (between 1,900 and 3,500 cubic metres per second). In addition, we recommend that the investigations with the Queensland Water Commission to examine the opportunity of raising the full supply level of Wivenhoe Dam for increased water supply be expanded to include options to lower the full supply level for managing flood events.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact Mr Dan Spiller, Director of Operations, by telephone on [REDACTED] or via email at [REDACTED]

Yours sincerely

Barry Dennien
Chief Executive Officer

Tab 154

Barry Dennien

From: Barry Dennien
Sent: Friday, 24 December 2010 4:53 PM
To: Peter Borrows
Cc: Dan Spiller
Subject: Re: Wivenhoe Dam levels

Peter

Sorry for fast process around this Xmas and the forecast weather has made it necessary

You are right Seqwater can release down to the levels below fsl outlined in the letter all we ask is to be notified

This permission is from today and does not instruct you to manage to these levels it just gives you more flexibility in your decision making

Regards
Barry Dennien

On 24/12/2010, at 4:31 PM, "Peter Borrows" <pborrows [REDACTED]> wrote:

Hello Barry.

My reading of your letter is that you have no objection to Seqwater releasing water from Wivenhoe/Somerset and NP to levels below full water supply level (FSL). As you are aware, our operating procedures are to release to FSL.

To be clear, is your letter dated 24 December meant to be a direction to release to levels below FSL for these storages?

Regards Peter

From: Barry Dennien <Barry.Dennien [REDACTED]>
To: Peter Borrows; Rob Drury
Sent: Fri Dec 24 14:38:32 2010
Subject: FW: Wivenhoe Dam levels

From: Barry Dennien
Sent: Friday, 24 December 2010 2:32 PM
To: peter.borrows [REDACTED] rob.drury [REDACTED]
Cc: Dan Spiller
Subject: FW: Wivenhoe Dam levels

Rob

Sorry not sure what happened there.

See document with regards lowering the levels of Wivenhoe and North Pine Dams below full supply level over this coming wet season to assist in flood mitigation.

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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<Seqwater letter re-Min s request on options for release of water.docx>

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Tea
1555

Gina O'Driscoll

From: Dan Spiller
Sent: Sunday, 26 December 2010 11:18 AM
To: ceo [REDACTED]
Cc: Barry Dennien
Subject: FW: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]

Colin,

As mentioned on Friday. Obviously, the rainfall forecasts are now superceded. However, I think the figure is a useful reference guide (noting Peter's provisos below). I will forward the original email with the figure seperately - there are some limitations on our remote login.

In the new year, I am keen to progress the rainfall-flood scenarios that Peter mentions. I suspect much of the information exists already, but needs to be summarised up and appropriate caveats made. As Peter notes, your guys would have a key role.

Regards,
Dan

From: Peter Baddiley [P.Baddiley [REDACTED]]
Sent: Sunday, 26 December 2010 11:03 AM
To: Dan Spiller
Cc: Barry Dennien; James Stuart
Subject: RE: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]

Dan

I am ok with forwarding the emil & figure to Colin Jensen - just like it to stay on a personal communication level so that the info (which has a lot of complexities without proper context & understanding) does not get used in some formal publication/report or procedures etc.

The development of 'summary' guidance material for Brisbane R rainfall-flood scenarios would need a lot more work - there is a lot of information in existing studies. BCC staff (Evan Caswell/James Charalombous/Ken Morris) have done a lot of Brisbane R modelling so they should well placed to provide guidance within BCC, with the Bureau and Seqwater assisting as needed.

regards, peter

From: Dan Spiller [Daniel.Spiller [REDACTED]]
Sent: Friday, 24 December 2010 4:04 PM
To: Peter Baddiley
Cc: Barry Dennien; James Stuart
Subject: RE: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]

Peter,

That is very useful. I will take some time to digest it, and get back to you or the flood centre with any questions.

We may have mentioned that Colin Jensen (CEO BCC) had similar queries to us. Would you be happy to forward the email to him, with or without the diagram?

Thanks for your prompt assistance.

Regards,
Dan

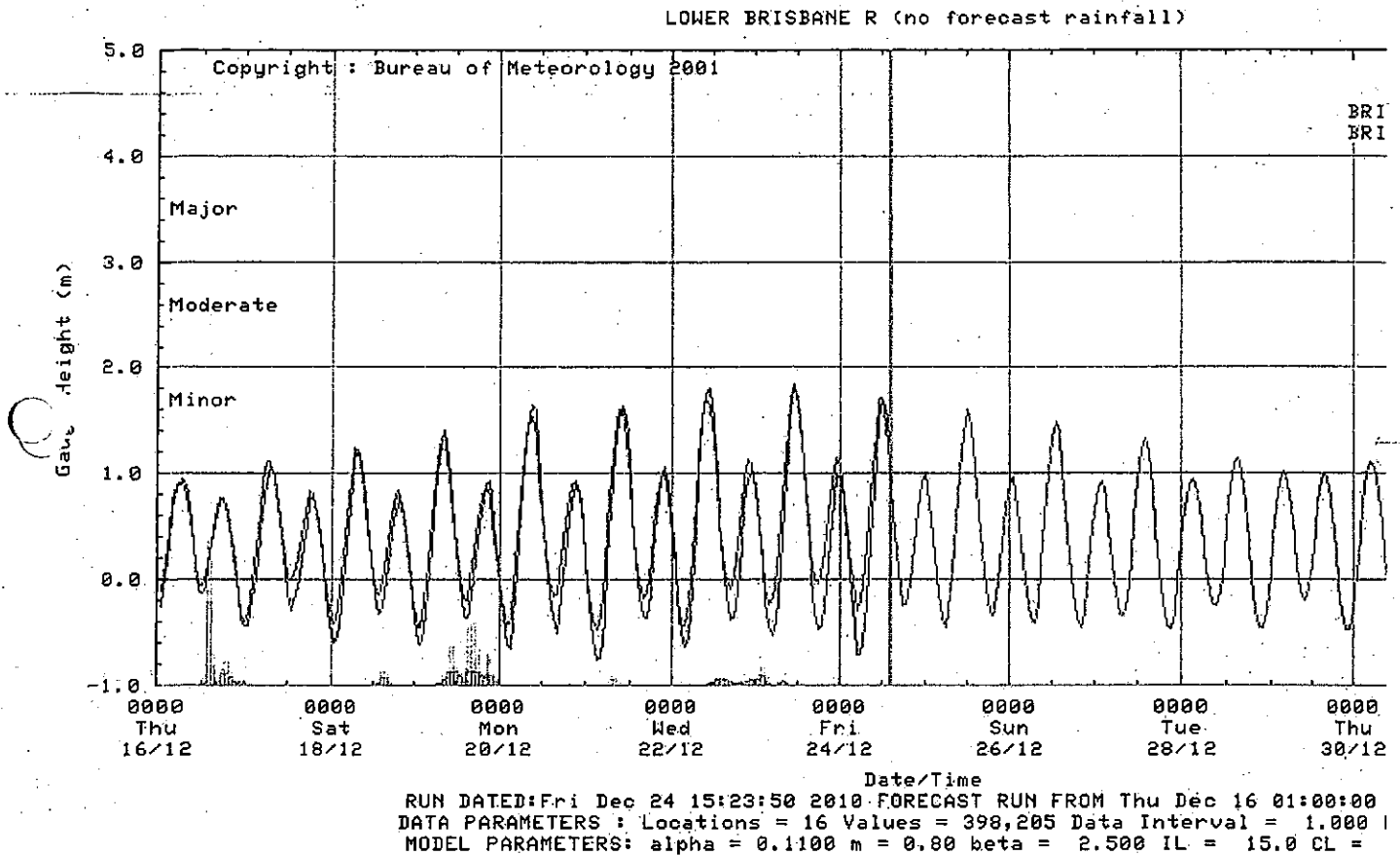
From: Peter Baddiley [P.Baddiley [REDACTED]]
Sent: Friday, 24 December 2010 3:31 PM
To: Dan Spiller

Cc: Barry Dennien; James Stuart; Peter Baddiley

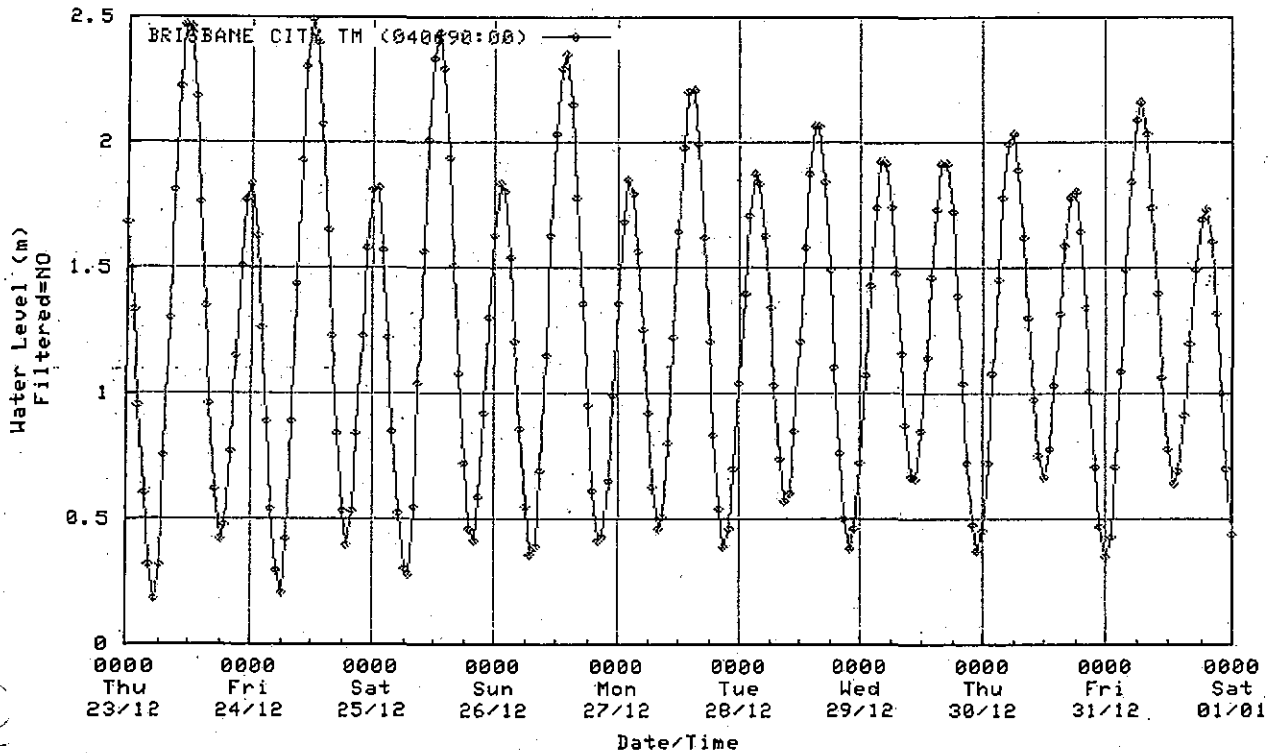
Subject: FW: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]

Dan

I think you also asked for a comment re Brisbane tides next week. The high tides are progressively lower next week that they were this week ... see this figure from our modelling which assumes that a +0.3 metre anomaly (in ocean/bay levels) persists for the next few days.:



Predicted tides (without the anomaly) reduce by about 0.5 metres over the next week, as seen in this figure (on tide datum, subtract 1.24 metres for AHD):



Peter Baddiley
Regional Hydrology Manager
Climate & Water Division
Bureau of Meteorology
Level 21, 69 Ann Street
GPO Box 413, BRISBANE, QLD, AUSTRALIA 4001
Phone: [REDACTED]
EMAIL: [REDACTED]

EMAIL for flood matters: flood.qld@bom.gov.au
WWW : www.bom.gov.au

From: Peter Baddiley
Sent: Friday, 24 December 2010 3:24 PM
To: 'dan.spiller' [REDACTED]
Cc: James Stuart; 'barry.dennien' [REDACTED]
Subject: Guidance material for Brisbane River flooding [SEC=UNCLASSIFIED]

Dan

As discussed ...

