



7 September 2015

Department of Planning & Environment
Submissions
Via: website

Dear Sir / Madam

Cement Concrete & Aggregates Australia (CCAA) is the peak national body for the cement, concrete and quarry industries. We are writing to support Boral Cement's application to seek approval to fuel the Berrima Cement kiln with Solid Waste Derived Fuels (SWDF).

Concrete is the most consumed man-made material in the world and underpins the \$200 billion Australian building and construction industry.

In NSW, approximately 8 million cubic metres of concrete is produced each year. As just about every structure is built using concrete, CCAA expects concrete volumes to rise sharply given the Government's ambitious infrastructure program.

In order to make concrete, the industry extracts 16 million Tonnes of aggregate and produces nearly 3 million Tonnes of cement.

The Berrima Cement works is vital to this supply chain, historically accounting for 60% of cement volume in NSW.

Allowing Berrima to fuel its kiln with SWDF is economically and environmentally significant, locally and on a state-wide basis.

1 – The Proposal

Boral Cement Limited is seeking approval for the following:

- Use of Solid Waste Derived Fuel (SWDF) as an energy source.
- Changes to the air emission limits of particulate matter (PM), nitrous oxides (NOx) and volatile organic compounds (VOC); and
- Construction of a fuel storage and kiln feeding system.

2 – What is Cement and Why is it important to the NSW Economy

Cement is the essential 'glue' in concrete. It is the substance that gives concrete its strength and durability. Cement is manufactured in a two stage process. The first step is to produce clinker. Clinker is made by heating raw materials such as limestone and shale in a kiln up to 1500 degrees Celsius.

This clinker is then cooled and ground with other materials, often gypsum, into a fine powder. Cement is then transported in tankers to concrete batching plants or bagged and sold to the public.

Heating a kiln to this extent requires a large amount of energy, in fact as noted in the Environmental Impact Assessment (EIA), Berrima's energy costs comprise 40% of the total cost of making cement.

The ability to use fuels other than natural gas, or in the case of Berrima, coal, is often sought because of its potential cost savings, but more importantly because of its broader environmental advantages.



3 – History of Berrima Cement Works

The Berrima cement works has been in operation since 1929 and is currently approved to produce 1.5 million tonnes of cement per annum, which is traditionally about 60% of the cement for the NSW building and construction industry. The suburb of New Berrima was established originally to house the employees of the site.

Currently the site runs one coal fired kiln and supports a direct workforce of 130 employees and indirectly many more through the supply chain. Up until late 2013, the coal to fuel the kiln was sourced from Boral's Medway colliery. However, in October 2013, Boral announced it was ceasing operations at this colliery.

It is fair to say that manufacturing cement has changed dramatically over the years. A number of factors have contributed to this changing dynamic. Firstly, the rising cost of manufacturing in Australia has made it difficult to ensure a profitable commodity. Secondly, the rise and ease of importing clinker (the first stage of the cement making process) has put great strain on Australian kilns. As a result there has been a decrease in locally manufactured clinker. Moreover, skilled labour working in cement plants, have either upskilled, relocated or changed industries, most notably to the mining industry, where the lure of higher wages was attractive to many. Lastly, community expectations have increased since 1929, this has been exacerbated by urban encroachment on cement facilities. Increased expectations have led to increased regulation, which has in-turn increased business costs.

The Berrima cement works is one of five remaining fully integrated facilities left in Australia and the sole operating kiln in New South Wales.

4 – Environmental Improvements

Since 1990, the Australian cement industry has reduced its carbon emissions by 24 percent. The largest contributor of CO₂ emissions is the burning of limestone at extreme temperatures to make clinker. By utilising SWDF to heat the kiln, Boral is anticipating reducing carbon emissions by 118,000 tCO₂-e. This is a significant achievement.

The World Business Council for Sustainable Development (WBCSD) Cement Sustainability Initiative is a roadmap for the global cement industry to reduce its carbon footprint. This Roadmap outlines that the second highest carbon emission saving is likely to be achieved by using alternative fuels.

In taking this proposed action, Boral is again demonstrating its alignment with the global industry trends. Failure to recognise and support this proposal would be a competitive barrier for a globally consumed product. In a sense it impedes Berrima's cement kiln to compete on an equal footing with other kilns around the world. Alternative fuels are already extensively used in the other cement kilns in Australia.

In addition, Boral is proposing to use up to 100,000 tonnes of SWDF per annum. In all likelihood this is material that would otherwise go to landfill. Utilising this material is positive for the environment.

Moreover, heating the kiln with recycled materials will reduce the amount of coal required to fuel the kiln by 20-30%, which has positive impacts for the kiln's emissions and also has positive downstream environmental consequences linked to the extraction and processing of coal as a raw material.

Boral's EIA undertakes to source SWDF feedstock from suppliers who meet the requirements under the *EPA Energy to Waste Policy (2014)*.

Boral's EIA addresses the ancillary issues of using SWDF as a fuel source and CCAA is comfortable that the changes proposed are within accepted health and environmental guidelines.

The EIA does outline a small increase in heavy vehicles (1.6 movements / hour), CCAA is of the view this is minimal and will have a negligible impact on local residents, already conditioned to heavy vehicles accessing the Berrima site.

5 – Economic Considerations

There are broad economic considerations linked to this application. Firstly, there is the \$10m injection of the capital upgrade to the Berrima Cement works, this is not only a major injection for the economy during the construction phase but also provides security of employment for the local ongoing employees of the cement works.

Should Berrima scale back or cease operating it would have devastating impacts on the nearby town of New Berrima. The loss of this manufacturing base, in turn means a loss of local skills and employment opportunities, which has negative flow-on community effects for nearby regional towns.

As has previously been articulated, cement is the essential 'glue' in concrete. Concrete is vital to the NSW building and construction industry. A local source of cement is advantageous to the industry, should this change there may be an associated cost to deliver these infrastructure projects.

6 – Conclusion

CCAA, as the peak body for the heavy construction materials industry, wholeheartedly supports Boral's proposal to fuel its Berrima kiln with SWDF. It is apparent that this proposal is not only good for the environment but is also good for the local, regional and statewide economy and should be approved expeditiously.

For any additional information, please do not hesitate to contact me on (02) 9667 8351 or at todd.hacking@ccaa.com.au.

Yours sincerely



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