

Case Study

Global Engineering Firm Uses Flexible Air Monitoring to Exceed Client Expectations

Accurate measurements captured in less time for less cost.



Project

URS Corporation

Services

1 AQM 60 monitoring station

Location

South Australia

Measurements

CO, NO_x and NO₂, PM₁₀, PM_{2.5}

Date

2012

Sector

Construction



The customer

URS New Zealand is part of a global engineering and environmental services company, headquartered in the USA, with over 46,500 staff located throughout 40 countries. Their clients include the U.S. federal government, national governments of other countries, state and local government agencies in the United States and internationally, and FORTUNE 500 companies and other multinational corporations. URS takes pride in delivering value to their clients on each and every project.

URS New Zealand has a large team of experienced air quality specialists who give practical and cost effective advice to address air quality issues. URS is experienced across a wide range of industries including oil and gas, forestry, metals, waste, quarrying, transport and chemical manufacturing. In 2012 this team was commissioned by

a client in Australia to undertake a short-term ambient air quality monitoring study as part of an Air Quality Impact Assessment (AQIA) for a proposed major highway in South Australia.

The problem

URS required an ambient air quality monitoring system that would undertake short-term background measurements primarily for dispersion model verification purposes, as opposed to long-term compliance monitoring using US EPA reference-type systems for comparison against ambient air quality standards or guidelines.

The project presented three main challenges. Firstly, the project had a tight budget and URS saw an opportunity to deliver value to their client by utilising alternative equipment and technology. Secondly, due to tight project timeframes, URS required a system to be built, delivered and commissioned within a very short lead time. Thirdly, because the study was being conducted by scientists based in the Auckland office, URS was careful to ensure that whatever solution was implemented it would be reliable and robust. Flying four hours to the project site to fix and calibrate equipment would have had a detrimental impact on their budget.

The solution

Their investigation demonstrated that an Aeroqual AQM60 would be suitable in studies where the cost of traditional monitoring instruments is a concern and where US EPA reference-type systems are not required.

The Aeroqual AQM60 was used to measure urban background ambient concentrations of CO, NO_x and NO₂. Two light scattering nephelometers in the AQM 60 were used to measure ambient concentrations of PM₁₀ and PM_{2.5}. In addition, URS chose to equip their AQM 60 with the Air Cal 8000, a fully integrated, automated means of calibrating the equipment from a remote location.

The ambient air quality monitoring formed a key component of the AQIA and the concentrations of road-traffic pollutants measured by the Aeroqual AQM 60 were used to verify the results of URS's dispersion modelling assessment. The aim of the dispersion modelling assessment was to determine the potential air quality impacts following the opening of the proposed highway.

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URS Corporation

Evaluation

Overall, the aims and objectives of the monitoring study were met and URS was highly satisfied not only with the instrument but also with the full services provided by Aeroqual. Aeroqual staff members were always very friendly and helpful in responding to technical questions and general queries.

The AQM 60 performed well and produced reliable results which were used to model the impact of the proposed highway development on the surrounding population. The investigation also determined that there was good agreement between the passive diffusion tube monitoring results and the AQM 60 results, allowing URS to use both sets of data in the model verification procedure.

URS has recently re-deployed the AQM 60 for a project in New Zealand and would recommend the use of an AQM 60 for similar types of projects where US EPA reference systems are not required.

