APPENDIX 7

Report of the Sampling and Monitoring Caucus 11 August 2017

Introduction

The Inquiry has requested International Accreditation New Zealand (IANZ), the Ministry of Health (MoH), and Drs Fricker and Deere to provide a joint statement and proposed recommendations relating to sampling and monitoring issues that have arisen during the hearing 7-11 August 2017.

Members of the Sampling and Monitoring Caucus variously met on the evening of 8 August 2017 (Phil Barnes, Sally Gilbert, Geoff Hallam, Anne Hofstra, and Scott Rostron) and the morning of 9 August 2017 (Dan Deere, Colin Fricker, Sally Gilbert, and Scott Rostron) to consider sampling and monitoring issues that were identified during the Inquiry Hearing held on 7-11 August 2017.

The following statements and recommendations are made, as identified below, either:

(a) jointly by IANZ, MoH and Drs Fricker and Deere; or

(b) jointly by MoH and Drs Fricker and Deere.

Joint statement by IANZ, MoH and Drs Fricker and Deere

The consequences arising from the faulty collection, handling, transportation, analysis and reporting of drinking-water samples are serious as this will provide inaccurate information about the quality of the drinking-water (including suggesting contamination when none may exist) but more importantly contamination of the drinking-water may not be detected. The drinking-water supplier needs to understand the importance of appropriate sampling and analysis to have confidence in the validity of water supply monitoring it undertakes. The drinking-water supplier must ensure it arranges for appropriate sample collection, handling, transport, analysis, and reporting to ensure it has confidence in the safety of its drinking-water.

Issues identified in the course of the panel discussion before the Inquiry and considered by the Sampling and Monitoring Caucus

- There is no requirement for training and competencies for the person collecting drinking-water samples.
- The DWSNZ do not specify that sampling must be undertaken by a trained and competent sampler.

Adapted from the Guidelines for drinking water quality management for New Zealand (2017), Chapter 6.
While the reference method for equivalence is appropriate, assessing methods against this referee method is not robust and the process needs improving.

The criteria for reviewing new methods for analysing drinking-water samples does not meet international best practice and needs to be reviewed and strengthened.

Reliance on a single microbiological sample result to respond with a Boil Water Notice is not always appropriate; the trigger of ten E.coli is not international best practice.

The DWSNZ currently only include E.coli and do not include other indicator organisms such as total coliforms.

There are overseas examples of drinking-water suppliers who ask laboratories not to report some results that may require the water supplier to take action. There is no evidence of this practice in New Zealand but it would be important to ensure it does not occur.

Some laboratories analysing drinking-water samples may not report a positive E.coli result to the DWA if the drinking-water supplier has over-sampled against the monitoring criteria in the DWSNZ as it will not exceed the allowable number of transgressions.

Some laboratories may not inform the DWA and water supplier of a positive E.coli result from a water tanker.

The separation of non-potable water and potable water samples to avoid cross-contamination should be considered industry best practice but is not always adequate.

Examples of best practices and significant non-conformances are not always shared with all relevant parties so lessons can be learned.

When other agencies, industry or individuals are sampling in a drinking-water catchment for their own purpose, the significance of the sample results and the importance of sharing this sampling information with the drinking-water supplier and other relevant parties may not be fully appreciated.

Consumers do not appear to understand the significance of the annual report on drinking-water quality, which includes the results of water supply monitoring, and the information it provides about the quality and safety of their drinking-water supply.

Proposed Recommendations agreed by IANZ, MoH and Drs Fricker and Deere

1. IANZ and MoH will develop systems for assuring competence of drinking water samplers. In particular, MoH will consider options for developing and implementing specifications for people taking samples.

2. IANZ will add supplementary criteria into its contracts with laboratories with the effect that:¹⁶⁷

¹⁶⁷ IANZ accredits organisations in accordance with ISO 17025 and is empowered to set additional mandatory supplementary criteria.
a. Laboratories are required to tell IANZ about all major “non-conformities” i.e. non-conformances which are shown to either directly affect or are likely to have an effect on the validity of drinking-water sample results produced by the laboratory;

b. IANZ will notify MoH of major non-conformities which are likely to affect the validity of drinking-water sample results;

c. IANZ will look to improve systems for monitoring ongoing performance issues of laboratories recognised under the Drinking Water Programme.

