

From: [REDACTED]
Sent: 26 January 2022 16:29
To: RAPID
Subject: Consultation comments from ABB UK

Hello,

Regarding the RAPID - The regulatory and commercial framework for strategic water resource solutions – a consultation document shared via the Ofwat website; I would like to submit the below comments on behalf of ABB UK.

ABB are a multinational engineering business that manufacture many products used within the UK water industry including electric motors, generators, variable speed drives, automation, switch gear and instrumentation. We employ several thousand people within various facilities based all over the UK to directly support our customers.

I found the consultation document informative and appreciate the amount of work being done at Ofwat and beyond to consider how the supply chain will meet the upcoming challenges facing the UK water industry. ABB spend considerable sums developing products and solutions to meet these challenges and would welcome the opportunity to provide expert consultancy within the RAPID working groups. It is vitally important that we have ongoing dialogue to ensure we can continue our support of the UK water industry.

Comments

- Energy efficiency

Electric motors consume 45% of energy used within the UK water industry to pump water to customers and within the treatment process. The current water network is scattered with old inefficient pumps and other related machinery that can be easily upgraded to reduce energy consumption, costs, and carbon emissions.

The specification of the most efficient motors at the point of purchasing needs to be reviewed with a minimum energy efficiency policy, i.e., IE4/IE5. The use of variable speed drives alongside the motor will produce further considerable savings.

The purchasing policies regarding machinery with electric motors attached manufactured by third parties should also be reviewed to meet the energy efficiency targets IE4/5. Currently OEM suppliers such as pumps companies acquire frameworks supply based upon a target purchase price. This pushes the OEM to attach cheap inefficient motors for the purpose of aggressive pricing to win the framework.

These motors often do not meet UK WIMES standards.

Water industry purchasing policy should be based upon the TOTEX approach not a short-term saving, that can be challenged by suppliers.

- Electric motor types

The latest IE5 motor technology is available within synchronous reluctance motors.

There is more than a strong argument that these should be replacing induction motors wherever possible. The motors have significantly lower energy losses than comparable induction motors. For example, Synchronous motors have no losses in the rotor. This results in a lower running temperature which, together with the simple

rotor structure without windings, reduces service needs and the risk of failure compared to traditional motors. If problems occur, the connected monitoring systems can indicate the need for potential repairs. Noise levels are lower than that of a traditional induction motors resulting in a more comfortable working environment. Synchronous reluctance motors also have a low environmental footprint, they are manufactured without using rare earth materials, this means no mining is needed creating less waste helping achieve a lower carbon footprint over their complete life cycle, from production until recycling, with the best low emission performance in their class.

I thank you for allowing us to contribute towards the consultation. Please contact me personally to discuss any of the comments above. I would be very keen to engage with any relevant parties to consider how else ABB UK can contribute to towards improving the UK water network.

Best regards,

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