PE1646/I
Petitioner submission of 8 March 2018

Your submission states Scottish Water(SW) operates in a highly regulated industry and you take this very seriously. You undertake rigorous monitoring that the water supplied complies with health based standards as set out in Public Water Supplies (Scotland) Regulations 2014. The Drinking Water Regulator (DWQR) is responsible for ensuring that SW complies with these legal water quality duties.

Yet we have shown that between 2012 and 2017 the parameters set by the EU of taste and odour 'acceptable to consumer and no abnormal change' where not adhered to and it took an independent survey for SW to acknowledge this. The DWQR did not ensure that SW complied.

The state of the art new treatment works in Aviemore have been shown not to be all they seem.

Introduced in April 2017, Chloramines are less effective than chlorine for eliminating pathogenic microorganisms and with an ageing population people are more likely to die from pneumonia and flues.

High amounts of ammonia serve as nutrients for nitrifying bacteria in water which can cause nitrate levels to rise. Nitrate is converted to nitrite in the stomach. Young children are susceptible to nitrites.

Chloramines can affect people with weakened immune systems, the elderly, people with HIV and people undergoing chemo and renal treatment. They are also known to be bio accumulative and collect in the tissues. The longer the exposure the greater the risks.

In SW's summary 'Over the period detailed in this response, no regulatory water quality and safety parameters relating to the Chloramination process…failed in relation to regulatory health based standards or World Health Organisation(WHO) guideline values.

At other times and in other plants around Scotland, SW has had problems with the Chloramination process.

WHO only dictates a standard for monochloramine as a disinfectant at 3mg/l. For di and trichloramine there are no standards, because the available information is not satisfactory for the establishment of a health guideline (WHO guidelines for drinking water- 3rd edition Chemical aspects)

SW also states 'the test results… particularly relevant in relation to safety and quality have been summarised in the graphs contained in appendix 4'. However the other DBP's toxin halonitrils (cyano chloride) halonitromethanes (chlorapicrin) hydrazine and ionated DBP's are not regulated and are therefore not tested for and are not

included. Halogenic acetic acids are suspected to raise the risk of cancer. WHO does not dictate any standards for halogenic acetic acids (WHO 2004). Simon Parsons (Cranfield Uni. Study) who stated more research into health implications are required, is now employed by SW.

We have a very important question to ask ourselves. Do we want to turn on the tap, expect water to be safe, free from pathogens and the negative effects from chemicals that could cause problems in later life?

All water treatment facilities have a disinfection step to inactivate pathogens i.e. chlorine, ozone, chloramine and UV light, so the water is safe. In the UK and USA a residual disinfectant is required as part of the final barrier which remains in the water during distribution. This produces disinfectant by products (DBP's) that have to be monitored (see above). In contrast, since the discovery of these DBP's, it has motivated several countries such as Netherlands, Switzerland and Germany to rely on advanced treatment, improved physical integrity of the distribution system and proactive management of distribution system operations with no residual disinfectant necessary, therefore no DBP's.

A key difference between the situation in these countries and the situation in Scotland could be the condition of the distribution system to limit contamination from leaks and breaks.

Research is now encouraging potable water systems to focus on maintaining and replacing their ageing systems and upgrading water treatment steps with the benefit of limiting exposure to DBP while delivering safe water to us consumers. Can the Scottish Government back this up?