1. Pls find attached a diagram which relates total Brisbane River flow at Brisbane City gauge with expected river level, conditional on tide levels in Moreton Bay - very high tide (at the Brisbane Bar, the "pink" line) and low tide (the "blue" line). Pls use as guidance only and note that the flows in various Brisbane River model studies are not consistent with each other. The flows I have provided are based on the Bureau's modelling. Please do not distribute this figure.

2. The attached spreadsheet provides some guidance material supplied to EMQ but note that it refers to max point rainfalls relating to flood magnitude. Areal rainfalls are clearly less than the localised maximums - but given an indication that the Brisbane R catchment requires a large scale rain situation persisting over days with embedded locally high rainfall totals.

3. For example, a report on the Brisbane 1974 flood is at:

http://www.bom.gov.au/hydro/flood/qld/fld_reports/brisbane_jan1974.pdf

Fig 7, page 27, shows the rainfall totals for a critical 5 day period - extensive areas of above 300mm-400mm with highest rainfall totals of 1000mm - to cause 1974 flooding (without Wivenhoe Dam).

There are studies (incl Bureau modelling) which show the reduction of the 1974 flood with the current Somerset/Wivenhoe dams mitigation - in broad terms, for an identical rainfall pattern as 1974, the flood peak in Brisbane of 5.5 metres in 1974 could be reduced by somewhere around 2 metres. (Check with BCC and SEQWater studies on this.) So 1974 type rainfalls (replicated) could produce about 3.5 metres at the Brisbane City gauge which is the threshold of major flooding in Brisbane.

4. Very coarse modelling indicates that a widespread uniform 200mm over 24 hours could produce a flood around 3 metres plus at Brisbane City, but this would could be generated from the lower Brisbane catchment (below Wivenhoe Dam). This rainfall scenario would require a significant meteorological mechanism, certainly not on the forecast horizon now.

Again I emphasise that there is difficulty in making flood estimations from "average" rainfalls over the entire Brisbane R catchment

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

one: (

MAIL:

EMAIL for flood matters: flood.qld@bom.gov.au
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Table 56

Gina O'Driscoll

From: SEQWGM Media
Sent: Wednesday, 29 December 2010 5:44 PM
To: SEQWGM Emergency; 'noel.faulkner [REDACTED]'; 'robin.lewis [REDACTED]'; 'renae.walden [REDACTED]'; 'darren.cook [REDACTED]'
Cc: Barry Dennien; Scott Denner; Dan Spiller; Michael Lyons; 'Mike Foster'
Subject: FW: Product Quality Notification: Taste and Odour change due to MIB and Geosmin
Importance: High

Good afternoon

This is an update on the Product Quality Notification sent on December 16 and is for noting only (original advice copied below).

Elevated levels of MIB and Geosmin in treated bulk water supplied from Mt Crosby Water Treatment Plant are continuing. This problem has been impacted by quality issues associated with heavy rain and floods in water in raw water supplies over recent days.

This issue relates to the aesthetic characteristics of the water only and the bulk drinking water remains safe to drink as it continues to meet health guideline values under *the Australian Drinking Water Guidelines (2004)*.

This means some residents in Brisbane and Ipswich may experience some taste and odour changes in their tap water. Please direct any customer enquiries to you call centre. Any customer complaint information you are able to provide will assist ongoing management of this incident.

The Water Grid is continuing to undertake a number of operational measures to limit taste and odour impacts on drinking water supplies including utilising water supplies from the Gold Coast and Northern Brisbane to dilute and supplement water supplied from Mt Crosby Water Treatment Plant.

Monitoring of raw and treated water from Mt Crosby continues and results will be communicated to your water quality teams as they become available.

The Water Grid is continuing to work with your water quality, operations and communications teams regarding this incident.

Other information regarding this incident is included in the OCA Incident and Emergency Manager.

If you have any questions regarding the operational management of this incident please call Dan Spiller on [REDACTED]

Best regards

John Adcock
Water Grid Communications Unit

on behalf of

Lee Hutchison
Duty Manager

From: John Adcock
Sent: Thursday, December 16, 2010 3:45 PM

To: SEQWGM Emergency;; kim.wood [REDACTED] daryl.ross [REDACTED]
Cc: Lee Hutchison; Michael Lyons; Dan Spiller; Barry Dennien; Scott Denner
Subject: Product Quality Notification: Taste and Odour change due to MIB and Geosmin

Good afternoon

Email subject: Product Quality Notification MIB and Geosmin

Product Quality Notification

This is a product quality notification about a current aesthetic characteristic of the bulk drinking water supplied to Queensland Urban Utilities and Allconnex water from 16 December 2010. The bulk drinking water still remains safe to drink as it continues to meet the health guideline values under the *Australian Drinking Water Guidelines (2004)*.

What we know

On 15 December 2010, the SEQ Water Grid Manager was advised by Seqwater that due to heavy rain in the catchments supplying the Mt Crosby Water Treatment Plant, elevated levels of MIB and Geosmin have been detected in both the raw water and treated water samples. These compounds can cause drinking water to smell and taste 'earthy/musty'. Taste panel results have also confirmed noticeable taste and odour characteristics in the treated water supplied from the plant.

MIB and Geosmin impact only the aesthetic characteristics of drinking water. They are naturally occurring organic compounds with no known health effects. Consequently no health guideline values apply for MIB and Geosmin under the *Australian Drinking Water Guidelines (2004)*.

Samples collected on 15 December 2010 revealed 9.7ng/L for MIB and 11ng/L for Geosmin.

The *Australian Drinking Water Guidelines (2004)* describe the taste threshold for most people for MIB and Geosmin as 10ng/L.

Some residents in Brisbane, Ipswich and Logan areas may experience a slight change in the taste and odour of their tap water.

What we are doing

The Water Grid is undertaking a number of operational measures to limit taste and odour impacts of this event on drinking water supplies. These measures include utilising water supplies from the Gold Coast and Northern Brisbane to dilute water supplied from Mt Crosby Water Treatment Plant.

Monitoring of raw and treated water from Mt Crosby is continuing and results will be communicated to your respective water quality teams as they become available.

The Water Grid is working with your water quality, operations and communications teams regarding this incident.

Further information regarding this incident is included in the OCA Incident and Emergency Manager.

Your actions

This information is for noting.

We are notifying you to assist you inform and manage your operations and stakeholders.

Depending on your internal protocols, this information may activate your internal procedures to notify your customers.

The Water Grid Communications Unit is coordinating media communication activities associated with this incident.

Please direct any customer enquiries to your call centre. An information sheet on MIB and Geosmin has been provided to your respective communications teams. This product quality notification and the attached information sheet can be used as the basis of providing information to your customers.

We will continue to keep Queensland Urban Utilities and Allconnex water informed as this incident progresses.

An update will be provided on Friday 17 December 2010.

Key contact person

For further technical information on this Product Quality Notification please contact Paul Burrell, Water Quality Coordinator, on [REDACTED] or via email on [REDACTED]

For general enquires please visit www.seqwgm.qld.gov.au.

Kind regards

John Adcock
Stakeholder Relations Manager
on behalf of

Lee Hutchison
Duty Manager

Tab 157

Gina O'Driscoll

From: Dan Spiller
Sent: Wednesday, 29 December 2010 6:50 PM
To: 'debbie.best'
Cc: Barry Dennien
Subject: Water Grid operational status

Debbie,

As discussed, high rainfall has resulted in operational issues for a number of Water Grid water treatment plants (WTPs).

A range of actions have been implemented to address these issues, with regular coordination with entities. There have been no impacts on the quality or quantity of water delivered to residents. No media alerts are required. I have discussed status with the Ministers office and provided formal advice.

The issues primarily relate to the Mt Crosby and Capalaba water treatment plants. In both cases the issue has been high turbidity in raw and treated water. High turbidity can mask other water quality issues.

C. Crosby

- Raw water in the mid Brisbane River is extremely poor (unprecedented according to Seqwater operators)
- The WTP was shut down at 3am this morning due to residual levels of turbidity in treated water exceeding the critical limits for the WTP
- Restart took 12 hours due to poor water quality (this is again unprecedented)
- Even with new infrastructure, the Grid relies on 100 ML/day of supply from the Mt Crosby WTP. As a result, reservoirs were drawn down while the plant was offline and other plants were ramping up
- Contingency planning had commenced in the event the WTP could not be restarted. This would probably have involved supply with levels of turbidity above Seqwater standards (but under those adopted in some other places).

Capalaba

- There have been a number of operational issues at the Capalaba WTP over several years. These issues have been exacerbated by poor raw water quality
- The WTP is currently offline, with Redlands being supplied from North Stradbroke Island. This is sustainable at current demand, but minimises transfers to Logan and Brisbane through the Eastern Pipeline Interconnector
- Tomorrow a trial will be conducted to bring the plant back on-line. Treated water will be discharge if it does not meet water quality standards.

Grid response

The following actions have been implemented to reduce demand on Mt Crosby WTP to 100 ML/day (matching current production and minimising the risk if the WTP again fails):

- Desalination plant at full capacity
- Gold Coast WTPs at full capacity
- SRWP transferring north at full capacity
- North Pine WTP supplying as far south as possible
- Mt Crosby East Bank WTP being brought back online tonight, in addition to Mt Crosby West Bank WTP. This will provide additional treated water and resilience, should the other WTP need to be taken offline again.

