



Wide Bay Burnett Conservation Council Inc.

**WIDE BAY WATER CORPORATION
CONTRAVENTION OF SECTION 813 (1)
QUEENSLAND WATER RESOURCES ACT 2000**

25TH JUNE 2008
25 ELLENA ST
MARYBOROUGH
4650

INTRODUCTION

Dear Minister,

Wide Bay Water Corporation (LGOC) of the former Hervey Bay City Council , was granted an IROL in May 2004 . The IROL was created to allow for WBWC to manage the resource created from the 2 meter raising using crest gates.

Section 2.6 of the IROL expressly requires that the proponent (WBWC), must ensure that :

“Upon the raising of Lenthalls Dam, water is not to be backed up so as to cause flood inundation of the Wongi Waterholes above the present levels experienced at the time of granting the Licence.

Any structure, (including any embankments, gates, syphons or pumps) that is designed to protect the Wongi waterholes from flooding by the raised dam full supply level is to be operated in a manner that protects the Wongi Waterholes from prolonged flood inundation.

When the drainage pipe at Loop Road is inundated so that the flood flap on the downstream end of the drainage pipe is closed, the level in the Wongi Waterholes must be reduced until no more water drains into the pump well at Wongi Waterholes (described in S1.4) at a rate consistent with the natural draw down rate that would have existed prior to the raising of Lenthalls Dams.”¹

Section 4.3.2 of the IROL expressly requires that,:

¹ Interim Resource Operations Licence For Wide Bay
Water Supply Scheme ISSUED TO WIDE BAY WATER CORPORATION
July 2004

“If the Licensee becomes aware of any serious incident or event of detriment to the water managed under the Licence and related ecosystems, the Licensee must report the situation to the chief executive no later than 24 hours after the situation becomes known by the Licensee”.

DISCUSSION OF FEBUARY EVENT AND INNUDATION



This Image taken by a long term resident in the Wongi area , on the 8th feb 2008 , clearly shows that the water level at Wongi Water Holes (on the left) had overtopped the loop rd at RL 26.5. This is 96 hrs previous to the Dam Wall reaching RL 27.4 on the 12 th Feb 2008.

Due to crest gate failure on Feb 6th 2008² , dam water levels reached 26.55m , this resulted in the water levels at Wongi Waterholes being elevated to RL 27 .The letter indicates that water levels at the Dam wall remained at this height until 16th Feb 2008.

NRW officers inspecting the Loop rd sight on the 22nd Feb 2008 , noted that the water level had fallen ,but *‘further pumping was required’* .

² Appendix 1 Letter to Ron Guppy from WBWC dated 10th Mar 2008

Given that the above image indicates that WBWC would have known (reporting by the corporation Ranger combined with the Dam levels), Wongi Water Holes were already inundated, and that Section 4.3.2 of the IROL required WBWC to notify the Chief Executive of NRW within 24 hrs of the *event of detriment to the related ecosystems*, it would be timely for a copy of evidence of the report being furnished to the Chief Executive, within the 24 hr period, by WBWC , to be available to the public. This would be substantiated by evidence of contact from WBWC to NRW between the 6th Feb and 7th Feb 2008.

The letter from WBWC to Mr Ron Guppy is dated the 10th March and gives no indication of an incident report occurring between the required dates, despite the statement in the letter by Mr Peter Care that , “ *on the 5th Feb heavy rainfall in the catchment resulted in the Dam water level exceeding 26.M, “ and “ by the 6th Feb 2008 the Dam water level had reached 26.55M and none of the 5 gates had opened as designed, the first gate should have opened at 26.15M with each gate opening at 50mm reservoir intervals”.*

Question : Does the Agency have a record of the incident being reported to the Chief Executive, by WBWC , within that 24 hr period? (6TH -7th Feb 2008)

Below is an email extract from the NRW officer responsible for the incident inspection of the February inundation:

“I can report that the Wongi Waterholes were inspected on 22 February 2008. The inspecting officer noted that Wide Bay Water had been pumping from the waterholes to the dam and that further pumping was required to lower the level.

The department is in contact with WBW concerning implementation of and compliance with the IROL following the recent major flow event in the system. The Department is now awaiting the submission of WBW's operational/quarterly report.

The non-operation of the gates on Lenthalls Dam is being investigated separately as a dam safety issue.

Yours sincerely

Barry Lawson
Principal Policy Officer, Water Management
Telephone: 07 322 47991 **Facsimile:** 07 340 62190 **Mobile:** 0407881531
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Department of Natural Resources and Water
41 George Street, Brisbane Q 4000
GPO 2454, Brisbane Q 4001

The images below were taken by NRW staff present at the Loop rd on in early March .



