



## PER Community Forum – Collie 26<sup>th</sup> October 2009

A Community Forum was held in Collie on 26 October 2009, to provide feedback about the Public Environmental Review (PER) document prepared for Perdaman Chemicals and Fertilisers by GHD consultants. The PER document has been submitted to the EPA and the public submission period will close on 24 November 2009

This is a summary of the key issues and questions raised by attendees at the Collie Community Forum. Responses were provided by Perdaman, GHD and by a representative of the Dept of Mines and Petroleum. This is not intended to be a comprehensive, verbatim account of the meeting.

If there are further questions, please contact Perdaman on 9429 5111.

Issue	Question/statement	Response
Geosequestration	What are the formations?	A number of formations are features, shale, sandstone and other 'sandy' formations There is no hard rock.
Geosequestration	What is in the formation now?	Primarily a sandstone layer, filled with saline water. The CO <sub>2</sub> is injected and this will move with the water through the sandstone formation. Some is trapped in sandstone. There is some displacement of water, about, 0.5, ie only half a per cent of water will be displaced.
Geosequestration	How many wells are there now?.	Previous slide showed 5 wells, not deep enough. There are 2 deeper wells that provide good information. There will be a requirement for more specific wells as the project progresses. The wells show there is good similarity across the area.
Geosequestration	Displacement of water into Yarragadee (Y'dee) – is there a risk of saline water being pushed into the Y'dee.?	It is unlikely that saline water will seep into the Y'dee as a result of the displacement. There isn't great connectivity between the sections, ie Lower Leseuer, Y'dee and Cockleshell Gully etc.
Geosequestration	Route of pipeline for geosequestration	This will be established once the viability or otherwise of the Lower Leseuer site is established. A separate approvals process, including public consultation, will be undertaken prior to any geosequestration project proceeding.
Geosequestration	Geosequestration: what alternative if it doesn't work?	Refer next comment.
Geosequestration	Geosequestration, has biosequestration been considered?	Yes. Discussions have been held with a biosequestration company and these discussions will continue. A feasibility study will be undertaken if the option appears viable.



Employment	When will training of staff, youth begin?	Plant operator training will begin before the plant starts up, at least 8-9 months before commissioning. Training may begin about 18 months before start up. Recruitment will need to start well before then. Key personnel will be sent to appropriate places for training. Will talk to schools and with TAFE to start thinking about and planning the subjects.
Employment		A few apprenticeships are still outstanding from other work places. Locals will have the first option.
Employment	Would you send people to the Burrup for training?	Unlikely.
Traffic	Road traffic movement number during construction - heavy hauls up the hill.	There will be traffic during construction – Perdaman is involved in the Road Safety Alliance. A number of large modules will have to be fabricated offshore and transported by road to site.
Noise	What will the noise level at Cardiff be?	Four indicative sensitive receptor sites were modelled in Cardiff (Sites 67, 69, 71, 72). The predicted $L_{A10}$ noise levels were 27, 24, 25 and 26 dB respectively against an assigned noise level of 35 dB
Noise	Rail noise through Collie	Modelling predicts an increase in transport noise levels as a result of the Perdaman train movements in Collie of 0.4 dB. There is predicted to be an overall increase in transport noise levels in Collie from other factors by 2013 of 4.4 dB based on forecast train movements provided by WestNet Rail. Overall predicted noise levels from forecast train movements by 2013 including Perdaman trains of 46.8 dB at 100 m from the track. This compares to 42.0 dB based on current movements.
Noise	Noise is not constant (although can be a hum). You can have intermittent noise, eg blasting, beepers. If that happens at night – you can be woken at night a few times.	PCF's operation is continuous. Noise should be consistent, without numerous excursions.
Drycooling	Why don't we use dry cooling at the plant ?(2)	Dry cooling is possible. Why not for PCF? The base chemical reaction takes place at 1500 degreesC. The plant is 46% thermally efficient per tonne of coal, using less energy, generating less pollutants than other coal based industries. This is accomplished by utilizing steam water in the process. . If cooling water was replaced with fans, the fans make noise, and a lot of power is required to drive the fans (30-50 MW). Additional power would be required from off-site power generators to power the fans and the additional power generation would use cooling



