QUEENSLAND FLOODS
COMMISSION OF INQUIRY

THIRD STATEMENT OF THE HON. STEPHEN ROBERTSON MP

I, **STEPHEN ROBERTSON**, of c/- 61 Mary Street Brisbane in the State of Queensland, Minister for Energy and Water Utilities, state on oath:

Previous statement

1. I provided a statement to the Commission dated 1 February 2012 in response to the letter dated 30 January 2012 from the Commissioner, Queensland Floods Commission of Inquiry ("Commission") to me requiring a written statement under oath or affirmation.

2. My current role is set out in paragraphs 2, 3 and 4 of my statement dated 1 April 2012.

Seqwater Transcript of meeting on 10 January 2011

3. Since affirming my second statement on 1 February 2012, I have been provided by Seqwater with copy of a transcript of a meeting which took place on 10 January 2011. A copy of the transcript provided to me is attached and marked '**SR-03**'.

4. Although I do not have a record of the meeting/teleconference in my diary, upon reviewing the transcript, I do recall participating this meeting by telephone from my office on 10 January 2011.

5. Prior to dialling into the meeting I had attended another function and my recollection is that I dialled into the meeting on returning to my office after the meeting had commenced.

6. I am informed by my Principal Advisor and believe that he received a telephone call from Mr Barry Dennien of Seqwater, and then a subsequent email at 11.46am

on 10 January 2011, whilst I was attending the function, advising that the meeting was to take place at 12.30pm and inviting me to participate in the meeting. A copy of the email to my Principal Advisor dated 10 January 2011 is attached and marked '**SR-04**'.

7. As the transcript reflects, I did not actively participate in the meeting other than by listening to what was being said by others.

I make this solemn statement on oath conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867*.

Signed [redacted]
Stephen Robertson

Taken and declared before me, at Brisbane this **2nd** day of **February 2012**.

[redacted]
Solicitor/~~Barrister/Justice of the Peace/Commissioner for Declarations~~

McCullough Robertson

Transcript of meeting on 10 January 2011 – 12.30pm.

Attendees (in person and via teleconference):

SEQ Water Grid Manager: Barry Dennien (**BD**), Daniel Spiller (**DS**), Scott Denner, Michael Lyons, John Adcock

Seqwater: Peter Borrows (**PBor**),

Brisbane City Council: Colin Jensen (**CJ**), Shane McLeod

State: Ken Smith (**KS**), Karl Walsh

Bureau of Meteorology: Peter Baddiley (**PBad**), Jimmy Stewart (**JS**)

Office of the Water Supply Regulator, Department of Environment and Resource Management (DERM): Bob Reilly

DERM: Debbie Best

Ipswich City Council: Carl Wulff (**Carl**)

Somerset Regional Council: Bob Bain (**BB**), Graeme Lehmann, Tony Jacobs

Minister Robertson's office: Minister Robertson

BD	...is being proposed around addressing those forecasts. So to kick off I'd like Peter – if you like, Peter Borrows – just to give us an update on dam levels, current release rates.
PBor	Wivenhoe Dam is currently 52% above full water supply level and Somerset Dam is 210,000 megalitres above full supply level so that would be discharging – and is discharging now into Wivenhoe. Currently the release strategy is to design the releases – and we're releasing about 2,000 mega – cubic metres a second out of Wivenhoe into the river and that's designed to have a flow rate at the Moggill gauge of about 3,500 megalitres a second. So that's the current arrangement.
BD	The – thanks, Peter. Peter, just a few additional facts. In the – in the course of the last 24 hours some of the inflows into Wivenhoe Dam peaked at around 12,000 cumecs, just to give a comparison, the release rates at that stage were about 1,300 cumecs. At the moment, Peter, they're going to about 2,800 cumecs, I believe, out of Wivenhoe.
PBor	We're increasing it to that.
BD	Yes.
PBor	But still – we're not there yet.
BD	Okay.
PBor	But the inflows, as Barry said, combining Somerset and Wivenhoe together is around the 12,000 cumecs.
BD	The – and we're trying to – strategy at the moment is to try and maintain the river, which is the combination of the dam releases, and Lockyer Creek, Bremer, et cetera, and overland flow at Moggill at 3,500 cumecs. So that's the current strategy. So is there any questions on information on where the current state of

	play is with the dams, before we talk about forecasts?
CJ	Yeah, Colin Jensen here. I understand our offices were talking this morning and actually there was a revised strategy down from 3,500. Is that not correct?
PBor	What do you mean '*down from 3,500*', Col? Lower?
CJ	As at – as at midmorning I was told that Seqwater was proposing a revised strategy which was 2,000 cumecs released from Wivenhoe plus 500 of river inflows making a total at Moggill of 2,5000 cumecs.
PBor	No, the target – the target's still 3,500, Col. But when we get onto the revised strategies, there's been a lot of rain in the catchment in the last few hours again so – but we'll wait until the BOM come in on that.
CJ	Okay. So to be clear, the 3,500 is the target?
PBor	That is the current target.
CJ	And will you give me the timetable of ramping up to that again, please?
PBor	Well...
CJ	'Cause this is different to what my flood information people are actually modelling right this moment.
KS	Yeah, Peter, it's Ken here. Can you break up that 3,500 in terms of the components? What's – what's released from Wivenhoe and what would the local – you know, the – you know, the water flow outside of Wivenhoe?
PBor	Yeah, I'm just checking something.
Voice in background	3,800 out of Wivenhoe...
Unknown	Mmm.
Voice in background	...700 out of the others.
CJ	It's Colin here. My understanding was 3,000 out of Wivenhoe, 500 out of river catchments below Wivenhoe, making a total of 3,500 at Moggill.
BD	So – so, Peter, that's not what you just said – 3,500 at Moggill was the...
PBor	3,500 at Moggill.
BD	Yeah.
PBor	That's the same number, isn't it, Col?
BD	That's the same number, isn't it, Col?
CJ	Yes.
KS	Yeah, it's the question of how much out of Wivenhoe. How does that...
PBor	Oh, yeah, okay. Righto. Well it was 2,000 ramping up as the...
BD	Yeah.
PBor	...as the projections came down. As projections out of Lockyer and Bremer came down, Wivenhoe was ramping up to try and maintain the 3,500 at Moggill.
CJ	Yeah, Colin here. So my understanding was that you're currently at about 2,000. You'll be ramping up to 3,000 as the other inflows drop to 500, maintaining 3,500 at Moggill.

