

EDUCATION AND HEALTH STANDING COMMITTEE

QUESTIONS FOR HEARING MONDAY, 30 APRIL 2007

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Role

1. Does the DEC ever consult with the Health Department over potential health effects of developments?

DEC consults with the Health Department whenever it requires advice and guidance on health matters related to developments it regulates, and emissions from them. DEC does not have expertise in this area and relies on the Department of Health for this advice.

In relation to the assessment of the Magellan lead carbonate project, the following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor; *The health department was consulted and it did have input during that assessment in 2000, but we do acknowledge that the environmental impact assessment process does not adequately cover for health risk assessment and that there is a need for a more formal health risk assessment process to be done separately from but parallel to the environmental impact assessment process. (Page 4)*

Mr Taylor: *I would not agree with that. I believe that lead was recognised as a significant issue as part of the assessment. That was the basis of the condition to require a health, hygiene and environmental management program, and that was included as a condition of the project. The health department was consulted regarding that condition. The Minister for Health of the day wrote to the Minister for the Environment as part of the statutory consultation process that takes place. There is an obligation on the Minister for the Environment to consult with other relevant ministers. The minister did so at that time. The Minister for Health wrote to the Minister for the Environment on 5 November stating, in effect, that the health, hygiene and environmental management plan was an appropriate condition and that the health department should be consulted as that was prepared. (Page 5)*

2. Does DEC believe that this should be a routine procedure?

Yes. (See also the response to question 3.)

3. The *Inquiry into the Bellevue Hazardous Waste Fire Inquiry* of 2002 recommended that the Environmental Impact Assessment process in the *Environmental Protection Act* be expanded to incorporate a health impact assessment where appropriate and involve the Department of Health in this assessment (No 8). Does your department now involve the Department of Health in appropriate environmental health Assessments? Why is there no reference to this in the Act?

As indicated in the response to question 1, DEC consults with the Department of Health (DoH) whenever it requires advice and guidance on health matters related to developments it regulates, and emissions from them. However, at this time there is no separate formal health risk assessment process in WA, and it is carried out to varying degrees as part of the environmental impact assessment process.

DoH has prepared discussion papers on health risk assessment. DEC supports the inclusion of health risk assessments for major projects with the potential to impact on the health of people. DEC does not retain professional health expertise and recommends that DoH be responsible for the HRA process for major projects in parallel with the environmental impact assessment process (Part IV of the Environmental Protection Act) or industry licensing process (Part V of the Act) as appropriate.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *We do continue to consult with the Department of Health when health issues arise in an impact assessment. As I said earlier, there is not a formal statutory process for that to occur. We think that that is a limitation within the existing system. The Department of Health has previously put out a discussion paper identifying a number of things it believes need to be looked at in terms of its legislation. Certainly a formal health risk assessment is a matter that both departments would strongly support in terms of it having a firmer formal statutory structured process. The Environmental Protection Authority, in its submission, has made a recommendation regarding that. (Page 5)*

4. The Department of Health letter of 21 September 2005 to Ms Catherine MacCullum recommends dust risk assessment amongst other measures. Did anything happen as a result of this letter? Who else received/saw it in DEC?

The Department's handling of this letter is addressed in its submission to the Inquiry dated 26 April 2007. As far as DEC is aware only Ms McCallum and Mr Bart Downe of the Albany office received or saw the letter sent by the Department of Health on 21 September 2005. No record has been discovered to indicate that any other officer received or saw the letter.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Atkins: *In August 2005 the regional office took a decision to review the licence. It wrote to the health department directly and gained advice back from the health department that you quoted. The regional office then sought advice from head office on how to go about a licence review. The department was in the process of reviewing how it should licence and regulate ports generally around the state, mainly for dust issues. The regional office was advised that it should await the outcome of that review before proceeding. Unfortunately, the person providing that advice to the region was not aware of the health department advice and the matter rested there. Soon after that, that officer left the organisation and the case was not picked up. It is clearly a communication issue and one of experience as well. (Page 10)*

- 5. The DEC submission (p.13) states that due to staff changes and departmental rearrangements at the time and a communication failure between regional and central groups, this critical advice (from the Department of Health regarding the type of monitoring required) was not acted upon. What actually happened? Who knew about the Department of Health letter and when?**

Ms MacCallum wrote to DoH on 25 August 2005 requesting advice on appropriate controls and monitoring methods for dust generated from the Esperance port. DoH responded on 21 September 2005 (DEC submission attachment 7). Ms McCallum left the licensing officer position in October 2005 and was replaced by a junior officer (Mr Bart Downe) located in Esperance on a part-time shared arrangement with the Department of Water.

