

**LEGISLATIVE COUNCIL SELECT COMMITTEE  
ON THE KOORAGANG ISLAND ORICA CHEMICAL LEAK**

**RESPONSES TO QUESTIONS ON NOTICE ON TUESDAY, 15 NOVEMBER 2011**

The responses to questions on notice below reflect Orica's understanding of the question it has been asked to address on notice. The reference following the question is to the relevant page of the uncorrected transcript (T[page]).

**1. Why was it necessary to repair SP8 vent stack about 5-6 metres up on the stack (where pin-hole Cr excursion)? What was the nature of the repair? (T10)**

The SP8 vent stack was repaired at the position identified due to external corrosion of the vent stack. A stainless steel band with an internal rubber seal was clamped around the stack at the point of corrosion and ratcheted into place. These measures were adequate to prevent any leaks from the corrosion holes repaired. Further corrosion holes in the vent stack have been discovered post the incident and have now been repaired.

**2. What was the precise timing in the start-up procedure for the vent-valve operations? What did happen as compared to the procedure? Who made the decisions/issued the instructions to adjust valves leading up to the incident on 8 August? (T27)**

A copy of the Ammonia Plant start-up procedure is **Annexure A** - the relevant sections for the procedures carried out during the night shift on 7 August and day shift on 8 August are sections 2.23 and 2.24 on pages 33 to 37. Section 2.23 provides the steps for "Back-warming the HT shift". Section 2.24 provides the steps for "Steam into 101B/103D from FIC4 & V12". The start-up procedure does not state at what time each step must occur.

The vent valve operations that occurred on 8 August 2011 were as follows:

- (a) MOV24 opened at 3:31am for backwarming the high temperature shift (HTS) catalyst
- (b) PIC8 opened at 5:23pm to bring steam through the HT shift to warm it up
- (c) PV11620 opened at 6:20pm to take condensate through to 102F
- (d) MOV24 closed at 6:36pm
- (e) PIC8 closed at 6:38pm
- (f) PV11620 closed at 6:47pm to shut down the plant

Steps (a) and (b) were in accordance with the start-up procedure. Steps (c) to (f) were in response to the chromium VI emission.

The Orica personnel who issued instructions in relation to the adjustment of vent valves on the night shift on 7 August (from 6pm to 6am) were Daniel Allen, Commissioning Engineer, Warren Ashbourne, Night Shift Supervisor and Greg Cross, Night Shift Supervisor, on the 8 August day shift (6am to 6pm) were Peter McGrath, Ammonia Plant Manager, Ajay Joshi, Commissioning Manager, David Williams, Day Shift Supervisor and David Fulmer, Day Shift Supervisor and on the 8 August night shift (from 6pm to 6am), Ajay Joshi, Commissioning Manager, Daniel Allen, Commissioning Engineer and Warren Ashbourne, Night Shift Supervisor.

**3. Please provide a copy of Orica's Hazard Studies undertaken in relation to the ammonia plant (T11)**

A copy of Orica's Hazard Studies undertaken in relation to the ammonia plant (pre-incident) are on CD1.

**4. Please provide a copy of Orica's policy in relation to the creation of a crisis management team (CMT) (T25)**

A copy of Orica's crisis management plan is **Annexure B**.

**5. In 2006, how much condensate was it estimated would be generated during the start up? How much condensate was collected in 2006? (T31)**

There was no estimate of how much condensate would be generated during heating of the high temperature shift catalyst during the 2006 Ammonia Plant start-up. It would be possible to calculate how much condensate was generated in 2006 based on the steam flow rate and saturation temperature but it is unknown how much condensate was collected and how much was discharged into onsite effluent.

**6. Who appointed the CMT? Who were the members of the CMT? What were their positions and roles? Who was "making the decisions" on the CMT? (T36-37)**

James Bonnor was informed of the 8 August incident at the Kooragang Island site at approximately 10.30am on Tuesday, 9 August in a telephone call from the Sustainability Manager for Australia/Asia. Following this call, James Bonnor implemented Orica's crisis management plan. The crisis management team were appointed in accordance with the crisis management plan (section 4.1).