I am having a teleconference with entities at 9am tomorrow.

Call me if you require any further information.

Regards,

Table 58

Gina O'Driscoll

From: Dan Spiller
Sent: Thursday, 30 December 2010 10:10 AM
To: Gary Humphrys; 'Gary.Humphrys [REDACTED]'; 'gjardine [REDACTED]'; 'jamie [REDACTED]'; 'teresa.dyson [REDACTED]'; 'david.cunliffe [REDACTED]'
Cc: Barry Dennien; Scott Denner; Elaina Smouha; SEQWGM Media
Subject: Operations update

Board,

Further to my email this morning, I can advise that Water Grid operations are now stable.

With the Mt Crosby WTP offline, key reservoirs in Brisbane and the Gold Coast were drawn down to low levels. Reservoirs in northern Brisbane and on the Gold Coast are now full. Some key reservoirs in south Brisbane remain at about 30% of capacity, and are only increasing slowly.

Key actions over the next 24 hours will be to:

- Increase storage in the south Brisbane reservoirs back to target levels
- Bring the second of the two Mt Crosby WTPs back on line. This is expected to take another 24 hours. About 20 ML of poor quality treated water is being discharged today (diluted by about 130,000 ML of releases from Wivenhoe Dam). The second WTP is not required to meet demand, but provides resilience to the Grid should problems emerge elsewhere.

With those actions, supply will be secure. From that time, we will focus on monitoring water quality - with the potential for increased taste and odour issues. In terms of water quality, QUU has advised that it did not receive any customer complaints from 24/12 to yesterday (when it compiled results).

The desalination facility has had a key role in the response to this water quality incident:

- The plant has been operating at full capacity since yesterday, and will continue to do so until this afternoon
- Production at capacity has enabled us to fill the Gold Coast reservoirs while also transferring water north at the capacity of the Southern Regional Water Pipeline
- From this afternoon, we will throttle back to two-thirds capacity and maintain that level of output until at least next week
- Ongoing operation at two-thirds capacity will enable us to reduce demand on the Mt Crosby and Molendinar WTPs, which have some water quality taste and odour issues. We can also blend with dam water
- This type of operation was envisaged in the recommendation to move to standby mode. We had two standby trials before Christmas, with a permanent move planned from mid January. We were very pleased by how quickly the facility was returned to full capacity yesterday.

Elsewhere, we are seeking to bring the Capalaba WTP back online today. This has been complicated by the water quality in the dam degrading overnight. However, the plant is not essential - with the area currently being supplied from NSI. Trial water will be discharged.

Please call me on [REDACTED] if you have any queries or require any further information.

Regards,
Dan

Tea
159

Suzie Emery

From: Paul Bird [pbird [REDACTED]]
Sent: Saturday, 1 January 2011 8:04 AM
To: SEQWGM Media; aroebuck [REDACTED] greg.swain [REDACTED]
GSTUBBS [REDACTED] lisa.m.martin [REDACTED]
tjacobs [REDACTED] Barry Dennien; Dan Spiller; Scott Denner
Cc: Mike Foster; Michael Lyons; John Adcock; Peter Borrows; Jim Pruss; Bill Andrew
Subject: Release Update

For detailed information on road and crossing closures and other potential impacts, always contact your local council.

As at 08.00 am Saturday 1 January, the following water releases are being made:

WIVENHOE DAM:

The gate closure sequence commenced overnight and is expected to be completed on the morning of Sunday 2 January.

Councils have been consulted and it is expected Twin Bridges, Savages Crossing, Colleges Crossing, Kholo and Burtons bridges will continue to be inundated until at least Sunday.

SOMERSET DAM:

Water is being released into Wivenhoe through a regulator valve.

NORTH PINE DAM:

A minor release through a partially opened regulator valve with no impact on Youngs Crossing expected.

LESLIE HARRISON DAM:

No releases

HINZE DAM:

An emergency gate release is continuing to discharge flood waters. Based on the current forecast releases are likely to continue until early next week. There is no public access to the spillway.

For detailed information on road crossing closures and other potential impacts, always contact your local council.

RECREATION UPDATE:

Both Somerset and Wivenhoe are open to water based recreation activities.

All recreation sites are open with the exception of -

- River access at Atkinson's Crossing
- Billies bay/Hays Landing

Care should be taken at the recreation sites that are open, with the ground being totally saturated. Vehicles must be parked only in designated parking areas, and should not be driven onto grassed areas.

This information will be updated if any significant changes occur.

Paul Bird
Senior Communications Advisor



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



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Tab 160

Dan Spiller


From: Dan Spiller
Sent: Thursday, 6 January 2011 9:26 AM
To: 'Best Debbie'
Cc: 'leslie.shirreffs' [REDACTED]
Subject: Wivenhoe Dam releases

Debbie,

Just an early heads up that gate releases will recommence by tomorrow morning. Releases will be relatively minor at less than one-third of the peak release rate from last week. This means that we will avoid inundating Burtons Bridge and isolating the residents that use it (as always, depending upon any further rainfall). We will inundate College's Crossing, which Council was aware was likely yesterday and triggered the comments by the Mayor to the Queensland Times.

More details to follow.

Dan

 Daniel Spiller
Director, Operations
SEQ Water Grid Manager
Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002
ABN: 14783 317 630

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Tab 161

Dan Spiller

From: Dan Spiller
Sent: Thursday, 6 January 2011 10:35 AM
To: 'Martin.PeterJ [REDACTED]' 'Dunn.KerryG [REDACTED]'
Cc: 'Madgwick.DarrenT [REDACTED]' 'Best Debbie'
Subject: Wivenhoe Dam releases

Peter and Kerry,

Just an early heads up that gate releases will recommence by tomorrow morning. Releases will be relatively minor, at less than one-third of the peak release rate from last week. This means that we will avoid inundating Burtons Bridge and isolating the residents that use it (as always, depending upon any further rainfall). We will inundate Twin Bridges and Savages and Colleges Crossings, which cause inconvenience to a larger number of households.

More details to follow.

Dan

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

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

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Tab 162

Suzie Emery

From: Dan Spiller [Daniel.Spiller [REDACTED]]
Sent: Friday, 1 April 2011 8:40 AM
To: Elaina Smouha
Subject: FW: Wivenhoe Dam releases

From: Martin.PeterJ@police.qld.gov.au [mailto:Martin.PeterJ [REDACTED]]
Sent: Thursday, 6 January 2011 10:45 AM
To: Dan Spiller
Subject: RE: Wivenhoe Dam releases

Dan,

Thanks for the advice. These direct advices are working well and very much appreciated.

Regards Peter

Peter Martin
Assistant Commissioner
METROPOLITAN NORTH REGION

[REDACTED]
www.police.qld.gov.au

From: Dan Spiller [REDACTED]
Sent: Thursday, 6 January 2011 10:35 AM
To: Martin.PeterJ[MNR]; Dunn.KerryG[MSR]
Cc: Madgwick.DarrenT[MNR]; Best Debbie
Subject: Wivenhoe Dam releases

Peter and Kerry,

Can early heads up that gate releases will recommence by tomorrow morning. Releases will be relatively minor, at less than one-third of the peak release rate from last week. This means that we will avoid inundating Burtons Bridge and isolating the residents that use it (as always, depending upon any further rainfall). We will inundate Twin Bridges and Savages and Colleges Crossings, which cause inconvenience to a larger number of households.

More details to follow.

Dan

Daniel Spiller
Director, Operations
SEQ Water Grid Manager

Phone: [REDACTED]
Email: [REDACTED]
Visit: Level 15, 53 Albert Street Brisbane
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ABN: 14783 317 630

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Tab 163

Suzie Emery

From: Mike Foster [REDACTED]
Sent: Thursday, 6 January 2011 11:17 AM
To: Dan Spiller; Jade Simmons; Michael Lyons
Cc: Paul Bird; Rob Drury
Subject: Wiv releases

Dan,

Can confirm we will commence gate openings at Wivenhoe from about 6pm tonight (suggest we stick with early evening). Looking at 300m³/s which would ensure Burton's remains open. Combined with flows from the Lockyer the releases will close Twin Bridges and nearly inundate Savages Crossing. Releases alone should not result in the closure of College's Crossing, however a combined Lockyer and local runoff may well.

Councils have been advised of this strategy and are contacting residents.

A technical report will be provided around lunch..

In relation to the Gold Coast only outstanding issue was taste and odor issues from Molindinar first raised 2-3 weeks ago. However we have been carbon dosing and levels have dropped below exceedance levels. Dosing is being switched off today. AllConnex have been in the loop and have not advised of any customer complaints etc.

Cheers Mike

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



[REDACTED]
Level 3, 240 Margaret St, Brisbane City QLD 4000
PO Box 16146, City East QLD 4002
Website | www.seqwater.com.au

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Tab 164

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Thursday, 6 January 2011 2:56 PM
To: stephen.robertson [REDACTED]; lance.mccallum [REDACTED];
Tim.Watts [REDACTED]; Geoff.Stead [REDACTED];
Lauren.Sims [REDACTED]; Best Debbie; 'Martin.PeterJ [REDACTED];
'Dunn.KerryG [REDACTED]
Cc: Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob
Subject: RE: Recommencement of Wivenhoe Dam gate releases

All,

Rainfall in the Lockyer Valley over the past few hours has been heavier than initially assessed, with the prospect of further falls.

The scale of flows may be sufficient to close Burtons Bridge without any contribution from Wivenhoe Dam.

Given these flows, the Wivenhoe Dam release will be deferred until after the Lockyer Valley flows have peaked (expected to be Saturday, depending on rainfall). This strategy will minimise the impacts on downstream areas.

The media update will reflect this status. We had not advised media that a release was being considered from this evening.

We will provide more detailed advice tomorrow morning.

Regards,
Dan

From: Dan Spiller
Sent: Thursday, 6 January 2011 1:17 PM
To: 'stephen.robertson [REDACTED]'; 'lance.mccallum [REDACTED]';
'Tim.Watts [REDACTED]'; 'Geoff.Stead [REDACTED]'; 'Lauren.Sims [REDACTED]'; 'Best
Debbie'; 'Martin.PeterJ [REDACTED]'; 'Dunn.KerryG [REDACTED]';
Cc: Rob Drury; 'Mike Foster'; SEQWGM Media; 'Reilly Bob'
Subject: Recommencement of Wivenhoe Dam gate releases

All,

We expect to begin gate release from Wivenhoe Dam this evening, to release water accumulated in the dams over the last 24 hours. The technical situation report is attached.

