



Government Inquiry into Havelock North Drinking Water

UNDER THE INQUIRIES ACT 2013

**IN THE MATTER OF GOVERNMENT INQUIRY INTO HAVELOCK
NORTH DRINKING WATER**

**INTERIM REPORT AND RECOMMENDATIONS OF THE PANEL
FOLLOWING HEARING IN JUNE 2017**

14 JULY 2017

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Introduction

- [1] A key requirement of the Terms of Reference for the Inquiry is to address the prevention of future contamination events and ways to minimise the risk of such events. In particular the Terms of Reference require the Inquiry to make recommendations on inter alia: “6. Any other matter which the Inquiry believes may promote the safety of drinking water and/or prevent the recurrence of similar instances”.
- [2] In its Interim Report dated 15 December 2016, the Inquiry made a number of recommendations relating to the safety of Havelock North drinking water for the next 12 months with the consent of all affected parties.
- [3] Between 27 and 29 June 2017, the Inquiry held a further hearing in the Hastings District Court. The purpose of the hearing was to consider two of the issues identified as part of the Stage Two investigation namely:
- (1) The current safety of Havelock North drinking water; and
 - (2) Drinking water partnerships and collaboration.
- [4] The scope and elements of these issues were identified in a paper “Stage Two Issues and Questions” issued with Minute No 8 dated 23 May 2017. The matters to be considered in relation to the first issue, current safety of Havelock North drinking water, included the following:
- (a) As concerns Brookvale bore 3 and its associated treatment plant: since re-opening on 7 March 2017, review its effectiveness, operational history, test results, maintenance and inspection schedule, any problems or concerns with it;
 - (b) Status of, and any plans for, Brookvale bore 2;
 - (c) HDC’s current WSP;
 - (d) HDC’s current Emergency Response Plan (ERP) for Drinking Water;
 - (e) The status of, and plans for, the Hastings bores supplying Havelock North;

- (f) The investigative monitoring regime recommended by the Inquiry on 15 December 2016: results, proposals for continued investigative monitoring, issues arising out of investigative monitoring;
- (g) The experience of the JWG in overseeing current drinking water safety: effectiveness, progress, issues;
- (h) What aquifer investigations to date; status of, and plans for further investigating, the aquifers from which the Hastings bores and Brookvale bore 3 draw;
- (i) Status of, and plans for, treatment of all water supplied to Havelock North.

[5] Importantly the matters to be considered included the Hastings bores. There were three reasons for this. First, Mr Thew of the HDC had advised the Panel that at various times throughout the year drinking water sourced from the Hastings bores was used to supplement the supply of drinking water to the residents of Havelock North. Second, the Inquiry was concerned at the number of transgressions in recent times involving E.coli readings in the Hastings bores. These have resulted in a number of the bores being classified as non-secure under the Drinking-water Standards for New Zealand 2005 (Revised 2008) (Drinking-water Standards), while others have now been rated as provisionally secure. Third, the recommendations made by the panel in December 2016 applied to the bores in both Brookvale Road and Hastings.

[6] The Inquiry records that inclusion of consideration of the issue of monitoring and testing of Hastings bores as a central question at the June hearing, as well as its consideration at the hearing, occurred without demur from any of the Core Participants.

[7] The Inquiry invited and received further evidence and submissions from the parties affected. The Panel heard oral evidence from a number of witnesses, including representatives of the Joint Working Group (Water Safety JWG) and executives of the Hastings District Council (HDC).

Issues concerning monitoring and testing

[8] One of the questions canvassed with the parties at the June hearing involved whether the recommendations made following the December 2016 hearing concerning monitoring and testing of Havelock North/Hastings drinking water should be amended or varied in any respects.

