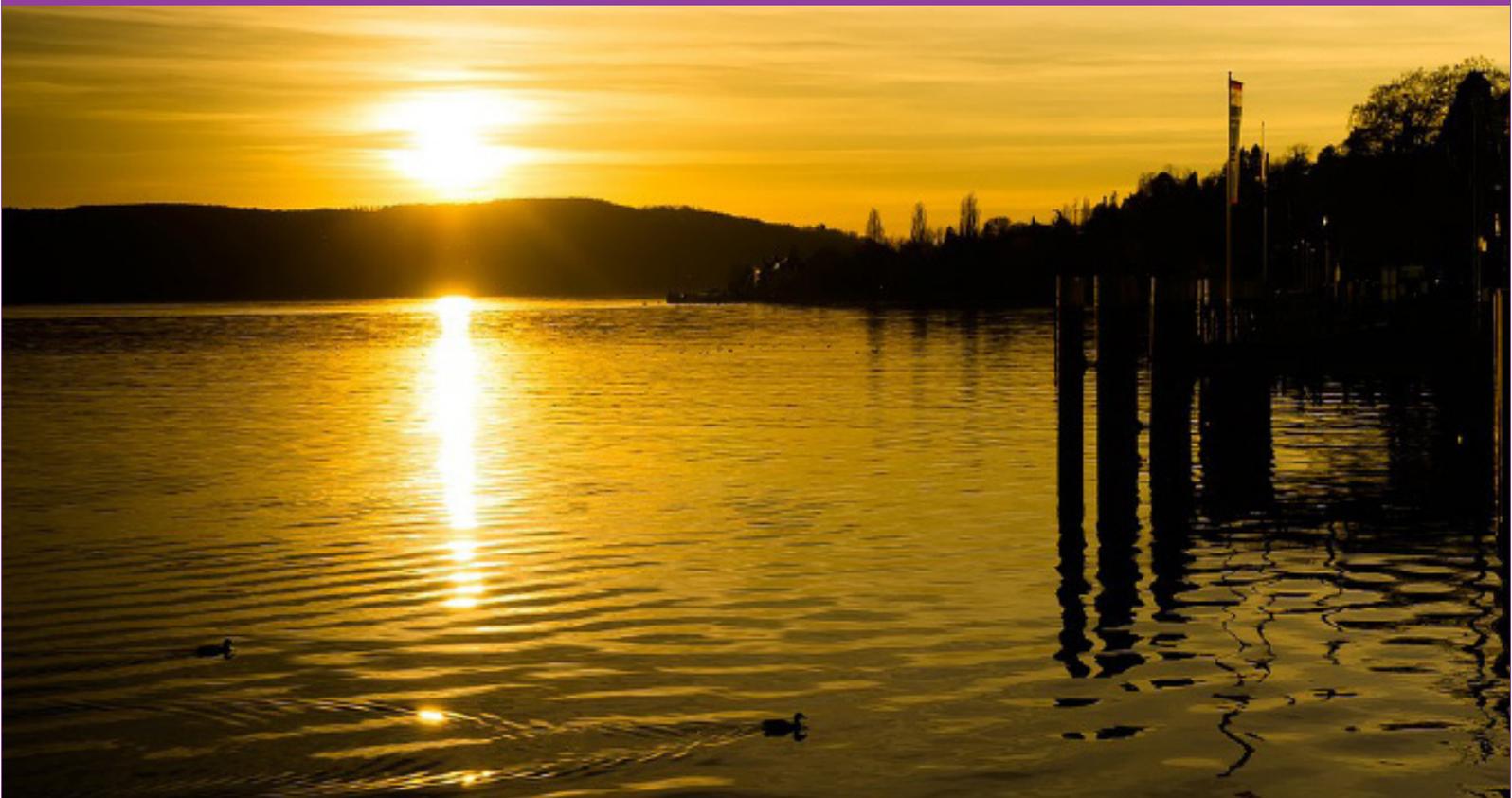


THOUGHT PIECE



# Tendering For Advanced Pressure Management



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**This thought piece will be useful to Operations and Procurement teams when purchasing and competitively tendering for advanced pressure management solutions. Here are the 10 things to ask suppliers about and the kind of questions you must, should and could be asking.**

## 1. WHOLE NETWORK SOLUTION

You want something that works with pump stations and PRVs; and you want a system that can do all the types of control you will require. Why? Because you don't want technology islands – separate bits of technology for doing different things. This makes life difficult: you can't integrate them easily and you need to understand, train people in, maintain and update lots of different things.