PBor	That's the current release strategy, yes.
CJ	Yeah.
BD	Just of note...
CJ	My...
BD	...in the technical report, Col, that came out earlier this morning it was 2,000 ramping up to 2,600, still maintaining 3,500 at Moggill but that may have changed, as Peter's just said, as – as the inflows from Lockyer even decrease lower they'll increase Wivenhoe a bit more but still maintain 3,500 at Moggill.
PBor	But just to restate, that's the current release strategy.
BD	Yeah.
CJ	Yeah, can I just check, is there a proposed lower release strategy, because that's what I was being advised this morning.
PBor	No.
CJ	Okay. So that – for us, that's actually a confusion based on advice that officers have been told at about 10.00 this morning.
KS	Who – who advised you, Colin?
PBor	Yeah.
CJ	I haven't got names, but it's out of Seqwater to the Flood Information Centre at BCC.
BD	So...
Unknown male on phone	That's what I said.
BD	Okay. So what we'll do – we'll just – we'll – Peter Borrows is going to run that one to ground, if there was a miscommunication but what was in the technical report basically was the strategy as of his morning and – but even that we'd like to revise now and if everyone's happy with that base information, what we'd like to do is just talk about this – the change in the catchment and what's going on with the rainfall and to get the BOM to come in here, if they could, and give us two things – one is a bit of an update on what's occurred maybe in the last three or four hours and then secondly, what the forecast is in the catchment over the next coming 12/24 hour period.
PBad	Yeah, morning – good afternoon, all. Peter Baddiley – just speaking initially – I think just listening to that discussion the – the situation is changing hour by hour so a – a TSR of 8.00am – technical situation report of 8.00am is dated within hours after – within a few hours after its written, so it's old information but if I just bring an update. The last three hours there's continuing significant rainfall. There is increase in the upper Brisbane catchments and in parts of the Lockyer. Flows are increasing through the system. Currently we are operating with an expected peak of 3,700 in the Brisbane city reach but that's based on an – on a – on a, if you like, scenario of release strategy of a few hours ago and as I understand it that would be modified fairly soon. Just take account of the increasing - continuing higher rainfalls into the catchment. In terms of forecast rain, we gave on the briefing this morning to a State Disaster Coordination Centre, a further 50-100 millimetres over 24 hours with possible 150 millimetres in locations and as – as we speak now the rain is continuing with some of the three hourly totals above – above Wivenhoe being up to about 60 millimetres in three hours in some places and fairly

	significant areas of rain over the – over the catchment.
BD	Thank you, Peter. Based on that information, Peter Borrows now has had his team reference the operational manual and have a look at a revised strategy which, my understanding, Peter, will take it possibly above 3,500 at Moggill gauge. Peter, do you want to give us an overview of the new revised strategy?
PBor	Yeah, the flood operation centre's currently going through that same information that Peter Baddiley has just conveyed to the – to the group and looking at what the revised release strategy should be. The release strategy that we have has that when Wivenhoe hits 78% above full supply level then the operating mode shifts to – to basically making sure the dam – the dam's safety becomes the paramount sort of number and the effects of the dam's safety and people downstream becomes the paramount. The predicted maximum level was going to get to within 75,000 cubic metres of the full supply level prior to this upgraded rainfall that we've experienced over the last three years – three – last three hours and we are also now only – and that level would've been 3,300 – 3,300 – 3,000 – 330,000 megalitres, sorry, below the – the peak that would trigger the first – first fuse plug. So essentially what we're now doing is revising that release strategy and that will be available within the next two hours but it is extremely likely that that would increase the releases significantly above the targeted figure at Moggill at 3,500.
CJ	Colin here. So to what sort of extent – just in the ball park?
PBor	We – we're still working that through, Colin. I haven't got the answer to that yet and I'll have it within the next hour or two.
KS	So – yeah, it's Ken here. In the next hour you'll have it?
PBor	Yes, correct. Yeah.
KS	Yep. Thanks, Peter.
PBor	And – yeah.
BD	So...
CJ	Colin here. Because even – and the confusion around the – being able to drop to 2,500 total stream flow rather than 3,500 – just the difference in those two numbers to us is actually several thousand properties inundated and it's the difference between actually us managing a property damage incident which didn't impact upon residents. At 3,500 we're now actually – will have to ramp up to probably evacuations.
KS	Sorry, Colin – Ken here. At 3,500?
CJ	Yeah, we were actually – in coming out of the meeting that – when you and I spoke, that I'd just come out of, we were working on a 2,500 as – as per some maths computing advice and we were looking at next week for the king tide, as we looked further ahead, just to be...
KS	That's the 21st
CJ	21st, correct.
Male	Yes.
CJ	Our – if you like, our worst case planning on that was to work at 4,000 cumecs at Moggill and at that we're actually into the thousands of properties inundated. So now what I'm hearing is that I'm definitely at 3,500 by – and I have to check the time there, but by Wednesday high tide peak at 2.00pm and I'm possibly running up to my 4,000 number.

