

**Botany Groundwater Cleanup Project  
IMC Establishment Meeting  
FINAL MINUTES**

Meeting Date: Friday 10<sup>th</sup> February

Meeting Location: Orica Engineering Shared Services, Denison Street, Matraville

Meeting commenced at 2.00 pm and closed at 4.40 pm.

Meeting Attended by:

Name	Role	Initials used in minutes
John Kent	CLC Chair	JK
John McCracken	IMC Core Member, Process Engineering specialist	JMc
Ian Acworth	IMC Core Member, Hydrogeology specialist	IA
Paul Shepherd	City of Botany Bay Council (CoBB), CLC Representative on IMC	PS
John Lear	GTP Project Technical Manager, Orica (Led tour of Groundwater Treatment Plant (GTP))	JL
Lucy Archer	Orica Community Relations (secretariat support to IMC)	LA

Minutes distributed to the above and:

Prof. Brian Priestly	IMC auxiliary member, human health risk assessment specialist
Dr Mark Hibberd	IMC auxiliary member, air modelling specialist
Dr. Chris Clunies-Ross	IMC auxiliary member, dioxin specialist
Botany Groundwater Community Liaison Committee (distribution as determined by the CLC)	

	Item	Action
<b>1</b>	<b>Welcome and Introductions</b>	
1.1	JK welcomed all to the meeting and introductions occurred.	
1.2	JK provided an agenda for the meeting.	
1.3	JK explained that the IMC is required to meet twice a year and that he had been asked to arrange this meeting by the CLC at their meeting in December 2005.	
1.4	PS noted his appreciation for JK arranging the meeting and noted that he had not been able to attend the December CLC meeting. Under the Terms of Reference for the IMC the CLC's Representative will act as Chair of the IMC. JK noted that he is happy to attend all IMC meetings if requested by the CLC.	
1.5	LA advised that she was attending to provide secretariat support to the IMC and that JL was leading the tour of the GTP.	
<b>2</b>	<b>IMC</b> - <b>Terms of Reference</b> - <b>Membership</b> - <b>Expectations</b>	
2.1	General discussion regarding the role of the IMC was held.	
2.2	JK noted that it is important to maintain independence in projects such as this as there are many experts involved.	
2.3	JK noted that there are no specific tasks set by the CLC at this stage, other than to be consulted in the selection of the independent compliance auditor.	

	Item	Action
2.4	All agreed that it was important to focus on those issues of most importance to the CLC and the community. IA asked what the specific concerns of the community are. PS advised that most concerns relate to the use of thermal oxidation, dioxins, air quality and the potential for associated human health impacts.	
2.5	JL noted that subsidence was also identified as a concern at community meetings during preparation of the EIS.	
2.6	PS noted that over the past two years Orica has done a lot of monitoring and lots of information is available, but before that there was not much information available about the groundwater contamination. The community is also keen to be advised on the performance of the GTP and the progress of the cleanup project.	
2.7	It was agreed that the selection of the two core members, with expertise in process engineering and hydrogeology, reflect the two key community concerns. The CLC will ask for interpretation and advice as material becomes available.	
2.8	JK noted that he has been involved with a process like this at the Olympic site using thermal desorption and working with the Homebush Bay Environmental Reference Group. He is also involved with the projects at Rhodes. JMc noted that he did the HAZOP studies for the Homebush Bay project.	
<b>3</b>	<b>Contractual Matters</b>	
3.1	JMc asked if some general contractual matters could be discussed. All agreed that they could.	
3.2	JMc noted that the meeting was called without any formal paper trail and that under the contract and the Terms of Reference tasks need to be confirmed in writing by the CLC.	
3.3	Discussion regarding the process for tasks to be requested was held. PS advised that he understood that at each quarterly meeting of the CLC he would identify what tasks the CLC wanted the IMC to undertake. PS would then pass on a written instruction to the relevant IMC members.	
3.4	The process for establishing Purchase Orders was discussed. Separate Purchase Orders could be established for general meetings and specific tasks or a general Purchase Order could be established. JL noted that this could be clarified with the Orica accounts team. IA noted that he would keep a record of all hours spent and invoice on that basis. LA to confirm process for establishing Purchase Orders and advise IMC.	LA
3.5	JMc noted that the contract requires the IMC to notify the CLC if they will be unavailable for an extended period. JMc advised that he will be on leave for March and April 2006 and will not be available during that period. JK to advise the CLC of this at the next meeting.	JK
3.6	JMc noted that Channel 9 had called him prior to the meeting. He noted that the contract states that IMC members shall not provide documentation or make any other representations to the media without prior written authorisation from the CLC Chair. JMc asked who media should be referred to if they contact IMC members. JK advised that the media can be referred to him. PS noted that it had previously been agreed that CLC members can make comment to the media as an individual but can not make comments on behalf of the CLC.	
3.7	JMc noted that the contract requires any confidential information to be noted as such. JL advised that the onus is on Orica to identify any confidential information. JL and LA advised that monitoring information for the project is made publicly available and that it is unlikely that the IMC will be asked to review confidential information.	
3.8	JMc asked if he could have permission to take photographs during the site tour. JL said that photographs can be taken of the GTP during the tour, but that other companies operate on the Botany Industrial Park and photographs can not be taken	