In August 2006 Mr Downe telephoned the Licensing Policy Unit at the central office (Perth) for advice on revising the Esperance Port Authority's licence. Mr Byrnes (unit manager) advised that DEC was reviewing the policy approach to licensing all ports in the state and that the Esperance licence should be renewed without change until the review of ports was completed. Mr Byrnes and another Policy Unit officer have no recollection of Mr Downe mentioning concerns about lead dust management or the letter from DoH, and therefore Mr Byrnes was unaware of these concerns.

Consequently as stated in the DEC submission, the DoH advice was not acted upon. Dust management issues did not arise again until DEC started receiving complaints in early 2007. Mr Downe's employment with DEC concluded in October 2006.

As far as DEC is aware only Ms McCallum and Mr Downe of the Albany office received or saw the letter sent by the Department of Health on 21

September 2005. No record has been discovered to indicate that any other officer received or saw the letter.

6. Does DEC believe it bears any responsibility for the lead pollution in Esperance?

DEC has acknowledged in its submission to the Inquiry dated 26 April 2007, and its evidence at the hearing on 30 April 2007 that there were inadequacies in its regulation in a number of areas, including:

- inspection frequency and effectiveness;
- licence conditions and monitoring; and
- response to monitoring reports.

DEC accepts that as a result of these inadequacies it failed to detect the pollution in this incident as early as it could have done.

The Department strongly maintains however, that it is the primary responsibility of companies handling potentially polluting materials to do so in a manner that does not cause pollution. This is a fundamental basis of the pollution prevention objectives and provisions of the Environmental Protection Act.

It would be of serious concern to DEC if companies formed the view that their responsibilities to handle materials in a safe way and not to cause pollution were diminished as result of limitations in the regulatory process, particularly if a company has not abided by legal obligations under the Environmental Protection Act. This could substantially undermine the current pollution prevention basis of the Act.

The following evidence was also provided at the hearing on 30 April 2007.

Mr McNamara: *Thank you, Mr Chairman. I would like to make some opening remarks. I want to begin by saying that the department obviously regards what has happened at Esperance as very serious. We have put significant effort into responding to the issue and we are committed to keeping the community informed. We have done this through media statements, interviews and responses to reporters' questions, as well as fact sheets and placing updates in The Esperance Express. We will provide all that material to the committee following this hearing. We have also attended the public forum on 26 March and the public information day on 14 April, both in Esperance; set up a 1800 information line; and advertised an email address for people to contact us.*

I would like to outline DEC's role, the progress in our investigations in Esperance, and some preliminary recommendations. Further detail on each of these points is in our written submission. I will begin by saying that the onus is on those licensed to work with hazardous materials, such as lead carbonate, to do so in accordance with their licence and the

Environmental Protection Act. However, the department also has a responsibility to oversee that this is done and we recognise that we have not done this adequately in this case. In general terms, the department's functions under the Environmental Protection Act are to assess and decide whether or not to grant licences and works approvals; to set environmental conditions to prevent, control, abate or mitigate pollution; to carry out inspections and monitor compliance; and, as required, to take enforcement action. (Page 2)

We are reviewing our regulation of the Esperance Port Authority and Magellan Metals for environmental approvals. While these rules are not yet complete, we have identified that there were inadequacies in our regulation in a number of areas, including our inspection frequency and effectiveness, the licence conditions for monitoring and our responses to monitoring reports. The department assesses the environmental risk posed by different premises to determine how often the premises should be inspected. The nature of the loading and unloading systems at Esperance port contributed to it being assessed as a medium-risk premises, and it was scheduled for compliance inspections every three years. The rail transport of lead carbonate to the port began in April 2005 and the first shipment was loaded in July of that year. Formal licence inspections of the port were conducted in May 2005 and February of this year. (Page 3)

The Environmental Protection Act places significant obligations on those dealing with potentially polluting materials. These include requirements for occupiers of prescribed premises to hold a licence; to seek works approvals and/or licence amendments before carrying out any work or altering the method of operation or altering the type of materials used; to comply with licence conditions; to notify the department as soon as practical of the discharge of any waste it has or is likely to cause pollution; and the act makes it an offence to cause pollution or allow it to be caused.

