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Department of
Environment and Conservation

Your ref:
Our ref:
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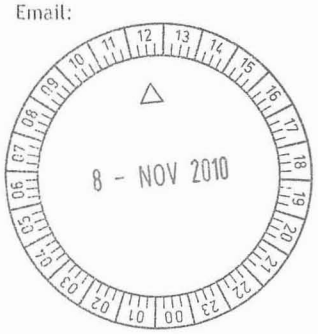

Ms Linda Omar
Committee Clerk
Standing Committee on Environment & Public Affairs
Legislative Council – Parliament House
PERTH WA 6000

Dear Madam,

Inquiry Cockburn Cement Ltd Munster – Cockburn Sound Management Council Submission

Thank you for the opportunity to comment on this inquiry. The Cockburn Sound Management Council (CSMC) wishes to provide a submission that expands on Terms of Reference Number One and Four. In particular, we believe the inquiry should also be directed to include environmental issues associated with Cockburn Cement Limited (CCL) operations at their Wash Plant located on northern Woodman Point.

The CSMC has identified water quality, environmental and aesthetic issues associated with jetty activities and the discharge produced by operations at the wash plant.

1. **Water Quality** – The wash plant produces a warm, brackish water discharge containing fine sediments associated with the washing of shell sand before it is piped to Munster for processing. The lighter and warmer brackish water remains buoyant for a time before it is mixed in with the seawater. This allows the fines in the buoyant plume to remain suspended thus, creating turbidity before settling and mixing to natural background levels. Of key interest to the CSMC is the impact of the turbid plumes on surrounding seagrass meadows, particularly those chronically affected by the plume within several hundred metres of the discharge pipe.

   The CSMC, aside from slight thermal loading, considers this waste management practice using large volumes of fresh water for washing is inappropriate, given the need to conserve water and the fact it allows a high concentration of fine sediments to be released back to the environment. The waste plume's slightly elevated nutrient levels could also be better managed through a recycling and more modern closed cycle processing operation.

2. **Environmental** – The CSMC's *State of Owen Anchorage – A Pressure State Response Report* (February 2007) summarised the threat and pressures created by the environmental impact of the wash plant operations. The impact is primarily localised and affects benthic macrophytes such as seagrasses. The actual environmental impact is restricted to a semi-circle band of seagrasses roughly radiating outwards 200 to 500 metres from the wash plant discharge area. A turbid plume is generally blown and carried by currents northward and westward from the

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plant. However, the CSMC understands a relatively narrow band of seagrass to the northeast and westward of the plant are most adversely affected (*State of Owen Anchorage – A Pressure State Response Report,* 2007).

The CSMC also understands that the turbidity plume may look worse than the actual measureable environmental impact on seagrasses further out from this inner band of impacted seagrasses. However, seagrasses provide such a critical ecosystem function of providing habitat and food for fish and help buffer strong currents, among a number of other functions, that any impact on this plant community must be minimised in order to maintain the generally high level of environmental quality found in Owen Anchorage. The CSMC's monitoring since 2005 indicates that the seagrass shoot densities at four monitoring sites closest to the wash plant and jetty) are most adversely affected when compared against CSMC's seagrass reference sites.

3. **Aesthetics** – The turbidity plume associated with the waste water from the wash plant is clearly visible through aerial photographs and shore viewing. Because it is visible, and is discoloured compared to the naturally coloured water of the ocean, the community is understandably always concerned about its impact on the environment and on its aesthetic appreciation of the viewscape. The CSMC feel the sources of turbidity at the wash plant and the jetty could be better managed to minimise this concern.

The CSMC is of the opinion that operation of this wash plant producing these kinds of impacts and issues could be better managed and controlled. It does not know or presume to suggest whether a new wash plant process would be necessary to address these impacts. However, the Council is of the opinion that it is time this aspect of CCL's operations be managed to the highest as possible standard of industrial practice, perhaps using a best practice closed cycle washing process. The current licensing regime and environmental Ministerial Conditions do not seem to address these issues.

The CSMC is also concerned over any excessive dust and pollutant loads that may arise from the Munster plant and its kilns. It is an environmental precautionary concern and not related to the range of other valid community concerns that may be raised from your Inquiry. It relates to excess precipitate that may adversely affect the waters and wetlands of Cockburn Sound and Owen Anchorage and that may land in the catchment or be blown onto the waters of Cockburn Sound or Owen Anchorage. This is most likely when winds blow from easterly directions.

The CSMC are also concerned about dust emanating from vehicle use of CCL quarries and rehabilitation of wetlands. The Council is of the opinion though that these aspects are relatively well managed and that dust suppression from the quarries appears to be adequately managed with water based suppressants. They are components of Cockburn Cement's Environmental Improvement Plan that the CSMC fully endorses. However, the CSMC will be working with CCL to ensure dust suppression measures created by vehicle use and access of quarries is conducted in the most environmentally acceptable way.

The CSMC would appreciate the committee to consider these comments although they may expand the terms of reference noted for the Inquiry.

Should you have any further questions or require additional information, please do not hesitate to contact myself on 0414 360 212 or Dr Tom Rose, CSMC Coordinator-Manager, on 9591 3837.

Yours sincerely

Kateryna Longley

Professor Kateryna Longley
Chair – Cockburn Sound Management Council

2 November 2010

Attachments:

1. Map of Plumes provided by Near maps
2. *State of Owen Anchorage: A Pressure State Response* (February 2007) at: http://csmc.environment.wa.gov.au

12 Jan 2008

26 Feb 2008

26 May 2008

24 Jan 2009

6 Feb 2009

19 Mar 2009

4 Apr 2009

16 Apr 2009

30 Apr 2009

8 May 2009

2 Jul 2009

26 Sep 2009

31 Oct 2009

27 Nov 2009

31 Dec 2009

28 Jan 2010

2 Mar 2010

28 Mar 2010

8 May 2010

29 May 2010

20 Jul 2010

1 Aug 2010

26 Aug 2010

19 Sep 2010