BD	Yes. Col, Barry Dennien here. Dan is going to shed a little bit of light on this confusion this morning around this – this lower figure that – that the officers were talking about. Dan, did you want to talk to that?
DS	Yeah, I – I just was speaking to Rob Drury. Rob advised that what he'd told the officers this morning is that because of flows in the Lockyer they were looking at that stage of holding the releases at 2,000 cumecs and doing so for a period of about ten hours to provide some time for the downstream impacts – downstream flows to peak but that – obviously that's subject to the rainfall that's occurring in the catchment now which is causing the – the review of strategy which Peter described. But at that time they were trying to hold at 2,000 rather than continue ramping up by – to 2,000...
CJ	Yep. Okay, well that explains it. And you're telling me, to be crystal clear, that strategy's definitely gone.
BD	That one's gone. And there's a...
CJ	And instead we're talking about ramping up beyond 3,500 total.
BD	What I'm hearing, Col, to be really clear, is from the BOM's forecast and from the inflows that we've just been briefed on in the last two hours, that the most likely scenario will be above 3,500 at Moggill and Peter Borrows is not willing to put a number on that at this point until that modelling's finished in the next hour and a half or so.
CJ	Okay.
KS	So in terms of – it's Ken here. Peter, in terms of Wivenhoe's history, have there been releases of amounts we've been talking about?
PBor	No. No, we haven't.
KS	It hasn't since – since – since the dam was put in place there haven't been releases of these amounts?
PBor	Well certainly not since the – the mid-80s and so – and I think the answer to your question, Ken, is no, there hasn't been any and certainly not since the mid-80s.
BB	Peter, it's Bob here from Somerset. Are you releasing from the Somerset Dam at the same rate you're releasing from Wivenhoe?
PBor	We're releasing at a lower rate from Somerset into Wivenhoe, but as you know, Bob, there's flooding from upstream of Somerset as well.
BB	That – that's right. There's going – that's backed up into the township of Kilcoy.
PBor	So we – we are releasing from Somerset. We've got the five sluice gates in Somerset open.
BB	Mmm-hmm.
CJ	Colin here. To assist, could you – 'cause I've actually had conflicting advice on this too so I might as well ask the experts, what's the maximum release rate in cumecs from Somerset and from Wivenhoe?
PBor	I can't give you that answer off the top of my head, sorry, Colin. I'll have to give you that answer.
CJ	That's okay. It's just the number keeps heading north.
PBor	Yeah.
CJ	I – I thought we'd passed the number a couple of times now so...

PBor	Yeah, well we certainly haven't passed the maximum release out of Wivenhoe.
CJ	No.
PBor	We're significantly below Wivenhoe.
BD	And just – Col, just on that, in that manual the – the flood manual, it clearly talks about releases above 4,000 and well above that in the manual, when the bigger inflows and the storages have – and the flood storage starts to fill. So I think going above 4,000 cumecs was always part of the original plan if required.
CJ	Yeah. Okay, but the...
PBad	Peter Baddiley – Peter Baddiley, if I could just make a comment at some stage.
BD	Yeah, go ahead, Peter.
CJ	Yeah, I'm willing to wait.
BD	Peter, when you're ready.
PBad	Oh okay. I was just going to comment that – with the current release strategies which was established several hours ago and it's about to be revised upwards, we were modelling about 3,700 cumecs through Brisbane anyway now because there's about a thousand cumecs of local inflow still increasing from Lockyer and Bremer so we're already up around the 3,700 level. What will now happen is that within the next hour or so Seqwater will give us their new release strategy, we will put that back into the model, we will re-crunch the numbers and we will come out with whatever the – with the current rainfalls, the increasing Lockyer and Bremer, Warril flows plus the new strategy, we'll be then looking – able to say what the new peak flow is through the Brisbane city reach. That – that will now depend on when the release strategy is given to us and then our warning is due for a re-issue at 3.30pm. We will talk then to Brisbane City Council's FIC to agree on what height – what flow and what height we'll be using in the public warning as per all of our arrangements.
BD	Col, Barry Dennien. Col, could you share with us a bit of your – you mentioned you had some scenarios modelled when we spoke this morning, that you were working up some scenarios and you mentioned then a little earlier that you had a scenario run at 4,000 cumecs at the spring tide?
CJ	Yep.
BD	Would you – would you have that information available to share on how many properties might be affected at that level?
CJ	I don't have the latter bit, in terms of how many properties are impacted at 4,000 simply because this morning inappropriately we've put that work aside and pursued a lower number than 4,000 cumecs at Moggill. So I don't have the number there but to give you some idea, at a river height of 3.1 metres which is what we're looking at the window achieving about now, in the next half hour, which is the level that we've achieved probably three or four times since late December, since just before Christmas. At that sort of level we have 6,500 properties – not houses, properties partially inundated due to the river and tidal creek.
BD	Mmm-hmm.
CJ	And some 221 of those fully inundated. So that's a 3.1 metre river height. My understanding is 3,500 cumecs at Moggill equates to a - tide height I'm talking here – of about 3.5 to 3.7 metres. And 4,000 cumecs obviously is somewhere north of that as well.