	<p>- How much more water is required?</p>	<p>water.</p> <p>Dry cooling would use less water, but more pollution would occur, more energy would be required and the overall operation would become less thermally efficient. Cooling water is the best option.</p> <p>Will get back to people. Info was provided and included in a Collie Mail Article.</p>
<p>Risk</p>	<p>Risk assessment of the PER - how was this done? What is the risk assessment for ammonia spills/ leak? The final comments made in the PER are underestimated. An ammonia cloud would have a wide impact. If 10000t of ammonia were released, this would be catastrophic. The Town would need to be evacuated, and Bunbury could be impacted. The risk assessment, is not to US standards.</p> <p>Risk is only for a 5km radius. Should model at 200ppm, (US).</p> <p>The Town of Collie would be seriously impacted by a dense cloud of ammonia.</p> <p>Overall comment: PCF has played down the response to an ammonia risk.</p>	<p>PCF is not transporting ammonia, it will be formed and consumed onsite. Ammonia tank will be double walled. There has never been a catastrophic failure of a double walled ammonia tank</p> <p>Risk assessment followed Australian standards, which are consistent with US Standards.</p> <p>Dense cloud only occurs in specific circumstances The model is based on Australian conditions and standards and there has been no attempt by Perdaman to play down the risks. On the contrary, Perdaman is not actually required to undertake a risk assessment in its PER but it has done so to provide information to the public. Safeguards will be included in the plant design to protect local communities, as has</p>



	<p>Want clarification and comment on ammonia, finding out about emissions and how they might affect people (residences)</p> <p>Will need to taken into account when the plant ages. Accidents and events do happen and the precautionary approach is required.</p>	<p>been the case with other Ammonia installations such as the 20,000 tonne CSBP tank at Kwinana which is much closer to local communities.</p> <p>This will be reviewed with more details and risk management will be put in place. The works approval will require more information. Dispersion modelling for these conditions in Collie, show the results published.</p>
Climate change	Possible impact of climate change	PCF can only respond to these if and when they occur. If there is a reduction in rainfall at Collie and dam levels fall, other sources of water from outside the Collie Basin will have to be obtained to protect environmental needs in and around Collie.
Air quality	Process gas discharges: will there be a smell, impact on rain, roof corrosion?	Air emissions from the PCF facility will be extremely low compared with other industries in the area, as PCF will be capturing the sulphur and the closed nature of the process in the PCF plant allows efficient management of pollutants.
Water	Water in the old underground workings	No comment to offer on this. Refer Department of Water
Water	Integrated strategy for water movement	A local water management strategy has been developed by LandCorp in relation to the Shotts Industrial Estate development and one will be developed also by Perdaman in relation to its EP Act Part V approvals
Water	Better explanation of the 96% recycling of water	PCF's desalination plant supplier has advised that it can achieve 96% recovery of all water processed through the desalination plant, by retreating wastewater from the desalination plant prior to disposal of the residue. Perdaman will also be looking to treat and recycle water from other wastewater streams in the plant.
Water	<p>Will there be a desal plant on site?</p> <p>Where on the east branch will abstraction occur?</p> <p>Saline water going to void leaches back into the water table.</p>	<p>Yes. Water will be processed through a desalination plant. Water will be rejected by the desalination plant as wastewater containing salts.</p> <p>The plant will minimise the requirement for new water. The Department of Water is planning to build infrastructure to collect water from the east branch of the Collie river and transport this water to a disused mine void.</p> <p>Water will be taken from the void by PCF and desalinated, sending waste down the existing Verve pipeline, if Verve Energy agrees to provide access. If access to the</p>



		pipeline is not provided, the waste will be concentrated in a brine concentrator to a solid waste and disposed off in accordance with regulations to landfill.
Outfall	Route of the pipeline	Existing Verve pipeline access being discussed and negotiated now.
Outfall	Who is responsible for the outfall pipeline?	Verve
Outfall	What happens when the outfall pipe is not available?	PCF will be constructing storage for 2 weeks of wastewater in case the pipeline is out of commission for short periods of time. The PCF plant will have to shut down if the pipeline is unavailable for periods longer than 2 weeks.
Synergies	Are there possible industrial synergies?	Slag will be used as a bi – product for the cement and road construction industry. There is a lot of opportunity for use of the slag.
Wastewater	Will there be heavy metals in the wastewater?	Some minerals are present in all wastewater streams. Strict licence conditions are imposed on Verve in its outfall licence and PCF will be complying with these condition.
Wastewater	Saline pipeline to coast, is this the one Bluewater is aiming to use and Collie 1,2,3 and 4.	It is not unusual to have one infrastructure for multiuse. The pipe has sufficient capacity for existing use and PCF.
Wastewater	It is silly to sleeve existing pipe. It would be better to replace the pipe.	PCF agrees with this point and the capacity of the pipe could be expanded. However, the pipeline is owned by Verve and the decision is Verve's.