These obligations are set on individuals and companies to prevent pollution. The department's regulatory capacity is dependent to a degree on licensees acting responsibly and abiding by these obligations. While the department's investigations are still continuing, based on information we have gained to date, we consider the pollution was clearly avoidable if DEC had been made aware of the dust issues that were being experienced with the material, particularly during loading. The port authority also has not adequately carried out or reported on its monitoring. The department is investigating whether offences have occurred under the act, and will take appropriate action if possible offences have been found to have occurred. (Page3)

I want to reiterate that the onus under the law is on those licensed to mine, transport, store and ship lead to do so without causing pollution. However, the department is concerned at the deficiencies that have been revealed in our own procedures, and we are committed to putting in place

the measures required to fix them. (Page 4)

Mr Taylor: *The Environmental Protection Act provides defences under the act if a prosecution is undertaken. If a person is charged with, say, causing pollution, if he can demonstrate that he has taken all reasonable and practical measures to prevent that pollution, and they have done it in accordance with conditions, then they are matters that the court can take into account. The act is constructed in a way that people have an opportunity to provide reasonable defences. The court will determine at the end of the day whether they are culpable. There are no provisions in the act that relate to a prosecution of the department. We understand that any of our actions would be covered by things such as the Civil Liability Act, and they would be matters - (Page 17)*

Mr Taylor: *I will give an analogy. We believe that is like somebody saying that they were speeding at 145 kilometres an hour and because there was no radar, the police are to blame for the accident. The act provides that the people who are handling the material have a clear legal obligation under the act not to cause pollution. If they cause pollution, there are defences. However, I would not have thought that a defence is that the regulator - (Page 17)*

Mr McNamara: *I am the director general of the department and I am accountable for the performance of staff at the end of the day. My accountabilities are through the minister to the Parliament, as you are aware. (Page 17)*

Mr McNamara: *I have the responsibility of administering the Environmental Protection Act, which includes a responsibility to investigate alleged offences subject to normal policy that governs prosecutions and enforcement to prosecute offences where appropriate. That is a judgement that I am required to make about other parties. That is not the mechanism by which one deals with the performance issues of one's own staff. (Page 17)*

Mr Taylor: *There seems to be a misunderstanding that the department's performance is a material defence under the act for causing pollution. As I say, there are clear defences under the act as to what people can use as a defence. One is that they take all reasonable and practical measures to avoid that pollution. Yes, if they comply with those conditions, they can use that as a defence. However, they cannot say that the department did not inspect us, therefore we can use that as a defence.*

7. Is it true that in 2006 there were only five full time audit officers in the Department who monitored approximately 490 projects?

This is correct in respect of auditing of conditions on Implementation Statements issued for developments under Part IV of the Environmental Protection Act (see also response to question 8).

As indicated in DEC's submission to the Inquiry dated 26 April 2007, it also has about 75 positions undertaking work in its industry regulation program which includes inspections and auditing of licences issued under Part V of the Environmental Protection Act.

- 8. Is it true that the Department employs many more officers on the approval processes? Is this because the Department's industry regulation program is funded solely from revenue from the fees etc with no separate allocation from Consolidated funds?**

The following evidence was provided at the hearing on 30 April 2007.