BD	Mmm-hmm.
CJ	So if I just put it into what have we dealt with recently, we've been dealing with tide heights of around 3.1 and below. Lower tides this week but higher stream flows from catchments - and including the dam releases has been keeping us at 3.1. We're now probably looking at somewhere higher than 3.7 by Wednesday, 2.00pm high tide. So we'll have to run those numbers. I have actually got some inundation maps that we've just produced at 4,000 cumecs and that's what I was referring to, saying that we were using that for our medium term planning for Friday the 21st...
BD	Right.
CJ	...in terms of the king tide effect.
BD	And...
KS	Are you able to share those maps, Colin? It's Ken.
CJ	Yeah, we can pump them out. I actually haven't got a set with me yet but they're very large obviously.
KS	Yep.
CJ	What we were planning – and I'll pause here and we'll come back to it no doubt at the end of this call, about lining our ducks up on communications – we were planning at going out mid-afternoon with the Lord Mayor to the city residents in terms of saying that as BOM and everyone's saying it is wet out there and we will be getting tides higher than we've been getting recently, we've been talking about getting – we're actually making sandbags only as fast as they're going out the door or putting it more practically, as fast as we can make them, they're leaving our depots at the moment. We're about to push staff onto sandbag marking rather than other activities and our target was to produce 30,000 bags by the time we got to Wednesday's high tide circa 2.00pm.
KS	Colin, Ken here again. The 3.1 and those figures on partially inundated and fully inundated – the fully inundated is water in the property, as opposed to water around the property?
CJ	To be clear, I'm using the word '*property*' not '*residence*'.
KS	Yep.
CJ	So in fact people should just throw those numbers away, is my recommendation. Some of the 6,000, for example, will be council parklands and the like.
BD	Okay.
KS	Okay.
BD	Yeah.
CJ	So - so we use that for our response in terms of where do we actually have to do debris cleanup and – and the like, so...
KS	So not necessarily the buildings, per se?
CJ	Correct. The – the two measures that we're actually producing – and as soon as we get off this call I'll reorientate them back to the higher river height levels, rather than waste the time down at the lower ones – firstly is which houses and business premises have water into them.
KS	Yep.

CJ	And then secondly which houses actually have water into habitable areas.
BD	Mmm-hmm.
CJ	So we get concerned at the first one because people lose their washing machines and potentially cars should be shifted from under their house.
KS	Yep.
CJ	The second one is, they've enclosed under their house or they're only a ground floor dwelling and they get water into the home proper.
KS	And – and that's the distinction, Colin, that we've had at a – at a state level, looking at basically water above the floorboards and water into the – you know, the property but not affecting the – the building itself. It – can I just ask you, do you need any additional resources around the – the sandbagging production and filling of sandbags?
CJ	My answer an hour ago was no. I might actually now change that to a yes.
KS	I think...
CJ	We'll just work out exactly what we require and I'll come back to the district coordinator.
KS	Yeah. Yeah, okay. And come straight back to me and I'll get people through the SDCC, you know...
CJ	Okay.
KS	...to ensure we get that sorted.
CJ	Yep. Can I just be clear on that home inundation again because this is one that matters and I know the Premier and the Lord Mayor have already spoken about it and it's one that the media about immediately, when you said '*floorboards*', I'm actually being a little bit finer grained in my distinction there. My first category is water into the home...
KS	Yep.
CJ	...but being heartless about it, if it's not actually affecting their ability to live in the home - that is it's actually downstairs laundries, garages and the like – they still get to live there.
KS	Yep.
CJ	So that's water downstairs. My second category is water into the living area of the home, the habitable area...
BD	Yes.
CJ	...and hence we need to evacuate.
KS	Yep, yep.
CJ	So if I took a typical two storey Queenslander home, my first category is water's downstairs, that they can live upstairs potentially without power or water supply or anything but they can live up there. The...
KS	Sure.
CJ	...second category is, they're on the kitchen table and I need to get them out.
KS	Yep.
BD	Col, Barry Dennien. Just clarifying the gauge heights you mentioned before, Col,

	what gauge was that that you were talking to - referring to?
CJ	I'm referring to Port Office.
BD	Port Office.
CJ	The gauge.
BD	Okay. And BOM – Peter, you still there?
PBad	Yes, I am. Yes.
BD	BOM – Peter, can you just clarify your process? You mentioned before you got Peter's release information, you then have your stream flow information and you calculate the river height at the Port Office as part of a process?
PBad	Definitely. We will take the new strategy in when it's released...
BD	Okay.
PBad	...rerun the model, but now I'm quite confused because – because the previous discussion was talking about three metres. In my – my rough thinking, 4,000 cumecs would give three metres AHD not three metres tide datum at the – at the gauge. So I think somehow or other – I'm not too sure. The 6,500 properties, 220 flooded at something like three metres, that sounds like AHD not tide datum.
BD	So...
CJ	No, I'm – I'm talking tide datum so yes, we have a real problem. If I add 1.24 to that we're in – we're in serious levels of inundation.
BD	So...
CJ	So, to be clear, if I looked out the window at the moment at the Brisbane River, we're kind of – haven't actually checked in the last couple of hours but with all the additional flow from the various sources, you know, the looking out the window test says we're at about three metres tide height datum. I haven't checked the gauge just at the moment.
Unknown male	No, it's at one point...
BD	The – sorry, just – I'm being...
CJ	Can I just say...
BD	Yeah.
PBad	Can I just say, to go from side datum to AHD we've got to subtract 1.24 metres.
KS	Yeah, it's Ken here. I think, Peter, once the – the estimates of the release arrangement are made, we really need the – the Bureau to give us the – you know, the estimated height at the Port Office. I mean, I – it is – this is a very difficult conversation but I think we'll need your estimate as quickly as we can after the – after the water grid manager has – and Seqwater have actually done their calcs on what needs to be released.
PBad	Yeah, thanks, Ken. And I'll just go through the process again that we've been following all day. What will happen is Seqwater will give us a new release strategy, we will run up the model which – that only takes ten minutes – and evaluate those results. We go back and discuss with Seqwater that we've got the right – we're in the same ball park with their releases, with – with what they've been modelling downstream. We – we get in the same ball park, then we make a phone call to Brisbane City Council FIC and indicate the sort of heights that we – our model is predicting and we will be using metres AHD at the Port Office. Following – following that discussion we – we update the Brisbane flood warning