DISCUSSION

From the evidence available it can be demonstrated that Wongi Water Holes were inundated from 5th February 2008 until post 22nd February 2008, based on the above

email information and images, it is possible that the inundation lasted until March 7th , based on the email below:

“A further update on Wongi Waterholes – The area was inspected again on 7th March and the water level has been further lowered to the top of the pipe under the road and the level in the waterholes is now lower than the dam level. The inspecting officer reported that further pumping may not be possible as the pump is likely to break suction.

In relation to the water levels, no further action is required from Wide Bay Water.

A couple of photos are attached for you information.

<<Wongi waterholes Report extract.doc>>

Yours sincerely

Barry Lawson
Principal Policy Officer, Water Management
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It can then be demonstrated that the inundation may have lasted as long as 30 days (5th FEB - 7TH MAR), based on the evidence presented.

CONCLUSION

An inundation period of ca 30 days for Wongi Water Holes, is not consistent with the intent of the IROL , which is that , “***Wongi Waterholes must be reduced until no more water drains into the pump well at Wongi Waterholes (described in S1.4) at a rate consistent with the natural draw down rate that would have existed prior to the raising of Lenthalls Dams.***”³ .

The anecdotal “ *natural draw down rate for Wongi Water Holes*”, pre the 2 meter raising , considered by long term residents at Wongi and Traditional Owners , is ca 24 hrs. (Personal communication, Allan Family members, Aunty Marie Wilkinson Butchulla Elder, 6th June 2008).

³ Interim Resource Operations Licence For Wide Bay
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July 2004

RECOMMENDATIONS

1. That the Chief Executive release any evidence which the Agency holds, to the general public, that WBWC made an incident report to the Agency within the 24 hrs required under section 4.3.2 the IROL .
2. That in the event of no incident report pertaining to Wongi Water Holes being initiated by WBWC , within the 24 hr period , that the Chief executive take legal action to prosecute WBWC under Section 813 (1) for breaching this requirement of the IROL.

DISCUSSION JUNE EVENT AND INNUNDATION

The rainfall event on June 1st -3rd resulted in the water level overtopping the loop rd (> RL 26.5, possibly > RL 27) as indicated in the image below , taken 3 days later , clearly indicating flood debris still present on the loop rd





This image shows the water level on the Wongi Water Holes side , level with the white guide marker .



This image is approximately 400m upstream of the loop rd and indicates that the levels had been 800mm higher (based on the markings on the forked *Corymbia Intermedia* to the right of the sign), which would equate to > 500mm / RL 27 over the loop rd,



Image close up , arrow indicating previous water level.



This image indicates that 4 days after the levels indicated on the 6th June, the level had fallen by 400mm (extraction rate = 100 mm per day) .





This image indicates that the water level is ca 400mm lower than the level of 6 th june , six days earlier . (extraction rate 66mm per day)





This image taken 9 days after the 12th June, and 15 days after the 6th of June, indicates that the water has returned to a natural level.

CONCLUSION

It has been clearly substantiated by the above images, that Wongi Water Holes were inundated for ca 17 days (3rd June – 20th June) An inundation period of ca 17 days for Wongi Water Holes, is not consistent with the intent of the IROL, which is that, “***Wongi Waterholes must be reduced until no more water drains into the pump well at Wongi Waterholes (described in S1.4) at a rate consistent with the natural draw down rate that would have existed prior to the raising of Lenthalls Dams.***”⁴.

The anecdotal “*natural draw down rate for Wongi Water Holes*”, pre the 2 meter raising, considered by long term residents at Wongi and Traditional Owners, is ca 24 hrs. (Personal communication, Allan Family members, Aunty Marie Wilkinson Butchulla Elder, 6th June 2008).

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The Agency has verified the issue by the email below from the Officer involved.

Dear Mr Currie,

Thank you for your email of 17 June and the photos you included of the pumping activity from Wongi Waterholes. The Department has also made its own inspection of the site on 10 and 19 June 2008 to check compliance with the IROL and will continue to periodically monitor activity as required.

As a result of these inspections and the concerns raised by the Conservation Council, the Department's Bundaberg office will be carrying out further assessments in relation to the drawdown issue. The Conservation Council will be advised of the outcome of these assessments and any subsequent discussions with Wide Bay Water.

I hope this information meets your needs. If not, please do not hesitate to contact me or alternatively Mr Frank Dwyer at the department's Bundaberg office on 41315867.