Mr McNamara: *Our industry regulation program has around 75 staff, covering both professional and administration positions. The industry regulation program is funded from net appropriated fees, licences, works approvals and registrations. These fees vary widely, but the annual licence fee for the Esperance Port Authority is currently \$1125. (Page 2 - 3)*

Mr Taylor: *There are two approvals under the Environmental Protection Act. One is what we refer to as the part 4 environment impact assessment process approvals. There are no fees charged for that at all, and there are no fees associated with the issuing of statements. There are no fees generated at all for audit and compliance with those. In terms of part 5, licences and works approvals, they have a fee attached to them, and that funding is net appropriated. We have more capacity to do audits with respect to part 5 approvals. We do not have any net appropriation as such for the auditing of approvals or statements under part 4 of the act. (Page 6)*

Mr McNamara: *I might add, the sum total of our effort in monitoring and compliance should not be equated to the fact that there are five staff in the audit branch. It is the totality of the industry regulation resources that is relevant. As I said in my opening remarks, there are about 75 positions in that division, both regionally and centrally in Perth. (Page 6)*

Esperance

- 9. Please provide details for the record of all the actions of DEC personnel following the death of birds in the Esperance region including the timings of action taken.**

An outline of DEC's investigations and actions in response to the bird deaths is presented in section 7 of its submission to the Inquiry dated 26 April 2007.

The following evidence was also provided at the hearing on 30 April 2007.

Mr McNamara: *Turning to the bird deaths, the mass bird deaths in Esperance last December sparked an investigation by the department, of course. While the focus now is very much on lead, initially there was no indication of what killed the birds. It took time to test for and rule out what seemed to be the most likely causes, such as bacterial or viral infection. When chemical analysis was carried out for pesticides and heavy metals, there was no reference point for the levels found and we had to collect and test a controlled group of birds. Around the same time, the Esperance Port Authority's annual report to DEC for 2005-06, which was sent to the department on 31 January this year, showed dust monitoring results for lead that were well above the historic levels. A wide range of samples have been taken to find out how the birds that died came in contact with lead, and the results of this indicative testing have been released in the public interest. Test results have also been reported to the Department of Health, and we have liaised closely with the Shire of Esperance and the Esperance Port Authority. While the majority of the samples tested are below trigger levels for further action, the lead has entered both the town and the port's marine basin. A more systematic sampling program is underway and a health and ecological risk assessment will be carried out jointly by the department and the Department of Health. I have also announced that DEC will commission an independent review of the department's audit and inspection processes for the Esperance port to identify where improvements are needed. While the department is still collecting evidence - and I do not wish to prejudge the outcome in relation to the Esperance Port Authority, Magellan Metals or, of course, this inquiry - the department's written submission makes 14 preliminary recommendations that address strengthening DEC's regulatory program and procedural improvements, staff training and improved resourcing, as well as recommendations that DEC should reinforce to licensees their obligations to report potential breaches of conditions and that port authorities should be required to prepare and implement environmental management plans to ensure that all activities within their area do not cause pollution. The department might wish to revise or add to these preliminary recommendations during the course of the inquiry . (Page 3 - 4)*

Mr Atkins: *I can pick that up from when the bird deaths began to occur in early December. The department sent samples of birds to the Animal Health Laboratories for analysis on 20 December for a general screen. The Animal Health Laboratories came back to us on approximately 30 January and advised that elevated lead levels were discovered in birds but that it was not known whether that was out of the ordinary or not, and*

it requested that some control birds or background birds be sampled to provide a comparison. That was after extensive screening was done to look at other causes of death. At the time the birds died in December, there was no indication of what the cause of death might be and so the birds were scanned for a variety of avian viruses and environmental toxins, such as algal toxins, and a range of pesticides. When all of those results came up as negative, a general heavy metal scan was done on the samples, which showed that the lead levels were higher than the other metal levels. Background samples were then provided to the Animal Health Laboratories. By the end of January, the department also received a complete monitoring report from the Esperance Port Authority, which indicated elevated dust recordings from the February 2006 and May 2006 readings. Following that, the department then conducted a full compliance inspection of the port. Also, by the end of February, the department had undertaken a fairly detailed analysis of the air quality monitoring report provided by the authority. It also, at that time, received a rainwater tank report from the Esperance Port Authority and a week later, on 6 March, we received confirmation from the Animal Health Laboratories that it considered that the birds had died from lead poisoning. (Page 6)

Mr McNamara: *When the Animal Health Laboratories' results were received on 6 March, the officer who was the recipient of those was not at work on that day. On 7 March we became aware of it, including at my level. We went into a very active round of discussion with the Department of Health, the Esperance Port Authority, the Shire of Esperance, the Department for Planning and Infrastructure and with ministers. We had issued a media statement, including advice from the Department of Health about the public health risk issues, on Friday, 9 March. (Page 6)*

10. After dead birds were received by the Department in early December do you think it is acceptable that they were left in storage for about 2 weeks before being sent for testing as to the cause of death.