	which is due for 3.30pm this afternoon with the revised height, metres AHD and that's a public – that's a public warning. So at that stage we've – we've got agreement with Seqwater on modelling upstream and downstream and we've got agreement with Brisbane City Council on the projected or predicted flood levels in AHD downstream and as – as our warnings did at 10.00 this morning or 10.30 this morning, we will give levels in metres AHD at Ipswich, Moggill, Jindalee and Brisbane city and you can see the format in the warning at 10.30 this morning. So there will be a revision this afternoon at approximately 3.30pm, if not before if the release strategy is significantly different.
BD	Just to - bit of background information, the current level as of 20 minutes ago is 1.6 metres, Col, at the Port Office.
CJ	Yep.
BD	So that's...
CJ	AHD?
BD	AHD.
CJ	2.84 therefore tide height.
BD	Okay. So are you concurring with that, Peter?
PBad	I – yeah, that's right. I mean, 1.6 metres AHD plus – correction the tide datum would give you that number plus 1.24. I think what – what I will do is just continue to talk - as we talk with the public and in all of these technical discussions – that we will talk in AHD, which is – which is the reference for the flood warning gauge at the Port Office.
CJ	Yeah, Colin here. Just to be clear, we know you do – to be clear, we will talk in tide because actually our experience is the public don't know what we're talking about when we talk in AHD. So I accept what you're saying but just to be clear, I'll talk in tide. So I'll keep adding 1.24 whenever I name a number and you'll keep subtracting it from mine, and vice versa. Can I just – perhaps, Peter Baddiley, it would be good if actually...
PBad	Yep.
CJ	...you could run through those – the 2.84 that we just talked about – 1.6 plus the tide correction...
BD	Mmm-hmm.
CJ	...giving you 2.84 20 minutes ago.
BD	Yeah.
CJ	Could we just run through how you believe that's made up, in terms of what the contributing flows are?
PBad	Yeah, we can – we can have a look at that and I'll have Jimmy look at that now. Could I just come back to the – if we're going to give two datums, this will be a change in our procedures that we've agreed with council. Do you think then – either we're going to use these two numbers consistently – in other words, the Bureau should – should give both numbers – I'm just concerned that there's going to be confusion with two numbers floating so I'm quite happy to do what – do – to make last minute changes to this, but I think we just need to be clear, you know, that we are doing this and whether the Bureau should give both numbers, the AHD value and the tide value which would – would now be a departure from the procedures we've agreed with – with the engineers in council over the last several years.

KS	It's Ken Smith here. Peter, look there is an issue here of statewide consistency and I'm – I'm assuming your levels, that you're issuing, are – when we talk about, you know, peak heights – are in fact not the tide heights. They are the – the – the – as you're saying, the consistent way of describing this across the state, whether this is in St George or Gympie, is the way that you've described?
PBad	Generally speaking, although tidal areas vary. In some cities – for example, Mackay, they want to use the tide gauge, but for Brisbane city all of the reference information we have for Brisbane's flood is against AHD and that was established shortly after the 1974 flood – the 1974 flood was 5.5 metres AHD and has – we've been using AHD levels since shortly after the '74 flood, from my knowledge...
CJ	Yeah, it's Colin here. To be clear, every engineer in council absolutely uses AHD. Everyone that does buildings and planning approvals and - everything else uses AHD. What I'm talking about is every time we issue a statement to the public, they don't know what AHD is and we actually therefore say you have to add – so if we talk about one of our alerts, it'll actually say it is actually just triggered stream height AHD, add 1.24 metres to actually get the tide height. So if you talk foreshore flooding at Sandgate, it'll say the gauge has just tripped one point whatever metre AHD and then it'll say '*(add 1.24 metres to get your tide height)*'. The reason being is that the public don't actually get AHD.
CJ	So...
Unknown male 2	Yeah.
CJ	Boaties, fisher people, surfers – they understand tides, they don't get the – particularly when we're talking tidal flooding here. I'm not talking, like, stream flows and flash flooding...
CJ	...up the top of the creek. We're just talking the river streams. But, look, I'm happy that we pursue that with you more offline as to what it does. Ken, I'm very happy to ensure that we have statewide consistency...
KS	Yep.
CJ	...in terms of the way alerts go out, but if we go out and actually talk about, you know, the Brisbane River outside our office here – and a quick visual check says that it's now just lapping the bottom of the boardwalk outside GOMA and the art gallery, which means she's just actually probably starting to push three metres or just below three metres – so that's why I was actually interested. Because when we did this on Friday, about the same time and we were actually on a different teleconference with my FIC – Flood Information Centre – people, what we were getting from the BOM information and the modelling – just to use one example, and this isn't criticism, it's just the difficulty that we're dealing with here – is that we were dealing with a 0.3 metre oceanic sort of correction or addition and then in the end it turned out to be 0.501. So we're actually having to track it reasonably closely. On Friday actually we were slightly flat footed in terms of the number of roads that we proactively closed because we actually had an eight inch tide height difference compared to what the model was saying and actually what we went out and did. So that's why I was interested as to how the 2.84 20 minutes ago actually is made up or – in terms of, from the base tide then plus how much is Wivenhoe adding, how much is Lockyer and Bremer adding and how much is local – if you like, Brisbane – adding to it? That's the way we've been calculating it, in terms of being able to work it up as a communication.
PBad	Ken and Col, could I just please add a comment that as we get increasing flows the 1.24 does not apply - as we get increasing flows the 1.24 only applies to