Yours sincerely

Barry Lawson

Principal Policy Officer, Water Management

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WBWC REQUIREMENTS

WBWC were required to make an incident report to the Agency within 24 hrs of the overtopping of the loop rd on the 3 rd June 2008.

RECOMMENDATIONS

1. That the Chief executive please provide any documentation the Agency holds, to verify that the IROL has been adhered to in respect of incident reporting under section 4.3.2 by the WBWC.
2. That in the event of no incident report pertaining to Wongi Water Holes being initiated by WBWC, within the 24 hr period (3rd - 4th June 2008), that the Chief executive take legal action to prosecute WBWC under Section 813 (1) for breaching this requirement of the IROL.

Yours Environmentally

Roger M Currie

Vice President

Water Policy Officer

WBBCC

APPENDIX 1 LETTER TO RON GUPPY FROM PETER CARE

Wide Bay Water Corporation **ABN 98 380 729 010**
29-31 Ellengowan Street Urangan HERVEY BAY Q 4655

Enquiries: Peter Care
Phone: (07) 4194 7650
Your Reference:
Our Reference:



10 March 2008

Ron Guppy
Principal Engineer (Dam Safety), Water Industry Regulation
Department of Natural Resources and Water
GPO Box 2454
BRISBANE, QLD 4001

Dear Ron,

OPERATION OF LENTHALL DAM GATES

Following our conversation last week and your subsequent email, the following is an account of the operation of the Lenthall Dam gates last month and actions to remedy the failure of the gates to open as designed.

- On 29th January, Wide Bay Water (WBWC) staff were successful in opening (lowering) the centre and smallest gate installed on the dam structure, water level at the time was 25.44m. The dam designers were notified of the event at that time.
- On the 5th February 2008, heavy rainfall in the Lenthall Dam catchment resulted in the dam water level exceeding RL 26.0m and overtopping the crest gates.
- By 6th February the dam water level had reached 26.55m and none of the five gates had opened as designed. The first gate should have opened at 26.15m with each gate opening at 50mm reservoir level intervals.
- On the 11th February the dam water level had dropped to 26.20m with still no gates opening. The crest gate designers, GHD, attended the site that day to view the gate operation.
- Continued heavy rainfall in the catchment resulted in the dam level reaching 27.41m on the 12th February with no gates opening. GHD and their sub consultant, Flowgate Projects from South Africa, were notified of the events. WBWC were notified by GHD that there was the potential for all gates to drop of their own accord if dam water levels exceeded 27.55m and that the smallest gate may drop as water levels receded.
- On the 16th February 2007 around midday, the smallest gate opened and remained down for about 15 hours to release flows down the Burrum River. The gate closed automatically at the correct now reduced reservoir level.
- On the 18th February, GHD and WBWC were able to open Gate 1, adjacent to the walkway, with assistance from a hydraulic jack. Once open the gate responded normally to manual control and closed without incident within 15 minutes on operating the manual control valve.
- GHD and Flowgate Projects staff attended the site on 25th February to determine the cause of the gates failure to open as designed. Gate 1 was again lowered with the assistance of a hydraulic jack which established that the primary cause of the inoperability was due to the seal friction as a result of the high pressure exerted on the gate seals. An external load of approximately 600 kg was sufficient to operate the gate and allow the gate to lower. Subsequent operation was achieved with 200 kg of



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CONTINUOUS IMPROVEMENT

external load. The gate outlet was adjusted to reduce the flow out of the gate and increase the volume of water within the gate during filling to increase the opening weight of the gate and allow it to lower. This was trialled and Gate 1 operated without any external assistance.

- The outlets for each of the five gates have subsequently been adjusted to allow automatic operation along with the lowering of the emergency inlets weirs -to ensure complete buoyancy tank filling at a lower water level.
- Measurements of the gap between the spillway lintel seal plate -and the seal clamping plate on each gates confirmed that the compression on the seal is greater than calculated during design stage.
- During the repeated operation of Gate 1 the movement of the gate was carefully observed and the gate once clear of the seal plate moves easily and freely. Gate closure after closing of the manual control valve is consistent and without incident.
- GHD and Flowgate Projects are presently evaluating options for adjusting the current gate arrangement, in the short term to ensure reliable operation of the gates, and in the long term to provide a permanent solution to prevent the high load on the lintel seal. The long term solution may require the dam water level to be below RL24.0m or the installation of stop logs on the dam crest to allow modification to be made.

As mentioned above, GHD and Flowgate Projects are evaluating options for both immediate and permanent solutions to the gate seal issues and once these have been finalised, your office will be notified of the outcome. At this point in time we believe the gates will operate as designed in the event of an extreme flood event.

