



Hallett Cove Linwood Community Working Group

Minutes of meeting held on Wednesday 7 March 2007
at 5.30pm at the Seacliff Surf Life saving Club

Attendance: Barry Dellow (Resident)
Edward Benesh (Resident)
Peter Craven (Resident)
Trish Craven (Resident)
Tracey Highwood (Resident)
Kym Richardson (M.P.)
Imogen Edmunds (EPA)
Nick Elith (Blasting Consultant)
Adam Betterman (Boral)
Rodney Kazem (Boral)
Paul Whiffen (Boral)

Apologies: Alistair Kelsh (Boral)
Olando Puccini (PIRSA)

1. Welcome, introduction and overview

Notes of the previous meeting held in November had been previously circulated.

The notes that follow provide a summary of key points discussed at the meeting.

Adam Betterman introduced Kym Richardson (Local Federal M.P.), Imogen Edmunds (EPA) Nick Elith (Blasting Consultant) and Rodney Kazam.

2. Discussion

Adam advised the meeting that blasting would be the main topic of discussion.

All participants of the survey undertaken by Futureye will receive a copy of the promised report. Copies were handed out at the meeting and were available electronically.

3. Blasting

Adam expressed his views for improving performance and referred to a chart (slide) showing blasting over time. There have been 16 quarry blasts since the last meeting with only four exceeding 115dB.

Adam explained most problems occur when blasting the South Eastern upper benches. This is largely due to weather conditions, use of different explosives and different blast-hole spacings. Boral hasn't been able to achieve the positive gains it was hoping for. (Monitors are located 320m from the blast).

Ground Vibration

Monitoring results showed there were 2 occasions when limits exceeded 5mm/sec.

Peter Cravan said blasting effects have been worse over the past few months. He said that local housing is built on clay soils and he believes some understanding of the geology is required.

Adam explained that there isn't a uniform geological structure between the quarry and residences. It was agreed to help understand the geology a monitor would be placed at Peter's house to compare his readings v that at the SE corner.

Adam showed a slide entitled "Initiatives Trialled in the Last Three Months".

Kym Richards (MP) asked "why is air blast worse than ground vibration when both are causing a problem." Peter Craven added that "some of the worst blasts have occurred just recently". Nick Elith explained that there is a need to modify delay patterns to avoid cumulative blast effects.

- Adam explained that the use of 'bulk explosives' and expanded drill hole patterns have not delivered better fragmentation (expanded patterns - less holes = greater power in blast holes) and in turn have created increased levels of ground vibration and air blast. Edward Benesh acknowledged the acceptance of this method, but said that it is not suitable near housing.
- Reduction of MIC in first 5 initiation holes to help control air blast is worth pursuing based on results.
- iKon Trial 2. The shot used was 3x larger than a normal blast. The blast was split in two with one half using the iKon technology and the other using existing technology. The result proved that iKon was not much better than previous blasting methods.
- Residents feedback - a number of people said to keep it as it is, it was OK. However, Trish Cravan said that she had felt the recent blasts very strongly.
Adam said Boral has been trialling firing an increased number of smaller shots (65 p.a.) compared to 20 larger blasts p.a. over the last 2 years. The results of the smaller blasts v the larger ones proved similar and the aim is now to reduce the number of blasts per year to 25. Some residents expressed frustration at the low level of improvement over the past 12 months. Adam indicated the

extent of his work since taking over the Drill and Blast operations over the past 6 months. He expanded this further by informing the meeting that quarry development at RL 165 to RL 150 (320m from Perry Barr Road) was progressing in an easterly direction and back

towards the north. Adam indicated that it would be another 2 years before work in these areas was completed. Edward Benesh and residents said they can't wait that long. Adam said that Boral's long history of various blasting trials at Linwood Quarry over the past 10 - 15 years were intermittent and poorly documented. The trials conducted over the last 6 months have produced a more systematic approach with results being closely analysed at a technical level for the long term benefit of the community. The trials are to be continued for the next 3 months.

Tracy Highwood asked "is the rate of improvement based on the number of complaints received?"

Peter Craven questioned why Boral persist with the quarry given its financial return p.a. (figure quoted). Adam firstly questioned the source of that advice and then explained the importance of the extractive materials quarried from Linwood for the construction industry in SA. He said the raw materials from Linwood Quarry are one of the few sources of materials in SA suitable for use in asphalt and low shrinkage (high strength) concrete.

