THOUGHT PIECE

Best Practices for Procurement of Advanced Pressure Management

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THOUGHT PIECE:

PROCUREMENT OF ADVANCED PRESSURE MANAGEMENT

This thoughtpiece is designed for all those involved in procuring advanced pressure management solutions – Technical, Security, Procurement, Commercial, etc. - based on our recent experience of responding to major tenders.

There is huge variation in the questions asked in tenders for advanced pressure management. Logically, that doesn't make sense as clients' needs are essentially the same. So perhaps we can help by sharing the best practices we have observed.

Let's start with what we perceive to be the four biggest mistakes that clients have made and mentioned to us.

1. ASSESSING THE SOLUTION

Some clients don't assess how good a solution is at actually performing its core function.

You could ask for case studies, references that you can take up, get a third party to test the solution offered or test it yourself on a rig (to improve direct comparability between competing solutions) or on your network.

With advanced pressure management what you need to know is what improvement in background leakage and bursts is achieved, and what change in customer complaints is experienced. To understand why/how these are the outcomes of a particular solution, and to ensure that it doesn't in fact add to your problems by causing transients, you need to know how accurately and smoothly desired pressure levels are achieved.

2. COMPLIANCE

Hardly anyone asks if the solution is compliant with water quality regulations.

Yes, astonishingly, bearing in mind the regulations in many countries and what happened in Flint in the USA, it is rare for clients to ask if the solution is compliant with water quality regulations, which standards are used, how that is assured, how it is maintained, and how clients are to be informed if there are any changes.

3. THE WORST SOLUTION THAT MEETS BASIC REQUIREMENTS

Most clients get the worst solution that meets their basic requirements.

a. The way that tenders are often set up is a series of hurdles that have to be met then a price competition. This guarantees the cheapest solution that meets basic needs, but it is also likely to mean the worst solution (because in general price is correlated with quality/performance). To address this, what some clients are doing is setting up their tender structures so that basic needs have to be fulfilled and then a value for money trade-off is made (see 4. below). To do this, the tender needs to identify how well the solution performs its core function (see 1. above), what added value it delivers, and what rate of innovation is likely over the period of use. Or another way to do this which we've seen is to rank requirements following the classic MoSCoW formulation as Musts (the hurdle), Shoulds (2 value add points) and Coulds (1 value add point).

b. The focus is on purchase price rather than lifetime cost. The truth is that it's easier to request a purchase price than calculate the lifetime cost. But clients who aren't willing to tolerate high levels of ongoing maintenance and failure costs are asking about warranty return rates as well as warranty periods; what software availability percentages are guaranteed and if there are penalties for not achieving those; what maintenance is required, how often and how skilled the tasks are; what tasks can be performed in the field and what needs to be returned to base and the implications of that; how long batteries will last based on the way the device is likely to be used; what levels of service are provided,

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in what hours, and how responsive that is; etc. In relation to software, they are also calculating the internal costs of hardware, data centre, patching, updates, security, etc. and adding those onto enterprise license and maintenance costs to produce a fair comparison with software as a service where none of those costs are incurred by the client.

4. UNINTENTIONAL BIAS

It's not unusual for clients to be more familiar with one solution than another. Including the name of one manufacturer's component in the tender – an APV (from i2O) or a Bias Chamber (from Technolog) for example – is a give-away!

The best way to deal with this is to pilot solutions before starting to write a tender. This is an opportunity to learn how each solution works. It can provide first-hand experience of the solution and the company providing it, which can inform the selection criteria and help to validate the written responses in a tender process.

We know these are mistakes because not only have clients talked to us about them, but they did this in the context of having lived to regret their choices and sought to change how they procure in subsequent tenders. However, like parents who try not to repeat with their children the mistakes that their parents made with them, they go on to make new mistakes, unaware of the wide range of mistakes that are possible.

To help with that, we've put together a table of things that are usually included, increasingly included ("trending" in the modern vernacular), and often notable by their absence in tenders.

	Usually included	Increasingly included	Rarely included
Technical	• Control modes • Scheduling • Applicability (what types of PRVs) • Accuracy: pressure transducer • Robustness: temperature range, IP68 • Data intervals and dial-up options, local storage • Communication options (2G, SMS, 3G) • External antenna • Failsafes • Control setting • Alarm setting • Visualisation	• 4G and NB-IoT/LTE-M communication options • Asset management assistance e.g. battery alarms	• The accuracy and smoothness of control to ensure that it doesn't create more problems than it solves • Water Quality Regulations compliance • How control is affected by comms failures • Applicability (what types of pumps) • Accuracy: clock • IP68 at what depth and temperature of water and for how long • Drop testing • In-field data availability • External antenna options • Software service availability levels • Change management

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PROCUREMENT OF ADVANCED PRESSURE MANAGEMENT

	Usually included	Increasingly included	Rarely included
Information security	• Access controls and permissions	• Data storage location • Physical security • Accreditation • Encryption • Penetration testing • Vulnerability testing • Intrusion detection • Data destruction • Information security incident policy/process	• Employee screening because employees are a weaker link than the software itself • Regulatory reporting requirements • Staffing
Production		• Time to fulfil orders/stock levels/production capacity • RMA process	• Proof of achievement of orders • Open order levels • Achieved production levels • Plans for peak production capacity
Quality, innovation, environmental	• Quality accreditations • Continuous improvement		• Carbon footprint
Support	• Hours	• Service levels • Training • Complaint resolution processes • Product recall processes	• Satisfaction levels • Availability of self-service support • Out of hours support • Average time to resolution • Resource levels • Support staff capabilities • Methods of interaction e.g. video confere
Integration with other systems	• Access controls and permissions	• The whole topic • Export • Extract	• API
Cost	• Purchase price • Warranty	• Data/SIM costs • Internal/external battery replacement cost • Maintenance requirements including the need to recalibrate hardware • Battery life • Asset design lifetime • Ease of installation, skill level, process	• Limitations to number of seats • Ability to install using smartphone app • Warranty return rates. Having a warranty is useful but having to return a lot of product under it is a big hassle • IT hardware requirements • Patch, upgrade, update requirements

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A FINAL THOUGHT

And one final thought. Tenders should define requirements: they should specify the how rather than the what. This is so much easier to say than it is to achieve. In general business practice it is the specialism of Business Analysts. But Technical and Procurement teams don't often have these people or these skills in their team. Perhaps the best way to illustrate this is with a couple of examples:

- Bad practice: We require WITS (WITS is a communications protocol)
- Best practice: We require a secure, reliable and efficient communications protocol between devices and the software

- Bad practice: We require CSV data export from your system
- Best practice: We require an efficient, timely, and secure way of importing data from your system into our SCADA platform

CONCLUSION

We hope that this is a well-considered and helpful contribution to the processes by which water companies select and procure advanced pressure management solutions. If you want to talk to us about this, or to trial our advanced pressure management solution, please don't hesitate to get in touch.

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