The following persons were the members of the 8 August Kooragang Island incident crisis management team:

<b>Name</b>	<b>Title</b>	<b>Role/s</b>
James Bonnor	General Manager, Orica Mining Services, Australia/Asia	Crisis Management Team Leader (until 12/8)  Media Liaison & Communication
Sean Winstone	Sustainability Manager, Australia/Asia	Alternate Management Team Leader  Safety, Health & Environment
Andrew Crace	Global Operations Manager – Bulk Services	Crisis Management Team Co-ordinator  Manager, Operations
Richard Brown	Executive Business Manager, Australia/Pacific	Manager, Manufacturing
Richard Storr	Vice President Supply Chain, Australia/Asia	Manager, Supply Chain
Nicole Ekert	Group Manager, Corporate Communications, Orica Limited	Manager, Communications
Sarah Jones	Legal Counsel – SHE, Orica Limited	Legal Counsel
Kylie Newman	HR Manager, Australia/Asia, Orica Mining Services	Manager, Human Resources

Name	Title	Role/s
Toni Laming	Strategic Marketing Manager, Australia/Asia, Orica Mining Services	Communications
Dr Rodney Williams	Business Development Manager, Ammonium Nitrate, Orica Mining Services	Technical
Russell Higgins	Major Projects Director, Australia/Asia, Orica Limited	Technical
Carol Triebel	Global Nitrates Operation and Sustainability Manager, Australia/Asia	Management
Richard Hoggard	Group General Manager Major Projects, Orica Limited	Crisis Management Team Leader (from 12/8)

James Bonnor was the Crisis Management Team Leader from 10:36am on 9 August 2011 until 9.00am on 12 August 2011. The decisions made by the crisis management team were made on a collaborative basis and in consultation with the relevant experts. Ultimately, James Bonnor had operational responsibility for the crisis management team.

Andrew Crace was appointed by James Bonnor as the co-ordinator for the crisis management team. As co-ordinator, Andrew Crace was responsible for contacting each of the members of the crisis management team to convene the first and subsequent meetings of the crisis management team.

Dr Rodney Williams was appointed to the crisis management team due to his technical knowledge and expertise. Dr Williams holds a PhD in Chemistry and has extensive experience in industrial research and manufacturing.

Russell Higgins was appointed to the crisis management team due to his involvement in the expansion project for the KI Ammonia Plant and his project management skills.

The KI Site Manager, Stuart Newman and KI Sustainability Manager, Sherree Woodroffe were not members of the crisis management team but attended a number of meetings of the crisis management team to provide updates on activities on site.

In order to release James Bonnor to focus on his media liaison and communications role, at 9.00am on 12 August 2011 Richard Hoggard was appointed Crisis Management Team Leader.

Andrew Crace handed over co-ordination of the crisis management team to James Lawrence, Communications Manager at about midday on 12 August 2011.

**7. Who on the CMT came from Kurri Kurri and who came from Melbourne? When did the members of the CMT arrive on site? (T37)**

The members of the crisis management team based at Kurri Kurri were:

James Bonnor, General Manager, Orica Mining Services, Australia/Asia  
 Andrew Crace, Global Operations Manager – Bulk Services  
 Richard Brown, Executive Business Manager, Australia/Pacific  
 Richard Storr, Vice President Supply Chain, Australia/Asia  
 Dr Rodney Williams, Business Development Manager Ammonium Nitrate, Orica Mining Services

Kylie Newman, HR Manager, Australia/Asia, Orica Mining Services  
Sean Winstone, Sustainability Manager, Australia/Asia  
Toni Laming, Strategic Marketing Manager, Australia/Asia

The members of the crisis management team based in Melbourne were:

Nicole Ekert, Group Manager, Corporate Communications, Orica Limited  
Sarah Jones, Legal Counsel – SHE, Orica Limited  
Richard Hoggard, Group General Manager Major Projects, Orica Limited  
Russell Higgins, Major Projects Director, Australia/Asia, Orica Limited

The crisis management team was initially established at Orica's Kurri Kurri office in accordance with the procedure in the crisis management plan.

At the time the crisis management team was formed, Andrew Crace, Richard Brown, Richard Storr, Dr Rodney Williams, Kylie Newman and Toni Laming were at Kurri Kurri. James Bonnor arrived at Kurri Kurri from Newcastle at 11.30am on Tuesday, 9 August 2011.

Dr Rodney Williams and Kylie Newman arrived on-site at KI from Kurri Kurri at approximately 1.00pm on Tuesday, 9 August 2011.

