USE OF AN ASSET MANAGEMENT SYSTEM TO IMPROVE AIR QUALITY MONITORING OUTCOMES.

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1. Introduction

The reliability of air quality (AQ) monitoring data is a function of data availability and data quality (collected using appropriate methodologies and monitoring equipment, by qualified personnel within a quality assurance framework and with supporting maintenance and calibration metadata to support any adjustments to the data to meet the data quality objectives of the network).

AMS is a significant step forward toward providing the most reliable AQ data possible.

2. Asset Management System (AMS)

AMS is a structured yet flexible and scalable tool that provides a real time framework that can be used for scheduling, executing and tracking routine preventative maintenance in line with standards, manufacturer recommendations and the operator's own QA system. It also acts as a fault reporting and resolution framework for non-routine maintenance.

This ensures that all tasks required to maintain the monitoring equipment at an optimal service level are completed on time and to specification, and provides the data required for non-routine maintenance call out response as well as data validation in a fully auditable management system.

3. Key benefits

The structured nature of AMS provides a consistent easily auditable basis for undertaking maintenance activities, and a central electronic repository for storing all site and equipment related maintenance records in line with the QA system.

Maintenance data are available in real time as the work is being performed, enabling faster non routine maintenance response and enabling faster data checking and validation, reducing potential data losses or the need for data adjustments.

The storage functionality has major time and cost saving benefits compared to traditional paper based or non-relational electronic file storage systems enabling faster and more detailed data validation and also greatly facilitates auditing.

4. Case studies

Ecotech deployed AMS to all of its 300+ monitoring stations across Australia during 2014. This resulted in significant operational improvements, even within an already well run network. Routine maintenance was done more efficiently and more to schedule than before due to more effective task management, and non-routine maintenance was attended to faster and closed out quicker resulting in better data capture rates. Delays previously experienced in transmitting and coding paper based records when work was done remotely are now virtually non-existent, potentially reducing fault identification lead times from up to two weeks to two days. Significant time savings (estimated up to 30%) were also made by being able to access the information immediately and in a centralised location instead of in paper files or electronic folders.

Ecotech implemented AMS for a client with a large number of monitoring stations. The client's immediate needs were to create a maintenance framework that could allow them to work towards NATA accreditation, but also to manage various components of the work that were done by staff or consultants. The implementation of AMS allowed the client to achieve these outcomes.

5. Conclusion

AMS provides significant operational and quality assurance advantages to all parties involved in Air Quality monitoring:

For clients or project managers it provides a clear overview of the work agreed to, and tracks progress down to task level in real time.

For regulators and the public it provides assurance that the stations are maintained professionally to produce the best possible outcomes of data availability and quality.

For technical/field staff it gives a clear outline of what tasks need to be performed and the required schedule, and creates a repository for records.

For data validation staff it provides easily accessible information available in real time from any location.

For Quality Assurance staff and auditors it provides auditable records in line with the QA system.