08 November 2021

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Dear Sue

Daer WTW – SR21 Letter of Commitment

Thank you for your letter of 14th September regarding the ongoing issues with manganese discolouration in the areas of central Scotland served by Daer Water Treatment Works (WTW).

I share your concern on the potential of this event to cause long term impact on consumer confidence in the public water supply and as such I would like to assure you that everything that we can do to manage the situation is being done.

To put this situation into context we are experiencing dissolved manganese levels in the raw water 10 times normal levels due to this year's exceptionally dry weather conditions (Appendix 1).

We are determined to improve water quality for customers in the Daer water supply zones and Scottish Water provides commitment to deliver the following actions to reduce the current and future risk of manganese failures:

1. **Maintain the following short-term measures until the manganese in the raw water returns to normal levels:**

   a. Provide temporary treatment at Daer WTW with the aim of improving the removal of manganese across the existing filters:

      Completed activities

      - Installation of aeration in the clarified water outlet channels.
      - Installation of interstage chlorination and pH correction before the primary filters.
      - Addition of manganese dioxide sand to filter 3.
      - Forming manganese dioxide on the media of the remaining filters through the operation of interstage chlorination and pH correction.

      Further activities planned

      - Installation of aeration in the raw water reservoir using temporary blowers and generation by 30th November 2021.
      - Moving the wash water return discharge further from the reservoir draw off point by 31st March 2022.
      - Installation of on-line manganese monitoring on raw, filtered and final water by 28th February 2022.

b. Continued operational monitoring for manganese

- Ongoing frequent operational on-site testing for manganese.
- Provision of operational water quality monitoring data to the DWQR at the frequency requested.

c. Continued extensive network sampling and targeted flushing programmes to understand the extent and location of manganese within the network and reduce the risk from deposits identified.

2. **Develop the following improvement options to reduce the risk of re-occurrence**

a. Review the benefits delivered by temporary treatment and by 31st March 2022 promote work to make those that are effective permanent.

b. Complete our review of the source water manganese risk, taking account of all learning from the current situation and by 31st March 2022 update our drinking water safety plans accordingly.

c. Progress the restoration of degraded and modified peatland, which has elevated the risk of organics and manganese entering the reservoir, where we can get the agreement of landowners by 31st March 2023.

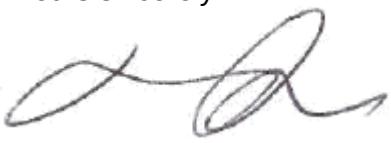
d. To reduce the risk of discolouration from iron and manganese:

- Progress planned conditioning of the Daer trunk and cleaning of the Gair Service Reservoir by 31st July 2022.
- Undertake further water quality investigation of the Daer trunk mains and develop cleaning plan for each, and their associated DMAs by 31st July 2022 for implementation.

e. Undertake feasibility work and develop outline designs for a dedicated manganese removal processes and bring forward our wider investment appraisal for Daer WTW to allow quicker delivery if required by 31st July 2022.

We will provide updates on progress with these actions on a six-monthly basis.

Yours sincerely



Simon Parsons
Director of Strategic Customer Service Planning

Appendix 1 - Background Information

Daer WTW Manganese Performance 2019-2021

Year	Daer WTW Raw Water		Daer WTW Final Water	
	Average Dissolved Mn (µg/l)	Average Total Mn (µg/l)	Average Dissolved Mn (µg/l)	Average Total Mn (µg/l)
2016	3.2	53.2	2.5	4.4
2017	3.0	53.3	2.1	3.1
2018	3.3	91.3	3.2	5.8
2019	2	71.7	1.5	2.5
2020	3.8	37.7	2.7	8.2
2021	32.2	74.4	26.5	32.7