Written evidence submission from Meteor Communications Limited

Submission by Andrew Scott, Technical Director

1. Summary

This submission describes a real time water quality monitoring solution: the Environmental Sensor Network (ESNET). This solution may be deployed upstream and downstream of all Sewage Treatment Works (STWs) and Combined Sewage Overflows (CSOs) across the UK and will enable utilities and regulators to enact the statutory monitoring obligations in the Environment Bill, plus amendment. The solution, from Meteor is described along with estimated rollout costings plus possible timescales with outlined deployment guidelines.

2. Meteor ESNET System

Meteor has designed and supplies the ESNET System. They are currently deployed at 365 locations across the United Kingdom. The users comprise the Environment Agency, 7 Water Companies, Environmental Consultancies and third sector bodies.

ESNET produces scientifically robust, legally enforceable evidence that truly reflects the dynamic nature of the surface water environment. It differentiates and identifies sources of pollutants from man-made activity such as STWs, CSOs and Agriculture; outputting high resolution data for the most important water quality parameters such as ammonium, turbidity, dissolved oxygen, PH, and temperature.

Most solution components and firmware are wholly owned by Meteor and manufactured as far as possible in the United Kingdom. The Cloud based front end is developed and hosted in the UK. Proven sensors with standard interfaces are used according to end-user preference and are sourced from a range of UK and Overseas suppliers

3. ESNET Rollout Costings (estimated)

It has been identified that there are 6,246 STWs in England alone. Using metrics based on Meteor's deployment and operation of over 100 ESNET outstations on behalf of Water Companies in the UK, an up scaled capital cost for upstream and downstream monitors at every site can be provided. This is estimated to be between 175 to 200 million pounds. The annual cost for fully serviced maintenance and calibration of the sensors and data hosting can be estimated at between 75 to 100 million pounds.

4. Possible ESNET Rollout Timescales

The 6,246 STWs could be prioritised for deployment using risk factors such as population serviced, groundwater conditions and intelligence from regulators and third sector bodies. The Water Companies would be expected to identify STWs and assign installation priority, referring to the Environment Agency who may apply other relevant criteria. With reference to Meteor's delivery of over 100 outstations for a Water Companies in the UK, a start-up period of 9 to 12 months, followed by a rollout period of 3 to 5 years would be expected.

November 2021