## 2. RETROFIT

You want something that works with your existing network assets – all the PRVs and pumps you have already installed. You don't want to replace them when they work fine. You also don't want to be tied to just one asset manufacturer because it's a purchasing arena in which multiple sourcing is common to keep prices competitive.

## 3. FLEXIBILITY

You want to be able to deploy your own control philosophy or automate control, or use any combination of control modes at any time using a simple scheduling function. Otherwise you need to change out the technology every time you want to change your approach.



## 4. ACCURATE, PRECISE AND EFFECTIVE CONTROL

You need to have accurate sources of data on pressures; you need an algorithm that determines the optimal control curve for you saving you huge amounts of time; and you want fine control to ensure precision and give you the confidence to achieve Minimum Viable Pressure to the nearest 0.5m.

## 5. SMOOTH TRANSITIONS AND CALM OPERATION

You want to automatically manage any changes over time in a way that ensures customers don't notice pressure changes and complain. You want any changes between pressure to be smooth and not to create transients. The method of control matters: closed loop control often exhibits 'hunting' behaviour which creates damaging surges of pressure.

## 6. CONTINUOUS OPERATION AT ALL TIMES

If there is a communications failure then you still want control to operate. You should be aware that when communications fail, closed loop control ceases to operate.



## 7. FAILSAFE PROTECTION

If something goes wrong, then you want to ensure that there are no catastrophic consequences. Does the system allow you to set min/max parameters to accommodate and protect in the event of e.g. collapse of upstream pressure, failure of data collection (e.g. flow meter)?

## 8. LOWEST LIFETIME COST

You should be considering the time to fit (and skill level required); the cost of 5 years of software, 5 years' warranty (and ask to see the warranty terms and conditions), 5 years of technical support, 5 years' training including annual installer training and annual software use training, and 5 years' mobile data costs (if the supplier provides, which is common in the UK only).

You should ask the cost of 5 years' battery life under standard operating conditions of 15 minute readings sent 1 times per day with alarm conditions triggered and being communicated as required.

Ask what maintenance of hardware would be required over 5 years (e.g. transducer calibration).

How is software and hardware upgraded? Is there an upgrade process that disrupts the service or requires site visits?

In relation to technical support, how is this provided:

- In what formats, during what hours, at what cost?
- How are support issues dealt with (prioritised, resolved)?
- What's the average time to resolve?
- What is the number of open tickets?
- What is the aged distribution of those tickets?
- What RMA process is employed?



## 9. INNOVATION

Is what you're buying going to get better over time? What product extensions are available that would add greater value? How much does the supplier spend on R&D? Does the supplier have a process of continuous improvement? Can the supplier point to improvements made in the last 6 months? What is the supplier's roadmap which will directly affect this product/service? How do you access improvements? What patents does the supplier have?



## 10. SECURITY

You are responsible for critical national infrastructure. There is no 100% secure system, but there are a number of checks you can make to ensure that the burglars go next door. What levels of security does the system have? How does it minimise the risk of loss of confidential data, denial of service, infiltration? At each stage of the chain. Can hardware be interfered with? Is there a tamper alarm? How do you connect to devices? Is data encrypted in transit? Who can access software? Does the supplier have a security policy, accreditation, third party testing?

Finally, of course, you need to consider the credit worthiness of the supplier and the prospect of them remaining in business long enough to service your needs. This is a risk assessment and you may want to write in specific contractual conditions that relate to a supplier running into financial difficulties like placing software in escrow which would be released to you in certain circumstances.

**And there you go. Everything you need to make sure you get the advanced pressure management solutions you need at a price that's right.**