Next Steps: (slide)

- The use of slower timing and increased shot size will reduce the number of blasts per year from 65 to approx. 25 and shots will feel less violent but the rumble will last approx. 1 second longer than previous blasts.
- Boral is changing to 89mm blast holes (currently 102mm) and drill hole patterns will be closed up (a 40% increase in drilling)
- Reduced MIC = less ground vibration
- Changing drilling contractor (more professional, improved benefits include greater accuracy and an anticipation of better environmental effects - less impact)
- Reverting to the use of ANFO (Ammonium Nitrate and Fuel Oil (diesel)) rather than the bulk emulsion used more recently.

Adam briefly explained the location of blast monitors placed along Perry Barr Road.

Adam said that the problems associated with the with last big blast in the SE corner of the site was around timing and the closing up of drill hole patterns. Slower timing will reduce air blast (it will feel like it drags on longer (approx 1.5 - 2 secs longer)

Boral's target is to lower air blast limits for the southern hill development. Results from the use of the iKon initiation system have indicated reductions in ground vibration but the air blast levels have increased.

4. PIRSA Mining Operation Plan (MOP) Review

Boral is working with PIRSA to set measurable objectives in 3 key areas;

- Dust (other than blasting)
- Blasting (vibration, air blast and dust)
- Noise (other than blasting)

3

Blasting - Measurement Criteria (slide).

Showed air blast and ground vibration levels meeting the following criteria:

- Maximum air blast sound level of 120dB
- A peak particle velocity(ppv) of 5 mm/s - may be exceeded on up to 5% of the total number of blasts over a 12 month period
- The maximum ppv level for any blast not to exceed 10 mm/s

Boral doesn't believe it can achieve 115 dB with only a 10% exceedence level whilst still developing the current southern hill development area.

Adam reminded Hallett Cove residents that Boral now had a policy of not blasting when strong northerly winds are prevailing. Boral is able to 'sit' (delay) blasts for up to 2 days and have done this 4 times in the past 6 months. This is at considerable cost as it is necessary to post a security guard at the site 24/7 until the blast is fired.

Adam also advised that PIRSA are notified each time blasting is to occur.

Nick Elith explained 120dB is an accepted level across Australia although he conceded that the trend is moving towards 115dB.

Edward Benesh asked what the penalties were if Boral exceeded the limits agreed to. Kym Richardson (MP) advised that PIRSA has the power to impose action against companies.

Adam explained that beyond the current quarry surface development over the next couple of years, Boral should be able to achieve a 115 dB limit but would like to complete the southern hill development before committing to this.

Nick Elith suggested that we nominate 115dB as our target. Kym Richardson (MP) supported this point and asked if this could be stated in the new MOP.

Edward Benesh said he believed Boral should incur legal action if they exceed 120 dB.

Peter Cravan asked why Boral can't move the SE monitor so that it is on clay (as is his house in Antonio Circuit)? Adam said that Boral has a fifth monitor which can be located anywhere and it could be easily installed at Peter's house and be compared with the SE monitor. Adam said he would

prefer to leave the SE monitor where it is to build on the information already obtained from that location.

Kym Richardson (MP) asked if PIRSA can monitor the Linwood blasts? Adam advised that PIRSA can and already has monitored the site. The PIRSA monitoring results were found to be consistent with that of Boral's.

Peter Cravan said that there is a need to measure ground vibration in his street, as he believes they far exceed monitored recordings shown in the past. He questioned the setting of ground vibration levels.

Peter Cravan also commented that it was hard to see how Boral could achieve a compromise that would be acceptable to residents. (Adam through his involvement over the past six months has adopted a systematic approach towards resolving this)

Edward Benesh asked what the difference was. Adam responded by saying that now the objectives state a value that is measurable whereas previously the approved development plan had no set value.

Noise - Discussion ensued around the hours of the operation. Residents commented that drilling and plant operation has often commenced too early in the morning. Adam said that the quarry secondary crusher starts around 5:30am and the primary crusher around 6:30am.

Imogen (EPA) asked what are rules?

Peter C. asked why noise compliance levels for Boral are different to residents? E.g. he can't start his lawnmower before 9am on Sundays.