	Brisbane city at low flow. As we get higher flow, the tide is progressively drowned so you don't add 1.24 to it. The – all of the levels that we give are on AHD, partly for that reason. If we go through to – now to four and five thousand cumecs, whatever the number might be, we don't use 1.24, the tides become progressively drowned.
CJ	Okay, that makes sense.
KS	And thank you, Peter. I think that's really important and, I mean, clearly this is a discussion that – that has to occur between all of the parties and, Colin, any information that – that council puts out has to have regard to, you know, that bit of information, that it's not just, you know, adding the 1.24 to the AHD levels.
CJ	Yeah, really the information that we put out basically – so for example, mid-afternoon we'll be putting out something which actually – I'm getting more concerned about what we actually need to put out, in terms of the amount of inundation that we're now expecting with this. The reality is we won't be saying a metre level in that at all. Rather we'll be saying, look this amount of water's coming downstream...
KS	This is what it will be.
CJ	Yeah.
KS	And – and going back to your point, I think what we need, Barry and Peter, is a break-up of what's the effect of the release from Wivenhoe and what's the effect of tide and – and of other water coming into the – the system from, you know, other sources – yeah.
BD	Yep.
KS	On this side of the dam wall.
BD	Can, at this point, I just bring in Ipswich. Carl, you're still there?
Carl	I'm still here.
BD	And Peter, have you got any comments on Ipswich – the impacts on Ipswich with the releases – be they increased from Wivenhoe.
PBad	Yeah, re – re Ipswich, we're indicating to reach at least 9.5 metres during the early hours of Tuesday. This will now depend on how much run-off – how much rainfall and run-off we get in the Bremer Warril systems. We'll be revising that during the day according to the rainfall that's recorded. Ultimately when the flows reduce in that system, the heights at Ipswich will ultimately be similar to the heights at Moggill. So we'll go into a – a backwater flood situation...
BD	Mmm-hmm.
PBad	...for – for Ipswich ultimately but at the moment we've got fairly high inflows coming through to Ipswich and in terms of the break up of flows from – from releases from – from – the break up of the heights between what various contributions they are, that virtually changes hour by hour but right at the moment we're using about a 0.4 metre coastal anomaly - that's from the set up of the ocean - is adding 0.4 metre to the tide, then we model the combined flow through the Brisbane city against that predicted tide to get the levels upstream. In terms of – based on a previous strategy, we were looking at a maximum of about 3,700 in Brisbane – based on previous strategy – with 2,700 of that coming out of Wivenhoe. But at the moment we've got about 700 cumecs coming out of the Lockyer system, probably of the order of 500 coming out of the Bremer system – something of that order.

BD	Okay.
Carl	Well, if we get the 9.5 at Ipswich, we know what that looks like.
BD	Thanks...
PBad	It could potentially higher if we get heavy rains in there and we'll just keep looking at making predictions for Ipswich based on what rainfalls are in the catchment and based on what level is at Moggill.
KS	What is the – the impact at 9.5?
Carl	Ken, there was a problem for us – what'll happen if the Bremer gets up to 9.5 and we have significant rains, we won't be able to get water into the river so if we have the river up, but not rain we're probably not too badly off but, yeah, the combination of a high – high river level of 9.5 plus a lot of rain, then we'll have local flooding.
KS	Flash flooding. Yeah, okay.
PBad	Can I just add that while I've been speaking, Jimmy Stewart is here and he'll just comment on the effects of the last few hours of rain for Ipswich, which is now taking it up higher. So I'll ask Jimmy just to add that information.
JS	Yeah, g'day guys. I've just been running up – crunching some more numbers of the – the additional rainfall. We're probably looking at a level of above 11 metres at Ipswich, as we speak, but that's increasing all the time. The rainfall's still coming down.
Carl	Now what time – what time frame to get to 11?
JS	Early hours of Tuesday.
Carl	Okay.
JS	And that – that could change at again, both with further rainfall and the release strategy, if that alters this afternoon.
BD	Okay. Is there any comment now for Somerset while we're here, just to close the third council? Peter?
BB	No, I think we're right at this stage. The Lockyer is still rising here. Lowood Bend is just under it'll take out the main road if it rises about another couple of feet, but most of us are dry. The Wivenhoe's backed up and broke the Brisbane Valley Highway at Paddy Gully, it's gone over there so – but we're all dry.
BD	Thanks, Bob.
KS	Sorry, Barry, it's Ken here again. Just going back to Carl, what are the impacts then at 11, if we're looking at 11 tomorrow morning? Are we looking at evacuations, for example?
Carl	I'm not sure, Ken. I'll have to get my guys – they've been working on, sort of, a nine, 9.5 which we weren't too overly concerned about but...
KS	If we're looking at 11 – can you – can you give us a call separately?
BD	Yep.
Carl	Yeah, I'll get them to have a look at what the impact of – at 11.
KS	Okay, thank you.
JS	Excuse me. It's Jimmy Stewart at the BOM again. Could I just clarify that that 11 is likely to increase. The rainfall is still coming down so that's probably a minimum

	level.
Carl	Thanks, Jimmy.
Carl	I've written down '*11 plus*'.
BD	Okay. Thanks, Carl. I'm going to have an attempt, guys, to summarise some of the actions and if there's any further information, we'll close this because there's a series of things that need to happen fairly quickly. So summary of actions is – first cab is Peter Borrows is rapidly finishing off the release strategy and Peter, an estimated time when you'd submit that to everybody including the BOM to start their assessment?
PBor	Near enough, 3.00 – quarter to 3.
BD	Peter, I'm looking at you saying is there any quicker – BOM normally do a – a release at 3.30...
PBad	Yeah.
BD	...so is there – so I'm looking at Peter here and he's given me a half a nod so...
KS	Yeah, sorry, Barry...
BD	Yep.
KS	...if we – if we're going to keep to this timetable as – as Peter Baddiley suggested that they get information out by 3.30, it's absolutely essential – even if we're looking – Peter, I would've thought - at a release strategy that then is updated if necessary. There's going to have to be another interim release strategy to inform that – that – that announcement and then informing people about what the potential impacts are.
BD	So...
KS	Sorry, I – I just think – wait till that sort of time.
BD	Okay. So Peter Baddiley, how long do you need to run your model once you've got your input from SEQ?
PBad	Oh look, that – that only takes 15 minutes and we'll go through a round of – in that 15 minutes we'll go through a round of discussions firstly with Seqwater and then with Brisbane City Council. It then takes us about 20 minutes to run up a new warning for issue to the public, which will contain the new height. The 3.30pm update is what we've indicated that we will give a next warning at about 3.30pm but clearly if – if circumstances changing rapidly we're talking now about heights for Tuesday and Wednesday, I would just like to hit the – hit the media before too late so that we've got an update in place. Probably not later than about 4ish or 4.30 so we get – capture all the news channels and so on late in the day.
BD	So, Peter...
CJ	Colin here. I'd prefer it faster than that for us to actually get media here, 4.00 is, you know, starting to run pretty late for us to be able to do anything with it, in terms of community.
BD	Sounds like consensus to run earlier at, say, 3.30. So, Peter, how – when would you need Seqwater's information – be it interim now – to still meet the 3.30 deadline?
KS	It will take about 35 minutes to get the BOM work done.
BD	Yep.
KS	So I – I think we should finish this and, Peter, you need to get an estimate of