The release rate will be about 25,000 ML/day, compared to the peak last week of about 115,000 ML/day. We will aim to manage releases so as to avoid inundating Burtons Bridge and isolating up to 50 houses. However, depending upon rainfall, the bridge may be inundated by other flows.

The release strategy will be reviewed over the next 24 hours, and may change depending upon the amount of rainfall in the catchment.

We are consulting with Councils and the BoM about the release strategy.

A short media update is being issued, in consultation with the Minister's office.

Please contact me if you require any further information.

Regards,

Dan

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: 14 783 317 630

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Tab 165

Suzie Emery

From: Paul Bird [pbird [REDACTED]]
Sent: Thursday, 6 January 2011 3:00 PM
To: Dan Spiller
Subject: FW: Situation Report 1500 06/02/2011

FYI

From: Duty Engineer [REDACTED]
Sent: Thursday, 6 January 2011 14:54
To: David Roberts; flood.qld [REDACTED] Mike Foster; Paul Bird; Preston.DavidG [REDACTED] Rob Drury; Rohan Thorogood; Ken.Price [REDACTED] kim.hang [REDACTED] Al Navaruk; Bill Stephens; David Pokarier; John West; Louw Van Blerk; Mark Tan; Neville Ablitt; John.Ruffini [REDACTED] John Tibaldi; Rob.ayre [REDACTED] Terry Malone; Brett Schultz; Glenn Patterson; Malcolm Lane; Murray Dunstan; Rob Gorian; Agg Dagan; Doug Grigg; Graham Keegan; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Cc: Deb Chandler; Mailbox; Tony Trace; Chris Lavin; Craig Logan; Evan Caswell; James Charalambous; Ken Morris; Robert McGlenn; Santina Pennisi
Subject: Situation Report 1500 06/02/2011

Rainfall

In the 6 hours since 9am Wednesday, there have been general totals around 30mm with isolated heavy falls up to 60mm in the Somerset and Wivenhoe catchments. Totals in the North Pine catchment have generally been between 20 and 30mm. Falls between 20 and 30mm were recorded in the Leslie Harrison catchment.

The forecast for the next 24 to 48 hours is for totals up to 100mm in SE Qld.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

North Pine Dam

At 1400 Thursday, North Pine Dam was 39.66m, 0.01m above gate trigger level. Gate operations will commence at 1900 Thursday and will impact upon Youngs Crossing. MBRC have been advised and will confirm closure of Youngs Crossing prior to gate operations. Given the forecast rainfall during Friday, gate operations may continue into Saturday.

Somerset Dam

At 0700 Thursday, Somerset Dam was 99.34m, 0.34m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the upper Stanley but there have been significant rises in Kilcoy Ck, adding to the Somerset inflows. Further regulator/slucice operations will be required in the next 24 to 48 hours. The estimated event inflow volume into Somerset Dam is 50,000ML.

Wivenhoe Dam

At 0700 Thursday, Wivenhoe Dam was 67.31m and rising slowly. This is 0.31m above FSL and above the gate trigger level of 67.25m. There have been rises recorded at rivers and stream upstream of Wivenhoe Dam. The estimated event inflow volume into Wivenhoe Dam is 180,000ML including Somerset Dam outflow.

There has been significant rainfalls in the Lockyer Ck catchment since 0900 Thursday and a peak of about 600m³/s is expected from the Lockyer late Friday. Wivenhoe gates will be opened after flood levels in the lower Lockyer subside. At this stage Wivenhoe releases during Saturday may be as high as 1,500m³/s and continue for a couple of days.

Impacts of Wivenhoe Dam Releases

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the potential for gate operations during the next 24 hours.

The will at least impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days. The relatively high Lockyer flows will at least impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days and may impact upon Burtons Bridge early Saturday. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge or Mt Crosby Weir Bridge.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. Given the forecast rainfall, gate operations are expected to continue for the next 24 to 48 hours.

The next situation report will be issued at 1800 Thursday 6/1/2011.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone



Fax:

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Tab 166

Suzie Emery

From: Reilly Bob [REDACTED]
Sent: Thursday, 6 January 2011 4:03 PM
To: Dan Spiller
Subject: RE: Recommencement of Wivenhoe Dam gate releases

Hi Dan

Will we be having discussions with Somerset Council about resupply for people on the other side of Burtons Bridge during Wivenhoe releases?

Thanks

Bob

From: Dan Spiller [REDACTED]
Sent: Thursday, 6 January 2011 2:56 PM
To: stephen.robertson [REDACTED]; lance.mccallum [REDACTED];
Tim.Watts [REDACTED]; Geoff.Stead [REDACTED]; Lauren.Sims [REDACTED];
Best Debbie; 'Martin.Peter]' [REDACTED]; 'Dunn.KerryG@police.qld.gov.au'
Cc: Rob Drury; Mike Foster; Media @ SEQWGM; Reilly Bob
Subject: RE: Recommencement of Wivenhoe Dam gate releases

All,

Rainfall in the Lockyer Valley over the past few hours has been heavier than initially assessed, with the prospect of further falls.

The scale of flows may be sufficient to close Burtons Bridge without any contribution from Wivenhoe Dam.

Given these flows, the Wivenhoe Dam release will be deferred until after the Lockyer Valley flows have peaked (expected to be Saturday, depending on rainfall). This strategy will minimise the impacts on downstream areas.

The media update will reflect this status. We had not advised media that a release was being considered from this evening.

We will provide more detailed advice tomorrow morning.

Regards,
Dan

From: Dan Spiller
Sent: Thursday, 6 January 2011 1:17 PM
To: 'stephen.robertson' [REDACTED]; 'lance.mccallum' [REDACTED];
'Tim.Watts' [REDACTED]; 'Geoff.Stead' [REDACTED];
'Lauren.Sims' [REDACTED]; 'Best Debbie'; 'Martin.Peter]' [REDACTED];
'Dunn.KerryG' [REDACTED];
Cc: Rob Drury; 'Mike Foster'; SEQWGM Media; 'Reilly Bob'
Subject: Recommencement of Wivenhoe Dam gate releases

All,

We expect to begin gate release from Wivenhoe Dam this evening, to release water accumulated in the dams over the last 24 hours. The technical situation report is attached.

The release rate will be about 25,000 ML/day, compared to the peak last week of about 115,000 ML/day. We will aim to manage releases so as to avoid inundating Burtons Bridge and isolating up to 50 houses. However, depending upon rainfall, the bridge may be inundated by other flows.

The release strategy will be reviewed over the next 24 hours, and may change depending upon the amount of rainfall in the catchment.

We are consulting with Councils and the BoM about the release strategy.

A short media update is being issued, in consultation with the Minister's office.

Please contact me if you require any further information.

Regards,
Dan

Daniel Spiller
Director, Operations
SEQ Water Grid Manager

Phone: [REDACTED]

Email: [REDACTED]

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

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Tab 167

Suzie Emery

From: Paul Bird [REDACTED]
Sent: Friday, 7 January 2011 8:09 AM
To: Dan Spiller
Subject: FW: Operating Strategy over the next week

Importance: High

FYI

From: Duty Engineer [REDACTED]
Sent: Friday, 7 January 2011 08:05
To: David Roberts; flood.qld [REDACTED] Mike Foster; Paul Bird; Rob Drury; Rohan Thorogood; Craig Duncan; Ken.Price [REDACTED] kim.hang [REDACTED] Al Navaruk; Bill Stephens; David Pokarier; John West; Louw Van Blerk; Mark Tan; Neville Ablitt; John.Ruffini [REDACTED] John Tibaldi; Rob.ayre [REDACTED] Terry Malone; Brett Schultz; Glenn Patterson; Malcolm Lane; Murray Dunstan; Rob Gorian; Agg Dagan; Doug Grigg; Graham Keegan; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Subject: Operating Strategy over the next week
Importance: High

Advice from BoM indicates that SE Qld can expect some high rainfall totals over the next 5 days.

Friday: Rain at times 15-50mm with higher falls along the coast
Saturday: Rain light at times 15-50mm with higher falls along the coast
Sunday: Widespread rain with totals between 50-100mm
Monday: Widespread rain again with totals between 50-100mm
Tuesday: Rain easing with totals between 25-50mm

Given the saturated conditions of the dam catchments, significant volumes of inflows to our dams will be generated.

On this basis, the operating strategy for Somerset, Wivenhoe and North Pine needs to consider the current state of the storages and the project inflows.

North Pine

North Pine currently has 5 gates open releasing runoff from rain on Wed/Thursday. Given the very high likelihood of significant runoff during the next 5 days, it is recommended to keep gates open for the period, rather than opening and closing at various times with short notice. It will not be practical or may not be possible to adopt the usual strategy of opening and closing overnight to minimise the impact on Youngs Crossing.

Somerset

Somerset Dam currently has a regulator open 50%. At this stage, it is expected to open 1 or 2 sluices on Saturday. However, this may need to be reviewed if significant runoff occurs in the Stanley and Upper Brisbane. Under circumstances of high inflows to Somerset and Wivenhoe, it is the usual practice to hold flood water in Somerset until there is a high level of confidence in the estimated inflows to Wivenhoe.

Wivenhoe

As outlined in this morning's SitRep, it is intended to ramp up the release from Wivenhoe to about 1,200m³/s later today. However, given the high likelihood of significant inflows in the next week, this may be increased to 1,500m³/s in order to drain the current temporarily stored flood waters as soon as possible.

This will mean that all of the crossing downstream of Wivenhoe with the exception of Fernvale and Mt Crosby Weir Bridge will be adversely impacted.

Leslie Harrison

Given its proximity to the coast Leslie Harrison is likely to be most impacted by the forecast rain over the next 5 days.

It is likely that the releases from North Pine and Leslie Harrison will continue until the middle of next week and from Wivenhoe until next Friday. Staffing for the Flood Operations Centre will be arranged accordingly. Co-originators should start to plan for prolonged operations at dams.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone

Fax:

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

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Table 168

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Friday, 7 January 2011 8:27 AM
To: stephen.robertson [REDACTED] lance.mccallum [REDACTED]
Tim.Watts [REDACTED] Geoff.Stead [REDACTED]
Lauren.Sims [REDACTED] Best Debbie; 'Martin.PeterJ [REDACTED]
'Dunn.KerryG [REDACTED]
Cc: Rob Drury; Mike Foster; SEQWGM Media; Reilly Bob
Subject: Update on dam gate releases
Attachments: Technical Situation Report W29.docx

All,

Attached is the updated technical situation report.

There has been widespread rainfall in most of the dam catchments. These inflows have triggering the need for gate releases, with forecasts of between 100 and 200 mm of further rainfall over the next five days.

