



COCKBURN CEMENT

Odour Neutralising Trial Q&A

How does the neutraliser work?

Cockburn Cement will use a well known and proven neutraliser called Aireactor OWD™, which is primarily composed of essential oils, similar to those derived from plants. The neutraliser is diluted with clean water, atomised and sprayed into the emissions stream before it leaves the kiln 5 & 6 stacks.

The tiny droplets sprayed into the emissions capture and block the odour molecules to reduce the overall concentration of odour leaving the stack, which reduces the amenity impact at ground level. The neutraliser is sprayed into the emissions stream after it has passed through the existing pollution control equipment (baghouses) which removes particles (dust).

Why is this trial necessary?

This trial is being undertaken to establish if there is a way of reducing some of the impact on local residents' amenity from odours that have been noted around the Munster plant. Cockburn Cement acknowledges that its lime production process may be the cause of some odours in the local community from time to time. However, many years of testing and investigations have yet to find a definitive source or link between the complaints and a specific activity or material in the lime production process. This trial is one more step in finding out if the company can address and solve its part of the odour issue in the local community.

What is the neutralising agent?

It is a commercially available non-hazardous product called Aireactor OWD™ purchased from CoolMist Systems Australia. It is a neutraliser of odours, rather than a deodorant, which replaces one odour with another. A neutraliser means the agent captures and blocks odour. Aireactor OWD™ is regularly used in waste transport, solid waste facilities, landfills, compost sites and other organic waste facilities.

Why is it suitable for Munster?

The product is suitable for the lime production process for a range of reasons, but a key one is that the lime production process is not chemical based. It uses naturally occurring shellsand that is heated and transformed into lime. Aireactor OWD™ is used in similar non-chemical circumstances elsewhere in the world.

Are the chemicals toxic / dangerous?

The neutralising agent is a non-hazardous substance that is primarily composed of essential oils, similar to those derived from plants. It is non-toxic, non-flammable, biodegradable and environmentally safe. Cockburn Cement has commissioned independent laboratory analysis by NATA accredited Australian Chemical Laboratories that has confirmed the manufacturer's claim that Aireactor OWD™ is non-hazardous and non-toxic to human health, animals and the environment.

How much neutraliser will be used during the trial?

This will become more apparent during each stage of the trial, however, the anticipated volumes are low. At this point we believe that the proportion of neutraliser will be less than 0.0001% of kiln emissions.

Where have these chemicals been used before and what was the result?

Aireactor OWD™ was developed in the United States and has been used in Europe for similar purposes to the Munster plant. As an example, a leading Italian cement company, Colacem Spa, used the same product to achieve a 50% reduction in odour concentration from its plant.

How does it work?

The neutraliser is introduced into the emissions streams when it is in the kiln stacks and after it has passed through the existing pollution control equipment. The pollution control equipment already removes particles and some gas compounds from the emissions stream. The neutraliser is diluted, atomised and sprayed into the emissions stream that exits the top of the two operating stacks at Munster. This system has been successfully tested and used in Italy.

Will Cockburn Cement employees need protective equipment for the neutraliser?

No special safety or protective equipment is required beyond the normal personal protective equipment worn by employees at Munster. The neutraliser is introduced into the emissions stream remotely via a spray nozzle bar and not directly by employees.



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Does this trial mean that Cockburn Cement knows where the odour is coming from in its production process?

Cockburn Cement is continuing to expend considerable time and effort to determine the emissions source, profile and compounds for odour that may be emitted from its lime kilns. This work continues with the goal of reaching a conclusive understanding of the cause or causes of odour. This will enable the company to put in place specific and targeted actions to reduce odour. The neutraliser trial approaches the issue from a new perspective by seeking to reduce the amenity impact from odours.

How long will the trial run for?

The set up and commissioning stage for the equipment will take several months, following approval by the regulatory authority DWER. There will be three separate trial stages. The first two are just 48 hours each and involve commissioning and fine tuning the system. The results obtained at that point will be analysed and discussed with DWER. Following the first two stages, there will be an extended continuous trial for approximately six months. If approval from DWER is provided in October or early November 2018, then it is hoped that the first trial stages can commence in late December and the results finalised by end of June 2019.

How will Cockburn Cement know if the trial is successful?

Cockburn Cement will analyse reductions in odour via a process called olphactometric testing and a number of other analytical methods agreed with DWER. The trial will also analyse the best flow rate for adding the neutraliser agent into the emissions stream from the lime production process. There will be field odour surveys to determine the reduction of odour at ground level within the Munster plant boundary and the local community. The results will also examine new community complaints about odour and correlate these with the trial periods.

What happens if residents can still smell odour?

During the trial period we would like residents to advise us whenever they experience an odour they believe is related to the Munster plant, so we can correlate their feedback with our results on site.

Who will supervise the trial / check the results? Will they be independent?

The equipment set up and trial parameters will be controlled by Cockburn Cement with support from subcontractors and CoolMist Systems Australia. The testing and analysis of results - olphactometric for odour concentration and the field surveys - will be undertaken by independent experts, who will also determine if improvements have been made.

What happens if the trial does not work?

Based on results elsewhere, Cockburn Cement is optimistic that the neutraliser will reduce the amenity impact from the lime production process. However, it is important to note that the Munster plant is not the only source of odour in the local community, which also contains odour producing activities such as market gardening, water treatment, metal manufacturing, waste treatment and other heavy industry. It is entirely possible that the neutraliser may reduce odour from the Munster plant but residents will still smell odours from other sources.

Can residents give feedback?

Once the trial is underway it needs to be completed as planned in order to demonstrate whether the neutraliser can be successful in reducing some odours in the community. Residents can provide feedback at any time to Cockburn Cement via our hotline on **1800 156 826**, community website, email on community@cockburncement.com.au or to DWER via their website.