

ORICA KOORAGANG ISLAND FACILITY

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Ammonia Plant and Ammonia Storage Tanks

Decision Report Number 2 – 14 December 2011

Release of Hexavalent Chromium – Ammonia Plant

I refer to the document titled "Orica Kooragang Island Facility Ammonia Plant and Ammonia Storage Tanks Recommendations to the EPA and the Orica Start-up Committee on the Prevention Notices issues by the EPA to Orica" dated 5 December 2011. (Decision Report number 1) (Tab 1)

This Decision Report is in respect of the Release of Hexavalent Chromium – Ammonia Plant.

By way of background to this Decision Report, the EPA varied Orica's prevention notice number 1500840 dated 11 August 2011 for the ammonia plant to enable Orica to undertake pre-start up testing of the plant. This step was seen as a critical part of the process of ensuring that the ammonia plant could be re-opened and operated in an environmentally satisfactory manner. The prevention notice was varied on 29 November 2011 by notice number 1502868.

The revised prevention notice required Orica to undertake the pre-start up testing in two stages. The first stage was of assess the effectiveness of the cleaning of stack SP8 for hexavalent chromium. Orica was required to obtain two consecutive readings for hexavalent chromium of less than 10 micrograms per litre in condensate drained from vent stack SP 8. Once this had been achieved, Orica then needed to provide a report to the EPA and obtain the EPA's approval to move to the second stage, which allowed the introduction of steam to the system.

Orica provided a report to the EPA on 30 November 2011 (Tab 2), with results indicating that that it had achieved the two consecutive readings below the threshold. The EPA gave Orica approval to start the second stage of pre-start up testing.

Orica then commenced stage two, but recorded elevated levels of hexavalent chromium in stack SP 8 as steam loads increased. Orica voluntarily aborted its pre-start up testing and advised the EPA of this situation. Orica then undertook further chemical cleaning of SP 8 aimed at removing any residual traces of hexavalent chromium. Orica then recommenced pre-start up testing, taking hexavalent chromium samples regularly between 11 and 13 December 2011.

On 13 December 2011, Orica provided the EPA with two reports (Tabs 3 and 4). The first report advised that pre-start up pressure testing and turbine trip testing had been completed satisfactorily. Documentation was provided to support this advice. The second letter contained the sample analysis for hexavalent chromium. The EPA noted that while the hexavalent chromium levels were trending down, there had not been two consecutive readings below 10 micrograms per litre. The EPA's Director – North East contacted Orica's plant manager and advised that the EPA required two consecutive readings below the 10 micrograms per litre threshold. Orica undertook to conduct additional steam "puffing" of SP 8 and report back to the EPA.

On 14 December 2011, the EPA received a further letter from Orica (dated 13 December 2011 but actually prepared on 14 December 2011) (Tab 5) which contained the results of additional sampling undertaken by Orica for hexavalent chromium on 13 and 14 December 2011. These results indicated two consecutive readings below 10 micrograms per litre. The letter from Orica also notes that the ANZECC guidelines for the safe level of hexavalent chromium in drinking water are 50 micrograms per litre and that all testing results were below this level.

Incident on 7 December 2011

On 7 December 2011 the EPA was advised by Orica that a further incident had occurred at the premises on that day involving the loss of communications to the Weak Ammonium Nitrate Solution Tank causing the subsequent discharge of Ammonium Nitrate solution to the surround area and seeping to the ground.

On 9 December 2011 the EPA issued Orica a notice of variation of licence number 828 for the premises (Notice number 1503257). The licence variation added special condition E4 which requires the cause of the incident to be investigated and appropriate actions, controls, works and procedures to be implemented to reduce the risk of further discharges to land or waters from the site.

I have considered this incident (which occurred in a separate plant from the ammonia plant) and the subsequent action taken by the EPA in making my findings and recommendation today and I'm satisfied that it does not impact on Orica's ability to operate the Ammonia Plant in an environmentally satisfactory manner.

Start up Committee meeting on 14 December 2011

These documents were circulated at the Start Up Committee meeting held on 14 December 2011 and discussed in this meeting. The consensus was that Orica had addressed all required actions in the verification actions matrix for the ammonia plant (Tab 6). This included those actions recommended by Dr Wayne Davies. Further, Orica had met the requirements of the prevention notice (noting that it was ultimately the EPA's role to assess compliance with its notices). There were no objections to the ammonia plant re-starting.

It is noted that when Orica recommenced pre-start up testing on 11 December 2011, it effectively ran Stages 1 and 2 in parallel. That is, it did not achieve two consecutive readings below 10 micrograms per litre prior to moving to broader systems testing. This presented no environmental risk because the levels recorded were below the ANZECC Guideline for the safe level of hexavalent chromium in drinking water and the results are consistent with the intent of the prevention notice.

Smaller regulatory committee for next 12 months

It was agreed that a smaller regulatory committee be established to monitor and coordinate regulation of Orica over the next 12 months. The EPA will arrange for this group to be established and to meet.

FINDINGS AND RECOMMENDATION

Release of Hexavalent Chromium - Ammonia Plant

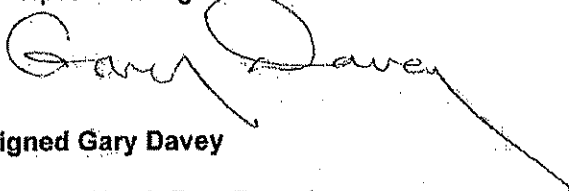
The Start – Up Committee has considered all the actions as detailed in the verification actions matrix. These actions have been verified as completed by the independent engineers and/or the relevant agency, as appropriate.

I am satisfied that the Ammonia Plant can be operated in an environmentally satisfactory manner and that:

- ❖ Prevention Notice Number 1500840 and the Notices of Variation of Prevention Notice No. 1502018 issued on 14 October 2011 and Notice No. 1502868 issued on 29 November 2011 be revoked (Tabs 7 – 10).

DECISION

I adopt the findings and recommendation above.



Signed Gary Davey

Director North East Branch
Environment Protection Authority

Date 17 December 2011