	Item	Action
	of their plants. Huntsman does not allow any of their plants to be photographed.	
3.9	JMc noted that the contract makes reference to a confidentiality agreement and asked if one is required. LA to check and advise.	LA
3.10	JMc asked if professional indemnity and public liability insurance details need to be cited. LA advised that they have not been asked for at this stage but that she would be in contact with the members if required.	LA
<b>4</b>	<b>Independent Auditor</b>	
4.1	JK advised that the IMC is to be consulted in selection of the independent compliance auditor for the project.	
4.2	LA noted that this is a requirement of Orica's Environment Protection licence and that an audit is required during the first two years of operation of the GTP. LA advised that the licence requires the auditor to be certified by a certified body and to have held lead environmental certification for at least 2 years. Orica has called for proposals from three companies: ERM, GHD and KMH. A copy of the proposals (with costs excluded) and an evaluation spreadsheet was provided to IA, JMc and PS. Orica's evaluation recommends that KMH be selected for the role on the basis of their demonstrated understanding of the required tasks.	
4.3	PS asked that IA and JMc review the proposals and the evaluation and provide comment on Orica's selection process by Thursday February 23 <sup>rd</sup> 2006.	IA JMc
4.4	PS will formalise this request in writing (e-mail) to IA and JMc.	PS
4.5	The review is to focus on the evaluation process used and is not intended to leave the choice of auditor with the IMC. LA noted that the costs of each of the proposals has not been provided to the IMC as their input is sought on a technical basis, not a financial basis.	
4.6	PS will advise Orica of the feedback from the IMC once received.	PS
<b>5</b>	<b>Future Meetings</b>	
5.1	LA to draft minutes and provide to all present for comment. Minutes will then be issued to the CLC at the March 2006 meeting.	LA
5.2	Dates for future meetings will be set as required and once the CLC requests specific tasks be undertaken by the IMC.	
<b>6</b>	<b>GTP Tour</b>	
6.1	JL led a tour of the GTP. This tour included a plant walk through and viewing of the plant operating software. Questions raised during the tour are listed below with the answers provided.	

Ref	Question	Answer
1	What happens to the iron sludge removed from the groundwater?	It is sent to sewer in accordance with Orica's trade waste agreement with Sydney Water.
2	Why isn't the iron used ?	Orica wants to avoid solids handling. Orica pays for the iron to go to sewer. The volume of iron discharged is very small in comparison to the total iron removed at the STP. The iron becomes part of the solids extracted at the Malabar Sewage Treatment Plant (STP) and used as a fertiliser.
3	How is information from the operating software stored?	Computer software displays information about the groundwater extraction pumps and each component of the GTP. The operators are very familiar with the software and can view the plant status in real time and have access to information and trends over a longer period