NOT TIME

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During the event of the 12th February, access was cut to a limited number of properties upstream of the dam with WBWC keeping in regular contact with the owners to ensure that there was no detrimental effect. No reports of downstream damage were reported.

I have attached the Draft Emergency Action Plan, the Draft Standard Operating Procedures, and the Draft Dam Operation Manual as requested, but must emphasise that these are in a draft format only, until the gates are fully commissioned and operating as designed.

If any additional assistance is required, please do not hesitate in contacting the writer.

Yours faithfully



for

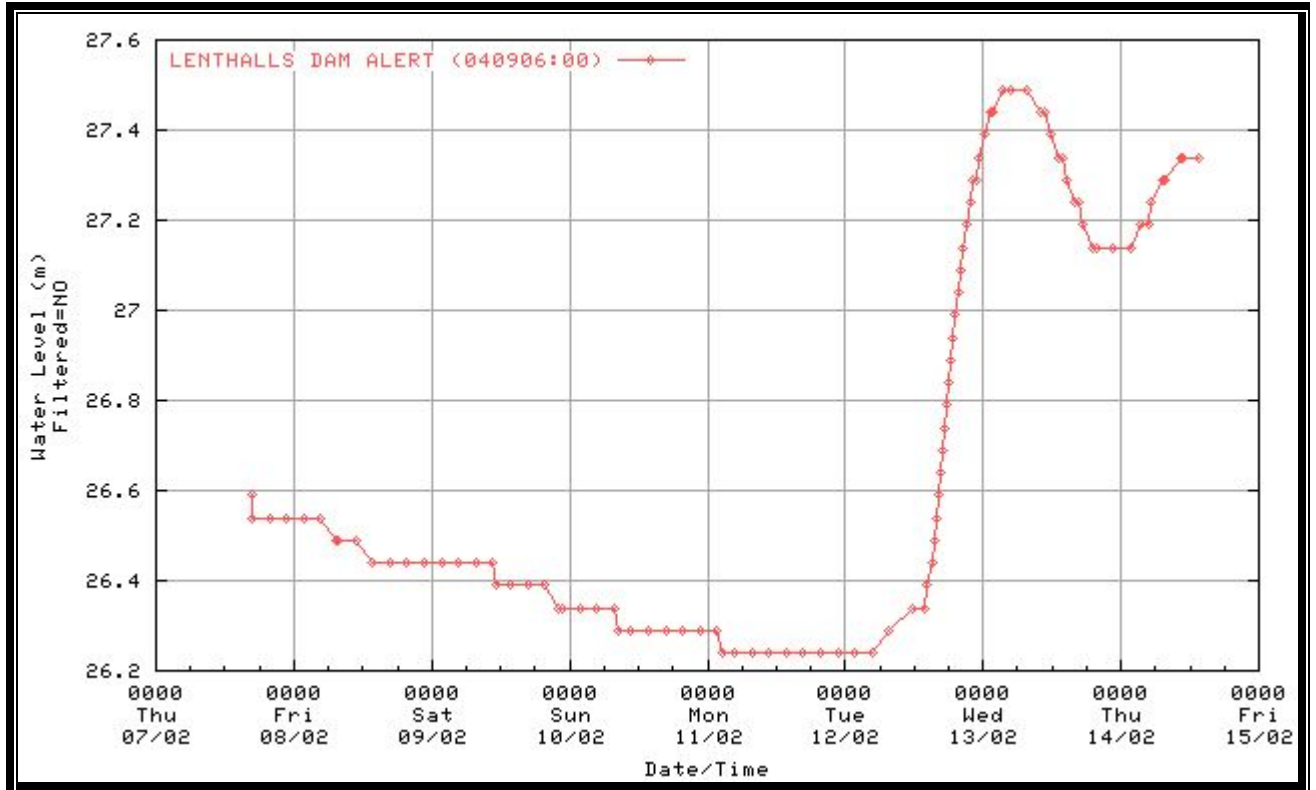
PETER CARE
DIRECTOR ENGINEERING CONSULTANCY SERVICES
WIDE BAY WATER CORPORATION

APPENDIX 2 BOM GRAPHS 14 TH FEB 2008

From: Jeff Perkins [mailto:J.Perkins@bom.gov.au]

Sent: Thursday, 14 February 2008 3:10 PM

Subject: Lenthalls [SEC=UNCLASSIFIED]



Jeff Perkins

Senior Engineer
Hydrology and Flood Warning, Queensland
Australian Government Bureau of Meteorology
Phone: 07 3239 8765 Fax: 07 3239 8687 Mobile: 0418 657 228