	getting it to – to the – the BOM, like, 2.30.
BD	Yeah, that's – we're sort of nodding at that, Ken, as well.
KS	Yep.
BD	So action 1, Peter Borrows and then BOM to – as soon as they can – do that model run and start that consultation process with – with all those involved in that consultation process. I had a second item here where BCC – Col, you were to share your flood maps with – with Ken and also Ipswich were to re-run their inundation sort of impacts and get that back to Ken as well, based on 11 plus metres.
Unknown male	Yep.
BD	And BCC had a mid-afternoon press conference. Col, I take it you were going to come out mid-afternoon?
CJ	Yeah, 'cause we actually really have to come back then at a suburb by suburb level, taking the action, so...
KS	Col, can we – can we talk so that I can get the – the Premier to talk to the Lord Mayor because clearly this will be, you know, quite significant, not only for Brisbane but also through Ipswich. And the timing – if this is Tuesday morning, then we've got to give people, you know, adequate notice.
BD	Yeah.
CJ	Yeah, they actually already have spoken but you and I should speak again.
KS	I – I just think - as a result of this information, I think the Lord Mayor and Premier were working on different assumptions...
CJ	Absolutely they were. They were working on the stuff that I said before.
KS	I know, Colin, and that's why I think we need to get this material and – to both the Lord Mayor and to the Premier so that they can now discuss this situation but also the – the other issue is with Mayor Pisasale.
CJ	That's right. Now I was going to actually offer – Carl, whether – I assume that you have your own stuff but we're happy to give you our map as well that shows our 4,000 cumecs and how it backs up the Bremer and what that means for you, but I assume you have your own stuff.
Carl	Yeah, I think my guys and your people are pretty much in contact with each other on this anyway, through that Floodwise...
CJ	Yeah.
Carl	...program.
CJ	Okay.
Carl	We've got all that.
KS	Okay. And look – Ken here again – I'll talk to both you, Carl and Colin, about any deployment of additional resources that you might – you might want so that – to get onto that quickly.
CJ	Yeah.
Carl	I'll come back to you again once I've got a better picture on what 11 plus metres looks like for us.
BD	Yeah.

CJ	Yeah.
KS	I'm just wondering – Jimmy, have you got any idea of what sort of plus we're talking about?
JS	Yeah, not at the moment, guys. It's – with the rain still coming down and there is an effect of – of backwater from the Brisbane River so the release strategy will affect that so, yeah, I wouldn't like to comment until we get that.
KS	Okay. Well...
PBad	Peter here. Offline with Ipswich City Council we can – as we normally do, we can run through some forecast rain scenarios – 11.7 is the threshold of major flood level at Ipswich and if I just sort of remind the group that in terms of response, Ipswich will be the first area of – of concern during the night and Brisbane follows, you know, some – some hours and more after that.
KS	Okay.
BD	Thanks, Peter.
KS	Barry, can I suggest we go off and do this work.
BD	Yes. Yes.
KS	'Cause obviously the – the release strategy is absolutely essential to get that into the system, if we're going to achieve this, you know, 3.30...
BD	Yes.
KS	...as the – the absolute deadline.
BD	Okay. And...
CJ	Colin here. Can I just ask – given a 11 metre plus for Ipswich, do you have an AHD spot height for me in Brisbane?
PBad	Hold on a minute. What you're asking really is - what's in the current model is a – is the old release strategy.
CJ	Yeah, that's okay. I just want...
PBad	For Brisbane now that takes us through to – let's just have a look – brings it up to around about the 2.4, 2.5 metres on Wednesday high tide early, but that – I must stress that that is with the...
CJ	I understand.
PBad	...strategy of a few hours ago so really it's probably can only go north from there.
KS	Yeah, let's get the updated information through.
BD	Yeah.
CJ	Yeah, that was more so that I can just check that we are calibrated, if you like, using the same stuff. And Ken, just for your early info, we – probably the best that we can work on is our flood mapping at 4,000 cumecs.
KS	Yep.
BD	Yes.
KS	Look, that - that'd be useful.
BD	Yes. Okay. We'll call this closed and we – if we need to get together again later this afternoon or early evening based on the information that comes out, we'll reorganise that meeting and get together again.

CJ	Excellent.
BD	Thanks, gentlemen.
PBad	Thank you.
KS	Thank you.
CJ	Thanks.
BD	Thank you.

SR-04

Lance McCallum

From: Barry Dennien [Barry.Dennien@seqwgm.com.au]
Sent: Monday, 10 January 2011 11:46 AM
To: Lance McCallum
Subject: FW: Wivenhoe Dam release strategy
Attachments: Technical Situation Report W37.docx

Importance: High

Lance

As discussed

Barry

Dear CEOs

This teleconference at 12.30pm today is to update you on the current Wivenhoe flood release strategy.

In preparation for this meeting we are intending to send out a Technical Report closer to 12.30pm that will detail the strategy.

Dial in details are:
Phone: 1800 672 949
Pin: 7243 3128 4045

If you wish to contact me regarding this teleconference, please phone my office on (07) 3033 0786 or mobile 0419725708.