For Wivenhoe and Somerset dams, key points are:

- There has been general falls of around 30 to 50 mm since Wednesday, with isolated peaks of up to 75mm. About 230,000 ML will need to be released, based on estimated flows into the dam.
- There has been heavier rainfall in the Lockyer Creek catchment, which flows into the Brisbane River below the dam wall. Without dam releases, these flows are likely to result in Burtons Bridge being inundated by mid afternoon today – again isolating up to 50 households.
- Dam releases are expected to commence late tonight or early tomorrow, once existing Lockyer Valley flows have peaked – minimising downstream impacts and deferring the inundation of Burtons Bridge.
- At this stage, releases are expected to be at a similar rate to the recent events (up to about 105,000 ML/day) and continue until Monday or Tuesday next week (depending on further rainfall).

North Pine and Leslie Harrison dams are also making gate releases. Youngs Crossing has been inundated.

Councils have been advised. Somerset is contacting key affected residents.

We will provide an update once the timing of releases has been fixed.

Please contact me if you require any further information.

Regards,
Dan

Daniel Spiller
Director, Operations
SEQ Water Grid Manager

Phone [REDACTED]

Email: [REDACTED]

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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C

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TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|----------|----------------------------|--------|
| TSR Number | W29 | Date of TSR release | 7.1.2011 | Time of TSR release | 7.00am |
|-------------------|-----|----------------------------|----------|----------------------------|--------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | | | | | | | | | | | |
|---------------------------|--|-----------------|-----------|----------|-----------------|-----------|--|-----------------|--------------------------|-----------------|------------------|
| Current objectives | <ul style="list-style-type: none"> Monitor inflows and begin releases later today depending on Lockyer flows | | | | | | | | | | |
| Strategy | <ul style="list-style-type: none"> Monitor and develop release strategy, possible Wivenhoe releases later today or early Saturday Due to high inflows, may need to impact Burtons which could be impacted purely by Lockyer flows later today anyway. | | | | | | | | | | |
| Key considerations | <table border="0"> <tr> <td>Storage levels:</td> <td>Above FSL</td> </tr> <tr> <td>Inflows:</td> <td>Ongoing inflows</td> </tr> <tr> <td>Rainfall:</td> <td></td> </tr> <tr> <td>Lockyer/Bremer:</td> <td>Monitoring their inflows</td> </tr> <tr> <td>Brisbane River:</td> <td>No impact as yet</td> </tr> </table> | Storage levels: | Above FSL | Inflows: | Ongoing inflows | Rainfall: | | Lockyer/Bremer: | Monitoring their inflows | Brisbane River: | No impact as yet |
| Storage levels: | Above FSL | | | | | | | | | | |
| Inflows: | Ongoing inflows | | | | | | | | | | |
| Rainfall: | | | | | | | | | | | |
| Lockyer/Bremer: | Monitoring their inflows | | | | | | | | | | |
| Brisbane River: | No impact as yet | | | | | | | | | | |

Rainfall

There have been general totals around 30 to 50 mm with isolated heavy falls up to 75mm in the Somerset and Wivenhoe catchments since the event commenced on Wednesday 5 January 2011. There have been significant rainfalls in the Lockyer Ck catchment in the last 72 hours with widespread falls of 50mm and isolated falls up to 100mm.

Totals in the North Pine catchment have generally been about 35mm.

Falls between 20 and 30mm were recorded in the Leslie Harrison catchment.

The forecast for the next five days is for totals between 100 and 200mm in SE Qld. Given the saturated condition of the catchments further runoff will most likely be generated from this rainfall.

North Pine Dam

At 0600 Friday, North Pine Dam was at 39.48m, 0.12m below FSL. Gate operations commenced at 1915 on Thursday 6 January and are expected to continue until at least mid-day Friday 7 January when North Pine Dam is expected to be at 39.40m. These releases have impacted upon Youngs Crossing. Moreton Bay Regional Council was advised and they closed Youngs Crossing prior to gate operations commencing. Based upon the forecast rainfall, gate operations may continue into Saturday, but at this stage it is anticipated that gate operations will cease at around mid-day on Friday 7 January 2011.

Somerset Dam

At 0600 Friday, Somerset Dam was at 99.59m, 0.59m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the Upper Stanley but there have been significant rises in Kilcoy Creek, contributing to the Somerset inflows. Somerset Dam is currently releasing at a rate of 35 cumecs and further regulator/sluice operations will be required in the next 24 to 72 hours.

The estimated event inflow volume into Somerset Dam is around 50,000ML.

Wivenhoe Dam

At 0600 Friday, Wivenhoe Dam was at 67.64m and rising slowly. This is 0.64m above FSL and above the gate trigger level of 67.25m. Upstream of the dam river levels have peaked at the Linville and Gregors Ck gauges. The estimated event inflow volume into Wivenhoe Dam is 230,000ML including Somerset Dam outflow.

A peak of about 470 cumecs is expected from Lockyer Creek by mid-afternoon on Friday 7 January. At this stage there is some uncertainty associated with this estimate but it may be of sufficient magnitude to inundate Burtons Bridge.

Wivenhoe gate releases will occur after the impact of Lockyer flows on Burtons Bridge has been ascertained and flood levels in the lower Lockyer subside. It is proposed that Wivenhoe releases will commence late Friday/early Saturday and may be as high as 1,200 cumecs, (similar but slightly smaller to recent events), and the releases are expected to continue over the weekend though to Monday or Tuesday.

Impacts of Downstream of Wivenhoe

Somerset Regional Council, Ipswich City Council and Brisbane City Council have been advised of the potential for gate operations during the next 24 hours.

The relatively high Lockyer flows will adversely impact upon Twin Bridges, Savages Crossing, and Colleges Crossing for several days and may impact upon Burtons Bridge from Friday mid-day and Kholo Bridge later on Friday evening. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge or Mt Crosby Weir Bridge.

Councils have been advised of this strategy and are contacting residents.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. It is possible operations may cease later today with no further rainfall however, given the forecast rainfall, gate operations are expected to continue for some time.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

BoM has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|--------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|--------------|------|--|------|--|----------|-----------------------|
| Next TSR due | Date | | Time | | or Event | Gate opening decision |
|--------------|------|--|------|--|----------|-----------------------|

Tea 169

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Saturday, 8 January 2011 9:00 AM
To: stephen.robertson [REDACTED] Lance McCallum
[REDACTED] Tim Watts [REDACTED]
Geoff Stead [REDACTED] lauren.sims [REDACTED]
Debbie Best [REDACTED] Martin.PeterJ [REDACTED]
Dunn.KerryG [REDACTED]
Cc: Rob Drury [REDACTED] mfooster [REDACTED] SEQWGM Media;
Damien Brown [REDACTED] bob.reilly [REDACTED]
Madgwick.DarrenT [REDACTED] Scott Denner [REDACTED]
Subject: Water Grid operations update: 8/1/11
Attachments: Technical Situation Report W31.docx

All,

Dam releases

Attached is the current technical situation report.

Releases are being made from Somerset, Wivenhoe, North Pine and Leslie Harrison dams, with forecasts of high rainfall totals over the next four days.

For Wivenhoe Dam:

- All five gates are now open with the release rate planned to increase to 1200 cubic metres per second by midday today. This release rate is less than peak release from October 2010.
- The release strategy will continue to be reviewed based on actual rainfall. With significant inflows, it may need to be increased.
- As advised yesterday, a number of local bridges have been inundated by releases and local flows. The Fernvale and Mt Crosby Weir Bridges could potentially also be affected if predicted rainfall totals eventuate.
- The BoM and Seqwater concur that current releases will increase the level of the lower Brisbane River by about 50 to 100mm. There is currently a 40 to 50mm atmospheric anomaly.

Releases from North Pine and Leslie Harrison dams are continuing. Releases from Hinze Dam are expected to be required over the weekend.

Water treatment

In terms of operations, Lockyer Valley flows have again caused a turbidity spike in the Brisbane River. Impacts are expected to peak today at Mt Crosby today, before being diluted by dam releases. There are similar issues at some other locations.

Despite the spike, all key plants are currently operating within critical limits with any impacts being monitored. Seqwater and Linkwater have prepared for potential issues by increasing treated water storage and staffing at some treatment plants. Desalination is at one-third capacity and ready to increase production within two hours of an instruction (but is unlikely to be required in this event).

With forecast rainfall, these type of issues are likely to recur over the remainder of the wet season.

Please call me on [REDACTED] if you require any further information.

Regards,
Dan

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|-----|----------------------------|----------|----------------------------|--------|
| TSR Number | W31 | Date of TSR release | 8.1.2011 | Time of TSR release | 7.00am |
|-------------------|-----|----------------------------|----------|----------------------------|--------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | | | | | | | | | | | |
|---------------------------|--|-----------------|-----------|----------|-----------------|-----------|--|-----------------|--------------------------|-----------------|--|
| Current objectives | <ul style="list-style-type: none"> Continue increasing releases to discharge floodwater as quickly as possible | | | | | | | | | | |
| Strategy | <ul style="list-style-type: none"> Continue to increase releases from 890cumecs this morning to 1200cumecs by lunchtime This should keep Fernvale and Mt Crosby bridges clear however further predicted rainfall may impact. | | | | | | | | | | |
| Key considerations | <table border="0"> <tr> <td>Storage levels:</td> <td>Above FSL</td> </tr> <tr> <td>Inflows:</td> <td>Ongoing inflows</td> </tr> <tr> <td>Rainfall:</td> <td></td> </tr> <tr> <td>Lockyer/Bremer:</td> <td>Monitoring their inflows</td> </tr> <tr> <td>Brisbane River:</td> <td>Minimal impact as per previous discussions and releases.</td> </tr> </table> | Storage levels: | Above FSL | Inflows: | Ongoing inflows | Rainfall: | | Lockyer/Bremer: | Monitoring their inflows | Brisbane River: | Minimal impact as per previous discussions and releases. |
| Storage levels: | Above FSL | | | | | | | | | | |
| Inflows: | Ongoing inflows | | | | | | | | | | |
| Rainfall: | | | | | | | | | | | |
| Lockyer/Bremer: | Monitoring their inflows | | | | | | | | | | |
| Brisbane River: | Minimal impact as per previous discussions and releases. | | | | | | | | | | |

Rainfall

Since 0900 Friday, there has been widespread 20 to 40mm throughout North Pine, Somerset and Wivenhoe catchments with isolated higher totals of 70mm in the upper reaches of the Brisbane R. No significant rain has fallen in the past 12 hours.

Advice from BoM indicates that SE Qld can expect further high rainfall totals over the next 4 days.