[9] The December 2016 recommendations concerning monitoring and testing comprised the following:

- (j) For at least the 12 months commencing as soon as practicable (but before Brookvale bore 3 is reactivated), monitoring and testing of the Havelock North and Hastings drinking-water supplies take place in accordance with the recommendations of Dr Fricker dated 6 December 2016 and, in particular, that the following minimum monitoring shall be carried out:
 - (i) 2-litre raw water samples be taken daily from each bore contributing to the supply of Havelock North drinking water;
 - (ii) total coliform and E.coli testing, using either Colilert 18 or such other effective and speedy test that the DWA approves;
 - (iii) enumerated tests for all reticulation samples and presence/absence testing for the 2 litre samples from the bores;
 - (iv) testing from the reticulation sites be continued in accordance with the DWSNZ and the requirements of the DWA;
 - (v) daily testing of FAC levels take place at the ends, and in the dead ends that are most at risk, of the reticulation with a pH level of less than 8 and with a required FAC level of at least 0.2mg/L, or an adjusted level if the pH level is greater than 8;
 - (vi) testing for disinfectant by-products take place as directed by the DWA; and
 - (vii) the test set out in (i) be carried out three times a day during and immediately after an abnormal wet weather event (this event, and the details of such increased testing, to be defined and prescribed by the Water Safety JWG).
- (k) For at least the four months commencing 12 December 2016, testing and monitoring for protozoa shall be carried out at each bore weekly using 1,000 litre samples, with the regime thereafter to be subject to review by the Water Safety JWG for frequency but still using 1,000 litre samples.
- (l) For the purpose of recommendation (k) above, the Eastbourne bores 2 - 5 should be treated as one bore.

[10] In relation to issues of monitoring and testing, the Inquiry heard expert evidence from Dr Dan Deere. At the suggestion of the Inquiry Dr Deere had been retained by HDC as an expert adviser on a wide range of issues including the ongoing safety of the Havelock North and Hastings drinking water. The Inquiry is grateful for his ongoing involvement as expert adviser to HDC.

[11] At the hearing there appeared to be a consensus that amending or varying the recommendations concerning monitoring and testing particularly recommendations (j), (k) and (l) was desirable. Dr Deere was invited to confer with Dr Fricker to prepare suitable amended recommendations for maintaining and testing.

- [12] At the conclusion of the June 2017 hearing, it had been hoped that it might be possible for the parties including HDC, the DHB and the DWAs to reach agreement as to recommendations concerning the safety of Havelock North and Hastings drinking water that were both necessary and reasonably practicable. It is unfortunate that such agreement has not been achieved.
- [13] Draft recommendations were developed with input from both Dr Deere and Dr Fricker. The DWAs were consulted through Mr Peter Wood. However an impasse was reached and the Inquiry suggested a telephone conference involving Dr Deere, Dr Fricker, Mr Wood, and Mr Thew of HDC. Counsel for HDC then advised that HDC was either unable or unwilling to participate in such telephone conference.
- [14] Despite the failure to agree on consent recommendations, the Inquiry Panel considers that it is appropriate that recommendations should be made. In formulating such recommendations the Panel has sought and considered advice from Dr Fricker. Such recommendations are in fact less onerous than the December 2016 recommendations. The Inquiry Panel also considers they are necessary in the interests of the ongoing safety of the Havelock North drinking water, and because the issues concern public health.
- [15] The Inquiry's expectation is that all members of the Water Safety JWG will co-operate to ensure that the amended recommendations are implemented.

Factual findings

- [16] The DWSNZ provide certain criteria for classifying a groundwater source as "secure". Essentially this means that the water can be supplied untreated and that monitoring for microbiological contamination is minimal. The Inquiry accepts that water suppliers in New Zealand should follow DWSNZ as a minimum. However Stage 1 of the Inquiry has demonstrated that there is good reason to be sceptical about the concept of secure groundwater, particularly when this classification is made based upon mean water age and minimal microbiological monitoring. Within New Zealand in recent months, several groundwater sources that were classified under the DWSNZ as "secure" have been shown to contain the faecal indicator *E. coli*.