Carl and Rob,

Attached is the Technical Situation Report drafted by Seqwater following consultation with BoM and Councils.

Key points are:

- There is continuing heavy rainfall in catchments. Total inflows over the event will be at least 1,500,000 ML and probably above 2,100,000 ML.
- As a result, Wivenhoe Dam is above 140% of capacity and Somerset is above 150%, with both rising fast.
- As specified in the approved Operational Procedures, the primary objective is now to minimizing the risk of urban inundation (release strategy W2). This involves larger releases now, minimizing the risk of even larger releases later (were the flood compartment to reach high levels).
- Consistent with this release strategy, dam releases have increased to 2,000 cubic metres per second (172,000 ML/day). It is expected to increase to 2,600 cubic metres per second by midday tomorrow.
- As specified in the approved Operational Manual, we are targeting maximum flow in the Brisbane River of 3,500 cumecs at Moggill. This is the levels above which urban inundation begins.
- For comparison, flows would be up to 12,000 cumecs without the dams.

Seqwater has previously had verbal conversations with Council staff regarding impacts. However, given the significance of this event, and consistent with the draft protocol, we are seeking formal Council input to this version. This advice would relate to the impact of releases, based on the type of scenario analysis that you described this morning.

Our preference would be to finalise the report, including your input, before or at the 12.30 teleconference with Council CEOs and the BoM. This timing means that it can underpin all media messaging this afternoon.

I appreciate your assistance. Please call me if I can be of any assistance.

Regards,
Dan

Daniel Spiller
Director, Operations
SEQ Water Grid Manager
Phone: (07) 3405 0364 | Fax: (07) 3405 0373 | Mobile: 0403 607 857
Email: daniel.spiller@seqwgm.com.au
Visit: Level 15, 53 Albert Street Brisbane
Post: PO Box 16205, City East QLD 4002
ABN: 14783 317 630

This email, together with any attachments, is intended for the named recipient(s) only; and may contain privileged and confidential information. You understand that any privilege or confidentiality attached to this message is not waived, lost or destroyed because you have received this message in error. If received in error, you are asked to inform the sender as quickly as possible and delete this email and any copies of this from your computer system network. If not an intended recipient of this email, you must not copy, distribute or take any action(s) that relies on it; any form of disclosure, modification, distribution and/or publication of this email is also prohibited.
While all care has been taken, the SEQ Water Grid Manager disclaims all liability for loss or damage to person or property arising from this message being infected by a computer virus or other contamination. Unless stated otherwise, this email represents only the views of the sender and not the views of the SEQ Water Grid Manager and/or the Queensland Government.

TECHNICAL SITUATION REPORT

TSR Number	W36	Date of TSR release	10.1.2011	Time of TSR release	8am

Seqwater status of inflows and dam operations

Current status but could change based on inflows or rainfall.

Current objectives	• Continue increasing releases to discharge flood waters but keep impact downstream to minimum.	
Strategy	• All bridges are now inundated .	
Key considerations	Storage levels:	Above FSL
	Inflows:	Inflows expected around 1,500,000ML which is close to 1974 event.
	Rainfall:	Continuing
	Lockyer/Bremer:	Monitoring their inflows
	Brisbane River:	Impact as below.

Rainfall

Moderate to heavy rainfall has been recorded in the Upper Brisbane and Stanley Rivers in the last 12 hours with totals up to 90 mm. Totals for the last 24 hours range from 100 to 325mm.

Mt Glorious recorded 100 mm in the last 12 hours.

Rainfall of similar magnitudes is expected in the 12 to 24 hours around the downstream catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level was 39.97 m and steady. Five gates are open releasing 475 m3/s. The inflow into the dam since the commencement of the event is 52,000 ML. Estimated event volume is 72,000 ML assuming no further rainfall. Gate operations will continue until at least Tuesday 11 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level at 05:00 was 102.84 m AHD and rising (storing 193,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 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 lake level will reach about 103.5 mAHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

Since the commencement of the event on 02/01/2011approximately 142,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This is expected to 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 have peaked and are falling slowly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have peaked at 7,350m3/s at 23:00 on Sunday 9 January. This peak is bigger than January 1974 and February 1999 at this location.

The dam level is rising quickly, with the current level being 70.77m AHD (storing 450,000 ML). Estimated peak inflow to the dam just from the Upper Brisbane R is around 8,800m3/s and, at this stage, the dam will reach at least 73.3 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it was necessary to start to increase the release from Wivenhoe during 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, the aim is to keep combined flows in the lower Brisbane to 3,500m3/sec if possible. Consistent with the approved Operating Procedures, these target combined flows may need to be increased to 4,000m3/s, and potentially higher. In either case, this is significantly less than the current estimated combined pre-dam peak inflow of 12,000 m3/s.

Fernvale Bridge approaches and Mt Crosby Weir Bridge have been inundated and both bridges are now closed.

The current release rate from Wivenhoe Dam is around 2,000m3/s (172,000ML/day). Gate opening will continue to be increased during Monday and the release is expected to increase to at least 2,600m3/s in the next 12 to 24 hours and further depending on downstream flows..

Since the commencement of the event on 02/01/2011 approximately 275,000ML has been released from the dam, with an event total approaching 1,600,000ML without further rain and as much as 2,100,000ML 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. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours. Currently the estimate peak flow in the lower Brisbane River will be the highest since Wivenhoe Dam was completed in 1984 but still well below flows the 1974 levels.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

Seqwater Technical Officer name	Robert Drury

Seqwater Technical Officer position title	Dam Operations Manager
0410378740	0419378740

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	flood.qld@bom.gov.au

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	0414 501 398

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	0417 620 225

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	0409627313

Collated and distributed by (Agency)

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

Next TSR due	Date	11.1.2011	Time		or Event	Change in strategy