3. IANZ and MoH will implement information sharing arrangements relating to monitoring of sampling and testing activities undertaken pertaining to drinking-water samples.

4. IANZ will introduce a system for publishing anonymised information on best practice and major non-conformities related to the Drinking Water Programme.

5. IANZ and MoH will develop guidance on what a drinking-water supplier should take into account when selecting and contracting laboratory services for testing drinking-water samples.

6. IANZ will collaborate with MoH in the development of supplementary criteria for accreditation, based on the proposed changes to the DWSNZ, while the DWSNZ are under review.

7. Current IANZ criteria for the separation of potable and non-potable water samples will be made more explicit and given additional emphasis during the assessment process. The MoH will consider the importance of avoiding cross-contamination in the competencies for sampling officers.

8. IANZ and MoH will provide a report to the Inquiry by 5pm on Friday 22 September 2017 setting out the options, criteria, arrangements and guidance detailed in recommendations [1] to [7] above, including the matters that have already been implemented and the work programme for matters yet to be implemented. Drs Fricker and Deere will be available for technical guidance prior to the submission of this report if required and will review a full draft of the report on or before 20 September 2017.

Proposed Recommendations agreed by the MoH and Drs Fricker and Deere

9. In the review of the DWSNZ, the MoH will recommend strengthening the requirements for the collection, handling and transport of drinking-water samples and provide options for including a person specification or competency requirements that may be given effect through mechanisms such as industry certification, accreditation or other mechanism that will include academic and practical training and ongoing competencies.

10. In the review of the DWSNZ, the MoH will recommend adding total coliforms to the indicator microorganisms to be routinely monitored.

11. In the review of the DWSNZ, the MOH will consider and make recommendations in respect of other indicator microorganisms to be monitored.
12. In the review of the DWSNZ the MoH will recommend removing the use of presence/absence testing for *E. coli* and total coliforms (when included).

13. In the review of the DWSNZ, the MoH will recommend improvements to the criteria for assessing new methods for analysing drinking-water samples to ensure they meet international best practice while being fit for purpose for application in New Zealand.

14. In the review of the DWSNZ, the MoH will recommend improvements to the methodology and process for assessing equivalence against the reference methods.

15. In the review of the DWSNZ, the MoH will recommend that laboratories must report all microbiological analyses that are undertaken in full to the drinking-water supplier.

16. In the review of the DWSNZ, the MoH will recommend that all positive *E. coli* and total coliform results in potable water must be reported by the laboratory to the DWA, even in cases of oversampling against the DWSNZ requirements.

17. In the review of the DWSNZ, the MoH will recommend that all positive *E. coli* and total coliform results in potable water must be reported by the laboratory to the drinking-water carrier and the drinking-water supplier, even in cases of oversampling against the DWSNZ requirements.

18. In the review of the DWSNZ, the MoH will recommend no longer recognising level 2 laboratories.

19. In the review of the DWSNZ, the MoH will recommend the inclusion of mechanisms for sharing confidential third party microbiological results from samples taken within drinking-water catchments.

20. Following the review of the DWSNZ, the MoH will review the approved methods for analysing drinking-water samples against the requirements of the revised DWSNZ.

21. The MoH will investigate the establishment of drinking-water reference laboratories, including their role in the assessment of new methods for analysing drinking-water samples.

22. The MoH currently promulgates international developments and best practice through updating the Guidelines for Drinking-Water Management. The MoH will make the Guidelines more accessible (for example, linked to the DWSNZ, other guidance and templates).

23. The MoH will issue guidance to public health units that the terms of reference for joint working groups or other collaborative arrangements must include sharing information such as the results of water samples collected in drinking-water catchments to assist the drinking-water supplier understand any risks in the source waters.

24. The MoH will improve the format and content of the annual report on Drinking-Water Quality to make the information more accessible by consumers so they can understand the quality of their drinking-water.
25. The MoH will provide a report to the Inquiry by 5pm on Friday 22 September 2017 setting out the options, criteria, arrangements and guidance detailed in recommendations [9] to [24] above, including the matters that have already been implemented and the work programme for matters yet to be implemented. Drs Fricker and Deere will be available for technical guidance prior to the submission of this report if required and will review a full draft of the report on or before 20 September 2017.

Signatures

“P BARNES”
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Phil Barnes

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“C FRICKER”
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