Saturday: Rain light at times 5-50mm with higher falls along the coast
 Sunday: Widespread rain with totals between 50-100mm
 Monday: Widespread rain again with totals between 50-100mm
 Tuesday: Rain easing with totals between 25-50mm

Given the saturated conditions of the catchments, significant inflows to Seqwater dams will be generated, especially following the forecast rainfall on Sunday/Monday

North Pine (Full Supply Level 39.60 m AHD)

At 0600 Saturday, North Pine Lake Level was 39.46 m AHD and slowly rising. Currently 3 gates are open to release runoff from rain on Wed/Thursday/Friday. Given the very high likelihood of significant runoff during the next 4 days, gates will be kept open to match inflows over the next few days, rather than opening and closing at various times with short notice. Youngs Crossing will remain adversely impacted for the duration of the gates being open. Moreton Bay Regional Council has been advised and concurs with this strategy.

Somerset (Full Supply Level 99.00 m AHD)

At 0500 Saturday, Somerset Dam level was 100.42m AHD and rising. The Dam is releasing into Wivenhoe through one open sluice gate. Water will be temporarily held in Somerset to allow the inflow from the upper Brisbane is passed through the system. However, this strategy may need to be reviewed if significant runoff occurs in the Stanley and Upper Brisbane. Under circumstances of high inflows to Somerset and Wivenhoe, it is the usual practice to hold flood water in Somerset until there is a high level of confidence in the estimated inflows to Wivenhoe.

Since the commencement of the event on 02/01/2011, approximately 85,000ML has flowed into Somerset Dam with a further 20,000ML expected based on the recorded rainfall to date. Approximately 25,000ML has been released into Wivenhoe.

Wivenhoe (Full Supply Level 67.00 m AHD)

At 0600 Saturday, Wivenhoe Dam was 68.45 m AHD and rising steadily with all five gates open and releasing about 890 m3/s. River levels upstream of Wivenhoe Dam were rising again, generating further inflow to the dam. It is intended to ramp up the release from Wivenhoe to 1,200m3/s by midday Saturday 08/01/2011. Further assessments will be undertaken to determine increases above this level. However, given the high likelihood of significant inflows in the next week, this may be increased.

Since the commencement of the event on 02/01/2011, approximately 200,000ML has flowed into Wivenhoe Dam (including Somerset releases) with a further 180,000ML expected based on the recorded rainfall to date. Approximately 50,000ML has been released from Wivenhoe via the hydro and regulator at about 50m3/s.

Impacts downstream of Wivenhoe

The projected Wivenhoe release of 1,200m3/s combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted for several days. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected but they could potentially be affected if the predicted rainfall totals eventuate.

The current available assessments indicate that the combined flow in the lower Brisbane R would only add 50mm to an upper limit of 100mm to the recorded water levels in the City Reach of the Brisbane Rive. However, it is noted that tides in the lower Brisbane R will be 0.4 to 0.5 metres higher than predicted tides

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

BoM has been advised:

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|--------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | |
|--------------|------|------|----------|--------------------|
| Next TSR due | Date | Time | or Event | Change in strategy |
|--------------|------|------|----------|--------------------|

Tab 170

Suzie Emery

From: Best Debbie [REDACTED]
Sent: Saturday, 8 January 2011 10:11 AM
To: Dan Spiller
Subject: Fw: Water Grid operations update: 8/1/11

Fyi

----- Original Message -----

From: Ken Smith [REDACTED]
To: Best Debbie
Sent: Sat Jan 08 10:09:48 2011
Subject: Re: Water Grid operations update: 8/1/11

Thanks Deb. Let Dan know his analysis was quite helpful.

----- Original Message -----

From: Best Debbie [REDACTED]
To: Ken Smith
Sent: Sat Jan 08 09:52:47 2011
Subject: Fw: Water Grid operations update: 8/1/11

A summary of impacts

----- Original Message -----

From: Dan Spiller [REDACTED]
To: Best Debbie
Sent: Sat Jan 08 09:47:48 2011
Subject: RE: Water Grid operations update: 8/1/11

Debbie,

We expect river levels to be similar to yesterday, and again due to tides rather than releases.

River yesterday peaked at about 1.85 metres at the Port Office gauge. The high peak was due almost entirely due to tides and a 0.4 to 0.5 metre atmospheric anomaly.

COM and Seqwater agree that flows of 1500 cumecs over Mt Crosby will contribute about 0.05m (50mm) to peak river levels at the Port Office gauge. We are planning to release at 1200 cumecs from midday, with an allowance for Lockyer Valley flows (which peaked at about 500 cumecs this week and are reducing). For interest only, the impact on low tide levels is greater - meaning that there is less variation in river levels.

The key risk will be if the high rainfall eventuates (200mm over four days). We will review as this occurs, but in the meantime it is important that we get the flood storage compartment down to give ourselves some flexibility.

Looking forward, we are preparing a more detailed brief on potential scenarios with the upcoming January and February peak tides. The challenge is that river levels are due to about five different factors, of which only tides can be predicted this far out. Atmospheric anomalies can only be predicted a few days out.

Short answer is that we expect ongoing low level flooding (defined by BCC as 1.7m at the Port Office gauge). Moderate Brisbane River flooding as defined by BCC would still require significantly larger releases than have been made at any time since Wivenhoe Dam was completed, potentially combined with another large atmospheric anomaly. Note that local flooding can occur for a range of other reasons, as flagged in the CM today.

Hope this helps.

Dan

From: Best Debbie [Debbie.Best [REDACTED]]
Sent: Saturday, 8 January 2011 9:28 AM
To: Dan Spiller
Subject: Fw: Water Grid operations update: 8/1/11

Dan you give detail?
Debbie

----- Original Message -----

From: Ken Smith <Ken.Smith [REDACTED]>
To: Best Debbie
Sent: Sat Jan 08 09:26:23 2011
Subject: Re: Water Grid operations update: 8/1/11

Thanks Deb. Can't access the attachment at home. Likelihood of localised flooding?

----- Original Message -----

From: Best Debbie <Debbie.Best [REDACTED]>
To: Ken Smith
Sent: Sat Jan 08 09:16:40 2011
Subject: Fw: Water Grid operations update: 8/1/11

Ken
A bit of action in SE which you need to be aware of. WGM is liaising with the LDMG. Debbie

----- Original Message -----

From: Dan Spiller <Daniel.Spiller [REDACTED]>
To: stephen.robertson [REDACTED] <stephen.robertson [REDACTED]>; Lance McCallum (lance.mccallum [REDACTED] <lance.mccallum [REDACTED]>; Tim Watts (tim.watts [REDACTED] <tim.watts [REDACTED]>; Geoff Stead (geoff.stead [REDACTED] <geoff.stead [REDACTED]>; lauren.sims [REDACTED] <lauren.sims [REDACTED]>; Best Debbie; Martin.PeterJ [REDACTED] <Martin.PeterJ [REDACTED]>; Dunn.KerryG [REDACTED] <Dunn.KerryG [REDACTED]>
Cc: Rob Drury (rdrury [REDACTED] <rdrury [REDACTED]>; mfoster [REDACTED] <mfoster [REDACTED]>; Media @ SEQWGM; Brown Damien; Reilly Bob; Madgwick.DarrenT [REDACTED] <Madgwick.DarrenT [REDACTED]>; Denner Scott @ SEQWGM
Sent: Sat Jan 08 08:59:30 2011
Subject: Water Grid operations update: 8/1/11

All,

Dam releases

Attached is the current technical situation report.

Releases are being made from Somerset, Wivenhoe, North Pine and Leslie Harrison dams, with forecasts of high rainfall totals over the next four days.

For Wivenhoe Dam:

- * All five gates are now open with the release rate planned to increase to 1200 cubic metres per second by midday today. This release rate is less than peak release from October 2010.
- * The release strategy will continue to be reviewed based on actual rainfall. With significant inflows, it may need to be increased.

- * As advised yesterday, a number of local birdges have been inundated by releases and local flows. The Fernvale and Mt Crosby Weir Bridges could potentially also be affected if predicted rainfall totals eventuate.
- * The BoM and Seqwater concur that current releases will increase the level of the lower Brisbane River by about 50 to 100mm. There is currently a 40 to 50mm atmospheric anomaly.

Releases from North Pine and Leslie Harrison dams are continuing. Releases from Hinze Dam are expected to be required over the weekend.

Water treatment

In terms of operations, Lockyer Valley flows have again caused a turbidity spike in the Brisbane River. Impacts are expected to peak today at Mt Crosby today, before being diluted by dam releases. There are similar issues at some other locations.

Despite the spike, all key plants are currently operating within critical limits with any impacts being monitored. Seqwater and Linkwater have prepared for potential issues by increasing treated water storage and staffing at some treatment plants. Desalination is at one-third capacity and ready to increase production within two hours of an instruction (but is unlikely to be required in this event).

With forecast rainfall, these type of issues are likely to recur over the remainder of the wet season.

Please call me on [REDACTED] if you require any further information.

Regards,
Dan

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+-----+
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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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If you have received this email in error, please notify the author and delete this message immediately.

Tab 171

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Sunday, 9 January 2011 8:14 AM
To: stephen.robertson [REDACTED]; Lance McCallum
(lance.mccallum [REDACTED]); Tim Watts [REDACTED]
Geoff Stead (geoff.stead [REDACTED]); lauren.sims [REDACTED]
Debbie Best (debbie.best [REDACTED]); Martin.PeterJ [REDACTED]
Dunn.KerryG [REDACTED]
Cc: Rob Drury (rdrury [REDACTED]); pbird [REDACTED]; SEQWGM Media;
Damien Brown (damien.brown [REDACTED]); bob.reilly [REDACTED]
Madgwick.DarrenT [REDACTED]
Subject: Water Grid operations update: 9/1
Attachments: Technical Situation Report W32.docx

All,

Current technical situation report.

Key points are:

- Wivenhoe Dam is continuing releases at about 116,000 ML/day. Releases are expected to continue until at least Wednesday.
- A severe weather warning remains current for dam catchments. There has been heavy rainfall in the Somerset Dam catchment over the past two hours.
- The release strategy will continue to be reviewed based on actual rainfall.
- Releases are being made so as to avoid inundating the Fernvale and Mt Crosby Weir Bridges. Other flows may impact on the bridges, should the forecast rainfall eventuate.
- North Pine Dam may cease releases today or tomorrow morning, depending upon actual rainfall.
- Many dams and recreation areas are closed.

Please call me on [REDACTED] if you require any further information.