The following evidence was provided at the hearing on 30 April 2007.

Mr Mell: *If we go back to early December, the first bird deaths recorded were actually silver gulls and that was on 7 December. Subsequently, a different group of birds began to be recovered from around Esperance that had died of unknown causes. Retrospectively, we can see that the gull deaths were totally unrelated to the deaths of what were honeyeaters, wattle birds and yellow-throated miners. At the time, which was 13 December, there were a large number of wildfires in the Esperance district. All the Esperance staff were fully occupied responding to wildfire suppression. Birds were collected and placed in a freezer. The Esperance district office was subsequently advised that, for histological purposes, frozen specimens are not suitable. They were asked to collect fresh specimens. Between 21 and 29 December fresh specimens were collected and subsequently sent through to the Animal Health*

Laboratories. At that point, there was still no indication as to the cause of death. The first response was: is it some form of viral or bacterial outbreak. The first things the animal health laboratory under its protocol must look for are things like avian influenza and Newcastle disease. (Page 8)

Mr Mell: *We did actually extract the lead results from that initial group of eight birds that were tested. We have never actually collected 4000 birds. That is an extrapolation of the number of birds found around the town. It is a number that is often quoted but it is not a confirmed number. (Page 9)*

11. Was any advice given by the Port regarding the elevated lead dust recording and if so, on what date?

Details regarding the Port Authority's monitoring and reporting of lead dust levels are presented in section 3 of DEC's submission to the Inquiry dated 26 April 2007.

12. What date did the Chemistry Centre find the prominent lead levels in the tissues for the dead birds sent to Animal Health Laboratory on 21 December 2006?

The following evidence was provided at the hearing on 30 April 2007.

Mr Atkins: *...the Animal Health Laboratories came back to us on approximately 30 January and advised that elevated lead levels were discovered in birds but that it was not known whether this was out of the ordinary or not, and it requested that some control birds ...be sampled.- (Page 6)*

This advice and accompanying request were verbal. The written interim report was received from the AHL on 6 March 2007 following the additional testing including control birds, concluding that "despite the small sample size there is epidemiological and biochemical evidence, supported by histopathological and clinical evidence to suggest the Esperance birds died from lead poisoning."

The AHL report also stated: "However care must be taken in interpreting the data as it is not yet clear whether specific avian species or birds in general are able to tolerate higher concentrations of lead in their tissues than do mammals. The relationship between bone and soft tissue lead levels is also unclear."

13. When were the results of the tissue sampling of the control group of dead birds available?

The written interim report was received from the AHL on 6 March 2007 following the additional testing including control birds, concluding that the birds had died from lead poisoning

14. Please briefly outline the results of lead testing.

More than 250 environmental samples have been collected by DEC. The results of this sampling are summarised in the Department's Fact Sheet 3 presented at the public information day on 14 April 2007 (copy attached).

Testing for lead at the port and in the town was conducted in March 2007. Window swab samples for lead dust showed levels well above the majority of samples at seven locations. These included the blacksmith shop at the tourist village and private residences in Bostock, Vivian, Ocean, Taylor and Smith Streets; Lavender Lane and Moran Place. Surface soil readings indicated lead levels exceeding the National Environment Protection, Assessment of Site Contamination Measure Health Investigation Level for soils at industrial premises, in the port sumps and washdown pads. The results from all school sites and public parks and ovals were below the Health Investigation Levels for residential and public open space landuses, except for one location adjacent to the port gate where levels were up to 63 mg/kg above the residential investigation level of 300 mg/kg. Soils samples were subsequently collected and analysed at all locations which were initially tested with the hand held meter. These results are only just to hand and indicate that no locations other than at the quarantine offices adjacent to the rail line into the port and near the rail crossing into the port were above the health investigation levels. Levels exceeding the guidelines were found in the old Water Corporation reservoir on the hill behind the port. Marine sediments adjacent to the loading wharf exceeded guidelines.