Ref	Question	Answer
		(weeks to months). All data is stored permanently in an electronic format so that the engineering team can review data without getting in the way of the operators.
4	Where is the wind station?	A wind station has been installed on the GTP site as agreed with the EPA. The height of the stack meant that the station did not strictly comply with the relevant standards but the EPA were satisfied that it could provide all necessary data for the GTP.
5	Would the information from this station be taken into account when responding to odour complaints? Council received an odour complaint from Banksmeadow School recently – would this weather station have been used to understand wind direction at that time?	The BIP site Environmental Engineer, Robert Evans, has immediate access to data from the older weather monitoring station and can also contact the GTP for information from the new station. <i>(After the meeting LA checked with Robert Evans who advised that he had accessed data from both weather stations in responding to the complaint.)</i>
6	Have you experienced any iron fouling of the pumps? UNSW work in the past found that the pumps foul and need to be replaced.	No fouling experienced to date but Orica anticipates that the screens will need maintenance over time. Orica has been advised that it is possible to redrill existing wells, rather than drilling new wells.
7	IA requested a tour of the containment lines.	IA was introduced to Steve Corish and James Stening from Orica at the end of the meeting. A tour of the containment lines will be arranged.
8	Are the pumps at Southlands the same as the ones on Foreshore Road.	Yes, but the pumps are below ground in pits on Foreshore Road, and above ground in Southlands.
9	Will the Port expansion impact upon the salt and freshwater interface?	This was considered during the EIS and it was concluded that the groundwater cleanup would not significantly impact upon by the Ports expansion (or vice versa).
10	If Ports use fill will this raise the groundwater level?	The Ports expansion should not have a significant impact upon groundwater levels. Orica monitors groundwater levels to make sure that we maintain hydraulic containment. The main concern with the Port expansion was that flushing of Penrhyn Estuary would be greatly reduced. Orica is required to undertake ecological monitoring at the Estuary as part of our approval for the project. Fisheries have stated that this monitoring regime would need to be reviewed if the Ports expansion proceeds.
11	Council comment on groundwater levels and Ports expansion.	PS noted that CoBB has just released their annual report to the community and that it includes some great historical photographs of the original shore line. PS noted that groundwater levels at Dent Street rose significantly with the initial Port development. PS also noted that CoBB has taken the NSW Department of Planning to the Supreme Court for the Ports Expansion approval.
12	The GTP was built very quickly but commissioning seems to be taking a long time. Why is that?	It typically takes about 3 months to commission a plant of this kind. Commissioning the GTP is complex as the feed

Ref	Question	Answer
		<p>water quality is very variable.</p> <p>Orica also had some delays with the blowers which took some time to fix. We are also moving carefully with the Stripped Water Treatment Plant under Veolia's guidance, to ensure that we operate the plant in an effective manner.</p> <p>If the plant trips it cant just be switched on again straight away. If the Thermal Oxidiser trips it takes 6 hours to heat up and bring back on-line.</p>
13	If the plant goes off line for a few days will the groundwater still be captured?	<p>The groundwater moves at a rate of 100m/yr.</p> <p>When we are pumping we draw groundwater back to effectively capture 14 days of natural flow.</p> <p>If the plant is not operating for up to two weeks we can still capture the water when we turn it back on again.</p>
14	How much water are you currently treating?	We have been treating approximately 3ML/day since January 21st 2006.
15	Why are you only treating 3ML/day?	<p>The rate of pumping is currently limited by the Reverse Osmosis (RO) units. We are working under Veolia's guidance to ensure we operate the plant effectively.</p> <p>We are commissioning using two primary RO units and will bring the other RO units on-line once those are fully commissioned.</p>
16	How does this compare with the rate of treatment in the SSU?	The SSU started treating groundwater in October 2004. It treated approximately 1ML/day.
17	How long does it take for the water to move through the GTP?	About 25 minutes.
18	Where does the treated water go?	<p>The treated water is currently being sent to a stormwater channel at Perry Street. The water then flows to Botany Bay.</p> <p>The quality and quantity of the water is stipulated in Orica's Environment Protection Licence.</p> <p>We have a level transmitter in the stormwater channel and are required to stop our discharge if the level of water is very high because of heavy rainfall.</p> <p>We also have to monitor the volumes in the SWOOS and stop our discharge to sewer if there is insufficient capacity.</p> <p>Orica is in the process of developing agreements with industrial neighbours to use the treated water.</p> <p>They wont take the water until we are treating water at consistent rate as they don't want to have to keep switching between towns water and Orica water.</p>
19	Are air emissions from the stack within the set licence limits?	<p>Emissions are well within the licence limits:</p> <ul style="list-style-type: none"> <li>- EDC limit 8 mg/m<sup>3</sup>. Emissions approx 1.3 mg/m<sup>3</sup></li> <li>- VOC limit 10 mg/m<sup>3</sup>. Emissions approx 4 mg/m<sup>3</sup></li> </ul> <p>Dioxin testing has not yet been conducted. The licence states that it must occur within the first month of plant operation. As we are still commissioning the GTP dioxin monitoring is planned to occur in March 2006.</p>
20	Do you do air quality testing at the lab	No, Orica only does water quality testing at the lab at

Ref	Question	Answer
	at the GTP?	the GTP. A lab called SGS is based at the BIP. Their Melbourne branch will do most of the air quality analysis for Orica. They sublet some samples to Canberra for analysis.