Regards,
Daniel Spiller

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|
| TSR Number | W32 | Date of TSR release | 9.1.2011 | Time of TSR release | 7.00am |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | |
|---------------------------|--|
| Current objectives | <ul style="list-style-type: none"> Continue current releases to discharge floodwater as quickly as possible |
| Strategy | <ul style="list-style-type: none"> Continue the current releases of around 1350cumecs or 116,000ML per day, however this may change slightly depending on other flows to maintain around 1600cumecs in the mid Brisbane River This should keep Fernvale and Mt Crosby bridges clear however if further predicted rainfall occurs there may be impacts on these bridges too |
| Key considerations | Storage levels: Above FSL |
| | Inflows: Ongoing inflows |
| | Rainfall: |
| | Lockyer/Bremer: Monitoring their inflows |
| | Brisbane River: Minimal impact as per previous discussions and releases. |

Rainfall

Catchment average rainfall for the past 12 hours is; North Pine Dam (less than 10 mm); Somerset Dam (40 mm); Wivenhoe Dam (less than 10 mm). The bulk of the rain that has fallen in the Somerset Dam catchment has occurred in the last two hours, with recorded falls exceeding 60mm in some areas. The BOM forecast for the next seven days issued at 0450 this morning is:-

| | |
|-----------|------------------|
| Sunday: | Rain periods. |
| Monday: | Rain periods. |
| Tuesday: | Rain periods. |
| Wednesday | A few showers. |
| Thursday | A shower or two. |
| Friday | A shower or two. |
| Saturday | Mostly fine. |

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The dam catchments are relatively saturated and significant inflows will be generated if the forecast rainfall eventuates.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is currently 39.47 m AHD and steady. Two radial gates remain open to release runoff generated from recent rainfall. Based on rainfall forecasts, the radial gates have been kept open in anticipation of further inflows over the next few days. However unless significant rain falls today,

consideration will be given to closing the gates late this afternoon or early tomorrow morning and discussions to finalise a decision on the timing of radial gate closure will be held with the Moreton Bay Regional Council later today. Youngs crossing will remain closed while releases are in progress.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is currently falling slowly, with the current level being 100.27m AHD. However the rain that has fallen in the dam catchment over the last two hours (recorded falls exceed 60mm in some areas) will result in significant inflows later today. The current release rate into Wivenhoe Dam is 35,000ML/day. Since the commencement of the event on 02/01/2011 approximately 56,000ML has been released from the dam, with a total of at least 150,000ML to be released based on the currently recorded rainfall. The total release for the event is likely to increase significantly over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Tuesday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is currently falling slowly, with the current level being 68.58m AHD. River levels upstream of the dam are receding, however further inflows will result from any additional rainfall. The current gate operation strategy will maintain flows of around 1,600m³/s in the mid-Brisbane River. The current release rate from Wivenhoe Dam is 116,000ML/day. Since the commencement of the event on 02/01/2011 approximately 150,000ML has been released from the dam, with a total of at least 450,000ML to be released based on the currently recorded rainfall. The total release for the event is likely to increase over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Wednesday.

Impacts downstream of Wivenhoe Dam

The current Wivenhoe Dam release combined with Lockyer flows and local runoff will mean that all low level crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted until at least Wednesday 12 January. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected, but this may be revised if the predicted rainfall totals eventuate and higher releases from Wivenhoe Dam are considered necessary.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and closed late last night. However further releases are likely.

Hinze Dam

The gate opening of 300mm continues today and may for several days depending on inflows.

| | |
|--|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

Bo M has been advised.

| | |
|--|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised and do not have a problem with the new strategy.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|--------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| Next TSR due | Date | Time | or Event | Change in strategy |
|--------------|------|------|----------|--------------------|
|--------------|------|------|----------|--------------------|

Tab 172

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Friday, 1 April 2011 8:40 AM
To: Elaina Smouha
Subject: FW: Pls call me this evening on [REDACTED]

From: Dan Spiller
Sent: Sunday, 9 January 2011 8:29 PM
To: Martin.PeterJ [REDACTED] Dunn.KerryG [REDACTED]
Subject: Pls call me this evening on [REDACTED]

Peter or Kerry,

Please call me. Unfortunately my remote login system is not calling up your phone numbers.

We are receiving very large inflows into storages and will need to increase releases. We are reviewing the strategy and intend to distribute advice tonight. I would appreciate a conversation about how you wish to be involved tonight.

The releases will certainly inundate the Mt Crosby Weir Bridge and Fernvale Bridge. The question at present is the timing, and therefore the time that we have to advise residents. Initial advice is that it could be from midday.

Regards,
Dan

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For more information please visit <http://www.messagelabs.com/email>

Tab 173

Gina O'Driscoll

From: Dan Spiller
Sent: Sunday, 9 January 2011 9:27 PM
To: 'Rob Drury'; Barry Dennien; Michael Lyons; SEQWGM Media; Debbie Best (debbie.bes [REDACTED]); Scott Denner; pbird [REDACTED]; 'sstevenson [REDACTED]
Subject: FW: Technical Report W34
Attachments: Technical Situation Report W34.docx

Technical report below.

Teleconference at 9.30.

Details are:

Pho [REDACTED]

PIN: [REDACTED]

Regards,

Gina

From: Rob Drury [REDACTED]
Sent: Sunday, January 09, 2011 9:18 PM
To: Rob Drury; Dan Spiller
Cc: Peter Borrows; Stan Stevenson; Mike Foster; Paul Bird; David Roberts; Arminda Roberts
Subject: RE: Technical Report W34

See attached report W34.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and
flowing water is FA

rethink



Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

From: Rob Drury
Sent: Sunday, 9 January 2011 7:26 AM

To: Rob Drury; 'Dan Spiller'
Cc: Peter Borrows; Stan Stevenson; Mike Foster; Paul Bird; David Roberts; Arminda Roberts
Subject: RE: Technical Report W31

Please find attached Report W31.

Basically continuing releases to maintain 1600 cumecs total flow in the mid Brisbane but watching predicted rainfall as the strategy may change. Fernvale and Mt Crosby bridges still should be unaffected but does depend on what rain we get today or tomorrow.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and flowing water is FAT

rethink



Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

From: Rob Drury
Sent: Saturday, 8 January 2011 7:46 AM
To: Rob Drury; 'Dan Spiller'
Cc: Peter Borrows; Stan Stevenson; Mike Foster; Paul Bird; David Roberts
Subject: RE: Technical Report W31

Attached report number W31.

Rob

Robert Drury
Dam Operations Manager
Water Delivery
Queensland Bulk Water Supply Authority trading as Seqwater



Swimming in weirs and flowing water is FAT

rethink



Wivenhoe Dam, Brisbane Valley Highway, via Fernvale Q4306 Australia
PO Box 37, Fernvale QLD 4306
Website | www.seqwater.com.au

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QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|
| TSR Number | W34 | Date of TSR release | 9.1.2011 | Time of TSR release | 9.00pm |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | |
|---------------------------|---|
| Current objectives | <ul style="list-style-type: none"> Continue current releases however event is increasing in magnitude and will require increased releases. |
| Strategy | <ul style="list-style-type: none"> Continue the current releases until tomorrow noon when releases will be increased to impact Mt Crosby and Fernvale Bridges. |
| Key considerations | Storage levels: Above FSL |
| | Inflows: Inflows may approach 1,500,000ML which is close to 1974 event. |
| | Rainfall: Continuing |
| | Lockyer/Bremer: Monitoring their inflows |
| | Brisbane River: Impact as below. |

Rainfall

Very heavy rainfall has been recorded in the upper reaches of the Brisbane and Stanley in the last 6 hours with totals up 100 to 140mm. Totals for the last 24 hours range from 100 to 300mm.

Rainfall of similar magnitudes is expected in the 12 to 24 hours, especially around the Bremer/Warrill catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 101.68 m AHD (about 500,000ML currently in storage) and rising quickly. Peak inflow to the dam is estimated to be about 4,000 m³/s based on observed rainfall and could be as high as 5,000m³/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m³/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam will reach at least 103.5 early Tuesday morning which will adversely impact areas around Kilcoy.

Since the commencement of the event on 02/01/2011 approximately 100,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This may increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have already reached 6,700m³/s and the river is still rising.

The dam level is rising again, with the current level being 69.10m AHD (1,410,000ML with about 300,00 of flood storage). Estimated peak inflow to the dam just from the Upper Brisbane R alone may reach as high as 7,500m³/s and, at this stage, the dam will reach at least 73.0 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it will be necessary to increase the release from Wivenhoe Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m³/s and the combined flows in the lower Brisbane will be limited to 4,000m³/s. This is below the limit of urban damages in the City reaches.

The current release rate from Wivenhoe Dam is 1,400m³/s (120,000ML/day). Gate opening will start to be increased from noon Monday and the release is expected increase to at least 2,600m³/s during Tuesday morning.

Since the commencement of the event on 02/01/2011 approximately 220,000ML has been released from the dam, with an event total approaching 1,000,000ML without further rain and as much as 1,500,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16th January 2011.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

| | |
|---|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

BoM has been advised.

| | |
|---------------------------------------|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised of the current status.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | [REDACTED] |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised of the current status.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | [REDACTED] |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised of the current status.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | [REDACTED] |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|-----------|-------------|--|----------------|---------------------------|
| Next TSR due | Date | 10.1.2011 | Time | | on Even | Change in strategy |
|---------------------|-------------|-----------|-------------|--|----------------|---------------------------|

Tab 174

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Sunday, 9 January 2011 11:07 PM
To: stephen.robertson [REDACTED] Ken Smith (ken.smith [REDACTED])
Lance McCallum (lance.mccallum [REDACTED]) Tim Watts
(tim.watts [REDACTED]) Geoff Stead (geoff.stead@ [REDACTED])
lauren.sims [REDACTED] Debbie Best (debbie.best [REDACTED])
Martin.PeterJ [REDACTED] Dunn.KerryG [REDACTED]
Cc: 'Rob Drury'; pbird [REDACTED] 'sstevenson [REDACTED] SEQWGM Media;
Scott Denner; Madgwick.DarrenT [REDACTED] Damien Brown
(damien.brown [REDACTED]); bob.reilly [REDACTED]
Subject: Updated Wivenhoe Dam release strategy
Attachments: Technical Situation Report W34.docx

All,

Latest advice from the Flood Control Centre attached.

There has been 100 to 300mm of rainfall in the Wivenhoe and Somerset dam catchments over the past 24 hours. Rainfall of similar magnitudes is expected over the next 12 to 24 hours.

At this time, including forecast rainfall, total inflows will exceed 1,000,000 ML and may approach 1,500,000 ML - in the order of the 1974 flood volume.

To date, the primary objective for this event has been managing to prevent inundation of the Mt Crosby Weir and Fernvale Bridges.

With the forecast volumes, this primary objective is being changed to minimizing the risk of urban inundation. This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).

Urban inundation in the City reaches generally commences at total river flows of about 3,500 cubic metres per second (dam releases plus Lockyer and Bremer). At this time, and depending upon overnight rainfall, the Flood Control Centre is proposing to increase releases from around 1,200 to 2,500 cubic metres per second from midday tomorrow. This provides an allowance for other flows.

