

Creating a gas measurement and monitoring plan for your industrial site - Northmore Gordon

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Creating a gas measurement and monitoring plan for your industrial site

Northmore Gordon

July 9, 2019

News

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Gas costs are hurting business and have been for some time. Making informed and smart decisions using good data can help reduce operating costs. The measurement and monitoring of energy flows such as gas, steam, hot water, hot air or electricity is needed, however it can be technically challenging and often expensive.

For these reasons, a well-thought-out measurement and monitoring plan is an essential part of any industrial site, and can be achieved using a 5-step process:

Step 1 – Specify the goal and understand what is already known. Step 2 – Prioritise what to measure. Step 3 – Investigate and select energy management software and long term data storage solution. Step 4 – Specify and select suitable meters and their communication system. Step 5 – Develop a budget and implementation plan

Step 1 – Specify the goal and understand what is already known. This is the essential part of a metering and monitoring upgrade as it determines the useful data and how it will be used. Other equally valid goals could be:

“Determine the Coefficient of Performance (COP) of the refrigeration system to assist in developing a business case for its replacement”

“Understand how much one area of the plant costs to run”

“Establish plant energy performance KPIs and track them”

Once the objective is clear, spend time determining what data is available and what additional metering is necessary. In many cases some metering is already in place but unused.

Step 2 – Prioritise what to measure. Keeping in mind the initial goal, determine the highest priority energy flows that need to be measured. Start by building a preliminary energy balance on either the site, a specific utility, a plant area or an individual piece of equipment. It isn't necessarily the largest energy users that are the priority.

Step 3 – Investigate and select energy management software and long term data storage solution
Before jumping in to select meters, consider how to collect and store the data, as well as who needs the information. The purpose of metering is to provide data that is usable, and insights are acted upon.

Data collection may use a pre-existing data management or SCADA system, or a new online portal. The range of people needing to access the data might range from plant operators, plant managers, energy managers, or compliance personnel.

Step 4 – Specify and select suitable meters and their communication system. There are hundreds of different meters available on the market, and all of them have different benefits and drawbacks. Consider things like precision, repeatability, flow range, method of installation and format of the data being reported.

Step 5 – Develop a budget and implementation plan. The budget and implementation plan of the metering and monitoring project must consider:

Schedule of works to be completed.

Plant down time and commissioning requirements.

Communication and data storage installation.

Safety of the works carried out.

New procedures or responsibilities to utilise the data

Meter validation and ongoing meter maintenance.

Meter validation is often overlooked. To test if the meter is accurate, first compare its data with what is expected, or with other meters up or downstream. At Northmore Gordon we often find meters in the field that have been incorrectly reporting energy usage for years!

Make informed and smart decisions about energy usage. Acting on the data is what really matters. Software tools exist that are designed to aggregate data from industrial data management systems and present it in a way that is easy to understand. If information is easy to understand, it is more likely to be trusted and acted upon.

Northmore Gordon is passionate about helping large industrial and commercial customers increase energy productivity. We can help you design a metering, monitoring and energy management solution for your specific needs.

For more specific details on gas metering and monitoring, you might want to check out the NSW OEH publication co-authored by Northmore Gordon: "Gas Measurement and Monitoring Guide" or contact me.

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Energy Efficiency , Gas , Industrial , Metering , Monitoring

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