In summary, guideline levels were only exceeded within the port area, along the railway, the old reservoir and on some of the windows of a small number of the buildings sampled. DEC is collating all test results into reports that will be available following verification.

15. What further testing is intended?

DEC has completed the opportunistic sampling of the town and port areas. DEC will sample private backyards on request from occupiers who may be concerned about exposure of children to contaminated garden soils and the consumption of home grown vegetables. DEC is also working with DoH to commission a Human and Ecological Risk Assessment which will be conducted by an independent specialist

consultant. This will determine in the first instance the need for any additional sampling to determine the extent of contamination. If this is required, the additional sampling will be conducted by the independent consultant before commencing the risk assessment. The risk assessment will also determine the need for ongoing monitoring in the town.

In the meantime DEC is intending to establish several Hi Vol air quality samplers within the town area to monitor dust movement for up to 12 months. DEC is consulting closely with DoH in regard to this initiative.

16. Is it true that there a Departmental officer was only recently appointed to the Esperance area?

The Department of Environment established a position in Esperance which became part of the Department of Water (DoW) when that department was established. A shared arrangement continued until October 2006 when the transitional arrangements under which DoW provided environmental protection services to DEC ceased, after which Esperance was serviced from the DEC Albany office. DEC is in the process of employing an environmental officer to be located at the DEC Esperance district office.

Other Sites

17. Will the Department be testing lead levels in Wiluna and Leonora?

Yes, DEC is currently planning this work. The requirement for additional sampling along the transport route will also be considered as part of the independent Human and Ecological Risk Assessment referred to in the response to question 15.

18. What about along the Railway Track – including Norseman and Kalgoorlie?

See response to question 15.

Lead Poisoning

19. What blood level does the Department regard as acceptable?

This question should be put to the Department of Health.

20. Is the Department aware of potentially significant health problems, especially to pregnant mothers and children, of marginally elevated blood lead levels?

This question should be put to the Department of Health.

In addition, the following evidence was also provided at the hearing on 30 April 2007.

Mr McNamara: *I am certainly personally aware, even though my history is not in the Department of Environment, of the seriousness of lead poisoning and its health effects. I have attended ministerial council meetings at the national level for the past 15 years or so. There was a very prominent issue in South Australia a decade and more ago. I am well aware of that and I am absolutely confident that the senior staff and many others throughout the former environment department and now DEC are well aware that lead is a substance that causes serious problems and needs to be treated very seriously. (Page 5)*

Pelleted v. agglomerated

21. In the document provided by your Department dated 16/11/04 from Chris Gunby to the Esperance Port Authority it is stated: Par 1, p1 of 8 that the licence is for “pelleted” lead carbonate – what is meant by pelleted and why has that term been used as it is not in the application?

Information relating to the licensing of the Port Authority to ship lead carbonate is presented in section 2.2 of DEC’s submission to the Inquiry dated 26 April 2007.

Magellan had consistently described the product as “moist, small (<10mm) agglomerates for shipment.” This was considered to be pellet-like being small balls or masses of material.

The licensing officer preparing the licence issued in November 2004 consulted with the Port Authority and Magellan. Magellan advised the Port Authority that “The word ‘pelleted’ is as good as any. ‘Granulated’ would also work but it is your call” and the Port Authority advised the then Department of Environment “Let’s go with pelleted. I’m happy with the amended licence.”

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *Associated with the application was a letter from the Esperance Port Authority that clearly made reference to Magellan’s advice that as a further measure to prevent dust emissions, the lead*

carbonate will be produced in moist small agglomerates, or balls, less than 10 millimetres thick. That was the same advice that Magellan provided directly to the EPA. Because it was a small, spherical agglomerate, it was deemed to be a pellet-like material. There was communication with the port authority and Magellan. While they said they could also call it granulated, they said that pelleted would be a reasonable way to describe it. (Page 10)

22. Are you aware that the application from the Port, and associated Media publicity about the proposal, referred to agglomerated lead carbonate?