The Mt Crosby Weir and Fernvale bridges will certainly be inundated - isolating or inconveniencing many Brisbane Valley residents. The timing will depend largely on local flows, with the river having recently increased to be about one foot below the deck. Seqwater is preparing the bridge to be inundated, and may need to close it tonight. However, other flows permitting, we will delay inundating the bridge until tomorrow night - providing notice for impacted residents.

Actions to date:

- Notified Councils (up to the CEO level at BCC)
- Notified Police (Assistant Commissioner)
- Increasing treated water storage and preparing treatment plants, should there again be increased turbidity levels or other operational issues.

A media advice is being prepared now, for review and issue by 7am. The advice will address the closure of the bridges, with the intent of providing as much notice as possible to impacted residents (if not already closed). Impacts on the City reaches will be addressed following further consultation with Council (with there being a 20+ hour transit time).

It is important to note that the dams are managing impacts by delaying and reducing releases. For comparison, peak flows into the dam are forecast to reach up to 7,500 cubic metres per second - excluding any downstream flows.

Please call me on [REDACTED] if you require any further information.

Regards,
Daniel Spiller

TECHNICAL SITUATION REPORT

| | | | | | |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|
| TSR Number | W34 | Date of TSR release | 9.1.2011 | Time of TSR release | 9.00pm |
|-------------------|------------|----------------------------|-----------------|----------------------------|---------------|

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

| | | | | | | | | | | | |
|---------------------------|---|-----------------|-----------|----------|--|-----------|------------|-----------------|--------------------------|-----------------|------------------|
| Current objectives | <ul style="list-style-type: none"> Continue current releases however event is increasing in magnitude and will require increased releases. | | | | | | | | | | |
| Strategy | <ul style="list-style-type: none"> Continue the current releases until tomorrow noon when releases will be increased to impact Mt Crosby and Fernvale Bridges. | | | | | | | | | | |
| Key considerations | <table border="0"> <tr> <td>Storage levels:</td> <td>Above FSL</td> </tr> <tr> <td>Inflows:</td> <td>Inflows may approach 1,500,000ML which is close to 1974 event.</td> </tr> <tr> <td>Rainfall:</td> <td>Continuing</td> </tr> <tr> <td>Lockyer/Bremer:</td> <td>Monitoring their inflows</td> </tr> <tr> <td>Brisbane River:</td> <td>Impact as below.</td> </tr> </table> | Storage levels: | Above FSL | Inflows: | Inflows may approach 1,500,000ML which is close to 1974 event. | Rainfall: | Continuing | Lockyer/Bremer: | Monitoring their inflows | Brisbane River: | Impact as below. |
| Storage levels: | Above FSL | | | | | | | | | | |
| Inflows: | Inflows may approach 1,500,000ML which is close to 1974 event. | | | | | | | | | | |
| Rainfall: | Continuing | | | | | | | | | | |
| Lockyer/Bremer: | Monitoring their inflows | | | | | | | | | | |
| Brisbane River: | Impact as below. | | | | | | | | | | |

Rainfall

Very heavy rainfall has been recorded in the upper reaches of the Brisbane and Stanley in the last 6 hours with totals up 100 to 140mm. Totals for the last 24 hours range from 100 to 300mm.

Rainfall of similar magnitudes is expected in the 12 to 24 hours, especially around the Bremer/Warrill catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 101.68 m AHD (about 500,000ML currently in storage) and rising quickly. Peak inflow to the dam is estimated to be about 4,000 m³/s based on observed rainfall and could be as high as 5,000m³/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m³/s (95,000ML/d) into Wivenhoe Dam. At this stage the dam will reach at least 103.5 early Tuesday morning which will adversely impact areas around Kilcoy.

Since the commencement of the event on 02/01/2011 approximately 100,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This may increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have already reached 6,700m³/s and the river is still rising.

The dam level is rising again, with the current level being 69.10m AHD (1,410,000ML with about 300,00 of flood storage). Estimated peak inflow to the dam just from the Upper Brisbane R alone may reach as high as 7,500m³/s and, at this stage, the dam will reach at least 73.0 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it will be necessary to increase the release from Wivenhoe Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m³/s and the combined flows in the lower Brisbane will be limited to 4,000m³/s. This is below the limit of urban damages in the City reaches.

The current release rate from Wivenhoe Dam is 1,400m³/s (120,000ML/day). Gate opening will start to be increased from noon Monday and the release is expected increase to at least 2,600m³/s during Tuesday morning.

Since the commencement of the event on 02/01/2011 approximately 220,000ML has been released from the dam, with an event total approaching 1,000,000ML without further rain and as much as 1,500,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16th January 2011.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

| | |
|---|------------------------|
| Seqwater Technical Officer name | Robert Drury |
| Seqwater Technical Officer position title | Dam Operations Manager |
| | |

BoM assessment

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

BoM has been advised.

| | |
|---------------------------------------|----------------|
| BoM Technical Officer name | Peter Baddiley |
| 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)

Council has been advised of the current status.

| | |
|--|-----------------------------|
| BCC Technical Officer name | Chris Lavin |
| BCC Technical Officer position title | Disaster Operations Manager |
| BCC Technical Officer contact details | |

Ipswich City Council (ICC) assessment (if required)

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

Council has been advised of the current status.

| | |
|--|-------------------------------------|
| ICC Technical Officer name | Tony Trace |
| ICC Technical Officer position title | Local Disaster Response Coordinator |
| ICC Technical Officer contact details | |

Somerset Regional Council (SRC) assessment (if required)

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

Council has been advised of the current status.

| | |
|--|-------------------------------------|
| SRC Technical Officer name | Tony Jacobs |
| SRC Technical Officer position title | Local Disaster Response Coordinator |
| SRC Technical Officer contact details | |

Collated and distributed by (Agency)

| | |
|---------------------------------------|------------------------|
| Contact Officer signature | |
| Contact Officer name | Rob Drury |
| Contact Officer position title | Dam Operations Manager |

| | | | | | | |
|---------------------|-------------|-----------|-------------|--|-----------------|---------------------------|
| Next TSR due | Date | 10.1.2011 | Time | | or Event | Change in strategy |
|---------------------|-------------|-----------|-------------|--|-----------------|---------------------------|

Tab 175

Suzie Emery

From: Dan Spiller [REDACTED]
Sent: Monday, 10 January 2011 5:31 AM
To: Dan Spiller; 'stephen.robertson [REDACTED]'; 'Ken Smith (ken.smith [REDACTED])'; 'Lance McCallum (lance.mccallum [REDACTED])'; 'Tim Watts (tim.watts [REDACTED])'; 'Geoff Stead (geoff.stead [REDACTED])'; 'lauren.sims [REDACTED]'; 'Debbie Best (debbie.best [REDACTED])'; 'Martin.PeterJ@ [REDACTED]'; 'Dunn.KerryG [REDACTED]'; 'Rob Drury'; 'pbird [REDACTED]'; 'sstevenson [REDACTED]'; SEQWGM Media; Scott Denner; 'Madgwick.DarrenT [REDACTED]'; 'Damien Brown (damien.brown [REDACTED])'; 'bob.reilly [REDACTED]';
Cc: 'Rob Drury'; 'pbird [REDACTED]'; 'sstevenson [REDACTED]'; SEQWGM Media; Scott Denner; 'Madgwick.DarrenT [REDACTED]'; 'Damien Brown (damien.brown [REDACTED])'; 'bob.reilly [REDACTED]';
Subject: RE: Updated Wivenhoe Dam release strategy

The Mt Crosby Weir and Fernvale Bridges were both inundated by other flows last night. Councils were advised and are on site.

Dam releases began to be increased overnight, brought forward because the bridges were already and with increasing inflows to storages.

We are preparing communications and technical information.

Regards,
Dan

From: Dan Spiller
Sent: Sunday, January 09, 2011 11:07 PM
To: stephen.robertson [REDACTED]; Ken Smith (ken.smith [REDACTED]); Lance McCallum (lance.mccallum [REDACTED]); Tim Watts (tim.watts [REDACTED]); Geoff Stead (geoff.stead [REDACTED]); Lauren Sims (lauren.sims [REDACTED]); Debbie Best (debbie.best [REDACTED]); Martin.PeterJ [REDACTED]; Dunn.KerryG [REDACTED];
Cc: 'Rob Drury'; 'pbird [REDACTED]'; 'sstevenson [REDACTED]'; SEQWGM Media; Scott Denner; Madgwick.DarrenT [REDACTED]; Damien Brown (damien.brown [REDACTED]); bob.reilly [REDACTED];
Subject: Updated Wivenhoe Dam release strategy

All,

Latest advice from the Flood Control Centre attached.

There has been 100 to 300mm of rainfall in the Wivenhoe and Somerset dam catchments over the past 24 hours. Rainfall of similar magnitudes is expected over the next 12 to 24 hours.

At this time, including forecast rainfall, total inflows will exceed 1,000,000 ML and may approach 1,500,000 ML - in the order of the 1974 flood volume.

To date, the primary objective for this event has been managing to prevent inundation of the Mt Crosby Weir and Fernvale Bridges.

With the forecast volumes, this primary objective is being changed to minimizing the risk of urban inundation. This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).

Urban inundation in the City reaches generally commences at total river flows of about 3,500 cubic metres per second (dam releases plus Lockyer and Bremer). At this time, and depending upon overnight rainfall, the Flood Control Centre is proposing to increase releases from around 1,200 to 2,500 cubic metres per second from midday tomorrow. This provides an allowance for other flows.

The Mt Crosby Weir and Fernvale bridges will certainly be inundated - isolating or inconveniencing many Brisbane Valley residents. The timing will depend largely on local flows, with the river having recently increased to be about one foot below the deck. Seqwater is preparing the bridge to be inundated, and may need to close it tonight. However, other flows permitting, we will delay inundating the bridge until tomorrow night - providing notice for impacted residents.

Actions to date:

- Notified Councils (up to the CEO level at BCC)
- Notified Police (Assistant Commissioner)
- Increasing treated water storage and preparing treatment plants, should there again be increased turbidity levels or other operational issues.

A media advice is being prepared now, for review and issue by 7am. The advice will address the closure of the bridges, with the intent of providing as much notice as possible to impacted residents (if not already closed). Impacts on the City reaches will be addressed following further consultation with Council (with there being a 20+ hour transit time).

It is important to note that the dams are managing impacts by delaying and reducing releases. For comparison, peak flows into the dam are forecast to reach up to 7,500 cubic metres per second - excluding any downstream flows.

Please call me on [REDACTED] if you require any further information.

Regards,
Daniel Spiller

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