[17] The Inquiry recognises that DWSNZ has criteria in place for monitoring of “secure” and non-secure groundwater. These matters will be further considered during the August hearing. Nevertheless the evidence before the Inquiry raises concerns about the safety of drinking water emanating from the Hastings bores. It is for this reason that one of the recommendations made in December 2016 provided that:

- (i) For at least the 12 months commencing 12 December 2016, the Hastings water will be treated with chlorination, and that the Water Safety JWG should keep under review the nature and extent of treatment required to ensure the safety of the Hastings water being supplied to Havelock North.

[18] The Inquiry Panel considers that, given the circumstances currently existing in relation to both Brookvale bore 3 and the Hastings bores, it is unwise to rely on the “secure” classification in the DWSNZ. The Inquiry Panel is therefore of the view that notwithstanding any current classification that may have been made by a DWA, and notwithstanding also the provisions of the DWSNZ, the Inquiry should recommend that all bores from which the HDC draws drinking water which may be supplied to Havelock North should be managed as non-secure and potentially subject to the influence of surface water and/or at the risk of contamination from defects in the sewerage systems.

[19] This finding and recommendation is made in the interests of ensuring safe drinking water for the residents of Havelock North and as an important step in preventing the occurrence of a further contamination event.

Recommendations

[20] The Inquiry Panel therefore recommends as follows:

- (a) The recommendations in A(a) to (i) and (n) to (o) of the December 2016 recommendations be confirmed.
- (b) All bores from which HDC draws drinking water for supply to Havelock North or Hastings be managed as non-secure and potentially subject to the influence of surface water and/or at the risk of contamination from defects in the sewerage systems until or unless all four members of the Water Safety JWG and Dr Deere (or equivalent expert adviser) unanimously agree that any bore may be managed as secure.

- (c) The monitoring and testing of the Havelock North and Hastings drinking water supplies be subject to the following regime:
- (i) 2-litre raw water samples be taken daily from each bore contributing to the supply of Havelock North drinking water that HDC deems to be “secure” or “provisionally secure” until a full calendar year’s worth of data has been collected. These samples are not necessary from bores that are deemed to be “non-secure”. For example, they are not necessary at Brookvale bore 3;
 - (ii) total coliform and E.coli testing is required on all samples, using either Colilert 18 or such other effective and speedy test that the DWA approves;
 - (iii) enumerated tests for all reticulation samples and presence/absence testing for the 2-litre samples from the bores;
 - (iv) testing from the reticulation sites be continued at the level currently in place;
 - (v) daily testing of FAC levels take place at the ends, and in the dead ends that are most at risk, of the reticulation with a pH level of less than 8 and with a required FAC level of at least 0.2mg/L, or an adjusted level if the pH level is greater than 8;
 - (vi) testing for disinfection by-products take place as directed by the DWA;
 - (vii) in any event the test set out in (i) should be carried out on three consecutive days after an abnormal wet weather event (this event, and the details of such increased testing, to be defined and prescribed without delay by the Water Safety JWG following receipt of the advice being provided by Tonkin and Taylor).
- (d) Testing and monitoring for protozoa shall be carried out at each bore bi-weekly using 1,000 litre samples until the end of the year. These tests should also be carried out on three consecutive days after an abnormal wet weather event (this event, and the details of such increased testing, to be defined and prescribed by the Water Safety JWG).

- (e) The Water Safety JWG, with support from the Ministry of Health as required, satisfy itself that persons carrying out sampling and testing are properly trained and competent, that the testing methods being used are as sensitive and effective as practicable, and that the test processes are being carried out in a way that is optimal in terms of timing, efficiency, and result-reporting.

[21] Any issues concerning the implementation of the above recommendations are to be referred in the first instance for discussion and resolution by the Water Safety JWG.

[22] The above recommendations should be issued forthwith to the parties who have provided an address for service to the Inquiry and published on the Inquiry's website.



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