Russell Higgins arrived on-site at KI from Melbourne at approximately 6pm on Tuesday, 9 August 2011.

Sean Winstone arrived on-site at KI from Cairns at approximately 6.30pm on Tuesday, 9 August 2011.

Richard Hoggard arrived on-site at KI from Melbourne on Friday, 13 August 2011.

The members of the crisis management team who did not travel to Kurri Kurri or the KI site attended meetings of the crisis management team by telephone.

**8. When was Orica provided with the "toxicological report" from its internal medical and occupational hygiene professionals? When was Orica provided with the Toxikos report? (T38-39)**

Orica was provided with preliminary toxicology information by an internal occupational hygienist, Garry Gately, during the course of Tuesday, 9 August. This preliminary toxicology information addressed:

- (a) the method for testing for airborne chromium;
- (b) the appropriate personal protective equipment controls to be enforced on-site at KI; and
- (c) identifying the correct chromium compound generated during the heating of the high temperature shift catalyst so that the corresponding chemical and hazard properties could be understood and assessed with reference to workplace exposure limits in Australia and internationally.

Mr Gately also provided information about what chemicals could be used to convert chromium VI to chromium III (a non-toxic form of chromium) so that Orica could neutralise chromium solution captured on-site in storage containers and diversion ponds.

Mr Gately made initial contact with Dr Bruce Niven, an external consultant occupational physician at around the middle of the day on Tuesday, 9 August. At 6:45am on Wednesday, 10 August, Orica formally engaged Dr Bruce Niven to provide medical advice in relation to any potential health effects arising from exposure to chromium VI on-site and off-site.

An independent expert toxicologist, John Frangos of Toxikos, was engaged by Orica at about 5pm on Wednesday, 10 August.

A copy of the report Orica provided to NSW Health at 2:58pm on Thursday, 11 August is **Annexure C**. This report encapsulated the technical, health and toxicology advice provided to Orica up to that date/time.

As mentioned in its submission dated 4 November 2011, Orica was provided with a final report from an external toxicologist, John Frangos of Toxikos, on 28 August 2011. This report has been publicly available on Orica's KI website since early September 2011.

**9. Did the Orica personnel who door knocked in Stockton on Wednesday 10 August or Thursday 11 August document any conversations they had in relation to health impacts? (T39)**

The Orica personnel who door knocked in Stockton on Wednesday 10 August and Thursday 11 August took notes of the conversations they had with residents. Orica also made a record of whether or not someone was home when Orica attended at a resident. The document recording this information is Attachment 1 to Orica's submission dated 4 November 2011.

**10. What are the costs of the modifications implemented by Orica as recommended in the Johnson Matthey catalyst report? (T41)**

The cost to date of the modifications implemented by Orica as recommended in the Johnson Matthey Catalyst report has been \$1,245,500. This cost does not include site clean-up and decontamination.

**11. In relation to the 2006 Cr VI incident when condensate went into the Hunter River, what were the sanctions from the EPA to Orica in those circumstances? (T41)**

At the time of the 2006 Cr VI incident, Orica submitted an incident report to the NSW Department of Environment and Conservation (DEC) in relation to the incident and included this licence non-compliance in its Annual Return. No action was initiated by the DEC in relation to this incident.

**12. Please provide a copy of the KI emergency response plan ("as it existed on the day before commencing") (T41)**

Orica has taken the words "as it existed on the day before commencing" to mean the day before the incident, being 7 August 2011.

Orica provided a copy of the Kooragang Island Emergency Response Plan (ERP) in place as at the time of the incident to Mr O'Reilly on 29 August 2011 in response to a request from Mr O'Reilly dated 22 August 2011. The ERP is a confidential document, for security reasons, in that it contains information on the locations and types of hazardous materials on the KI site. WorkCover, Fire and Rescue NSW and the Policy Service have a copy of the document, but it is not available to the public.

In Orica's view, it is not in the public interest that aspects of the ERP about the locations of hazardous substances on site at KI or the response scenarios are revealed. A copy of the Table of Contents for the ERP, together with the sections relevant to notification of government authorities, is **Annexure D**. If there is any additional part of the ERP that the Select Committee wishes to review on a confidential basis, please contact Chris Hansen on (03) 9665 7050.