Noise: slide presented by Adam.

Noise level measurements will be undertaken over a 24 hour period and will comprise noise logging providing a continuous measure of all noise levels adjacent to residences.

1. Manual noise measurements to determine the contribution of noise from the operations at the quarry compared to the overall background noise levels logged. The measurements will taken by a trained representative of a mutually agreed professional acoustic consultancy at the measurement location for the entire 24 hour period.
2. A report of the noise measurement results will be submitted to PIRSA

Imogen (EPA) requested that a copy of the testing results be forwarded to the EPA.

Dust: (slide)

Dust levels emanating from the operation will be continuously measured at specified monitoring points outside the site boundaries using DustTrak real-time dust monitors used in accordance with relevant standards.

The criteria will be measured in two stages:

1. PM10 not to exceed 50 µg/m³ more than 10 days per year for the first two years (upon completion of establishment of real-time monitor network)
2. A commitment to improve after the initial two year period

Imogen (EPA) requested that any exceedances of this standard should be forwarded to the EPA for their records.

5. Communication

Boral web-site: (slide)

The Boral website will contain community news, minutes of meetings and blasting information.

Adam is to advise when the website will be available.

Kym Richardson (MP) asked if the slides Adam had shown at the meeting could go on the web site? Adam explained that no information can be put on a Boral website without Boral Corporate (Sydney) approval.

Stormwater:

In recent negotiations with Marion Council it has been agreed that stormwater entering the quarry property (currently from Clubhouse Road) will be captured and pumped into the main quarry pit and recycled for use in and around the quarry for dust suppression. Council will also use some of the water for irrigation of the community golf course.

Landscaping:

Some discussion ensued around the progress of proposed tree screen planting along Perry Barr Road. Paul Whiffen (Boral Environment & Properties Manager) advised that negotiations with the Sheidow family (landowners) were progressing well and there was agreement in principle that the planting should go ahead. Paul will prepare a planting plan and finalise details for watering and protective stock fencing.

Tracey H. raised her concern at the increasing ugliness of the overburden dump. Her home has southerly views across the site to the sea and she is upset at the growing visual prominence of the dump. Paul suggested that Boral could investigate the possibility of constructing a grassed foreground screening mound across the southern end of the dump site which would hide it from view. Similarly, he suggested that above the northern end of the dump the landform could be elevated, shaped and grassed to improve the overall visual amenity of the area.

Action: Adam and Paul to discuss and report to next meeting.

6. Other Business:

Residents expressed their disappointment that no representative from the City of Marion was present at the meeting. It was agreed that minutes of the meetings be forwarded to Council together with a request that they attend future meetings.

Kym Richardson (MP) asked if Boral paid compensation to residents for property damage? Paul W. advised that Boral hasn't paid compensation to anyone but in previous years it has engaged independent consulting engineers to inspect two houses following allegations of damage caused by quarry blasting. In both cases investigated, the cause of cracked walls etc, was found to be due to structural faults not associated with quarry blasting.

Some further discussion ensued around the long-term effects of blasting.

Reference was made to the Australian Standards for house design, the suitability of brick veneer construction for Adelaide soil types and ability to withstand natural elements such as high winds, vibration due to storm events etc.

Kym Richardson (MP) asked if Boral would consider holding an open forum rather than an open day for local residents? Adam said that Boral had found the last quarry open day to be a highly successful and well accepted event at which some 2-300 local residents and family members attended. Residents had commented on how informative the day had been having been taken on tours of the quarry, shown displays of the future quarry development plans and a video on blasting techniques with 12 or 13 company staff on-site to answer their questions. Boral could see no advantage in changing this format. Adam said that Boral will definitely be holding another open day and he expected to be able to advise a date for this within the next week.

In response to comments from the floor, Adam said that the open day was not a PR exercise but an information day for local residents interested in finding out what went on at the quarry site, why we were there, what we do and why.

Kym Richardson (MP) said that he would be following up the question of why the quarry could make noise at times when local residents couldn't.

Adam advised that a new drilling contractor is scheduled to start working at the site in two weeks time with expected improvements in capability and reduced environmental impacts.

7. Next meeting:

Monday 2nd July 2007 at 5.30pm at the SSLSC
The meeting closed at 8.00pm.