This matter is addressed in section 2.2 of DEC's submission to the Inquiry dated 26 April 2007.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *Associated with the application was a letter from the Esperance Port Authority that clearly made reference to Magellan's advice that as a further measure to prevent dust emissions, the lead carbonate will be produced in moist small agglomerates, or balls, less than 10 millimetres thick. That was the same advice that Magellan provided directly to the EPA. Because it was a small, spherical agglomerate, it was deemed to be a pellet-like material. There was communication with the port authority and Magellan. While they said they could also call it granulated, they said that pelleted would be a reasonable way to describe it. (Page 10)*

Mr Taylor: *From the information that has been put to us, it was not intended that we should have a substantial dust component. If they were saying to us that it will be in the form of agglomerates, but it will have a substantial dust component as well, we would have reacted to that information. What was put to us emphatically by both the port authority and Magellan was that it would be in these small moist agglomerates. We used the term "pelleted". When we asked them, they said they did not disagree with that term. (Page 11)*

23. Does the Department view 'Pelleted' as significantly different to agglomerated in this context? Why?

See responses to questions 21 and 22.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *The advice we got from both Magellan and the port was that*

it would be exported in a moist pellet-like form. We believe that if had been done in that form and if the monitoring had been done adequately or, even if Magellan and the port authority had, in accordance with their legal obligations, notified us of the change of form, again, we think it could have been quite readily avoidable. (Page 9)

Mr Taylor: *Again, it is about managing dust from it. If it is in a moist, pellet-like form, it should be manageable in terms of avoiding dust. They would have been handling the product, seeing the product and the extent of dust associated with it. They had plenty of opportunity to see that and report it and to notify us and to do the things that should have occurred under the act. (Page 9)*

Mr Taylor: *Can I suggest the issue of agglomeration and pellets is a somewhat semantic issue. What was put to us was clearly that the material would be in a non-dusty form. Whether you call it an agglomeration or whether you call it a pellet, the inference was that it would be contained in a sphere which would be largely moist and would not have a significant dust component. What has eventuated is that the product at the end of the day still had some spherical elements associated with it but it had a significant dust component. The information that was put forward, which I believe Magellan and the port authority both clearly understood, was that what they were seeking approval for material which was largely in a moist sphere and it was implied that there would not be a significant dust component associated with it. (Page 13)*

- 24. In the letter to Mr M Jefferies of the Department of Environment dated 8 Oct 2004, Magellan Metals state “an additional processing step that has now been included in the flow-sheet is the agglomeration of the concentrate into 10mm granules. The process is simple and will significantly reduce the risk of rogue dust emissions during handling and ship loading.” Was that process undertaken?**

DEC is aware that Magellan Metals Pty Ltd released a media statement on 2 May 2007 that this process was implemented but was subsequently discontinued. Magellan advised the Port Authority in April 2005. DEC has not been able to locate any record of having been advised that the process was discontinued.

- 25. Given the implied risk of dust emissions in the statement, was agglomeration made a condition of the approval given just 6 weeks later?**

The licence issued under Part V of the Environmental Protection Act did not specifically state that the lead carbonate material was to be shipped in an agglomeration. There is a legal requirement under the Act for the licensee to seek a works approval or licence amendment before altering the type of material or product used. DEC considered this placed a legal

requirement on the Port Authority to notify it of any change to the nature of the material shipped.

In addition, the approval issued under Part IV of the Act on 29 December 2004 was an approval to vary the original proposal Statement 559. The letter of approval stated "The handling, transport, storage and ship loading activities can be managed by the existing conditions of Statement 559." Statement 559 condition 6 requires the proponent to prepare and implement a Health, Hygiene and Environmental Management Program. The program shall *inter alia* address the review of existing storage and ship loading facilities at the Geraldton Port that is to be conducted by the proponent prior to the existing facilities being used for lead concentrates. It is to include a review of equipment, procedures and monitoring programs to identify potential pathways for lead to enter the environment, and if appropriate additional equipment, management or revised procedures are to be determined; address emergency response procedures to respond to spillage of lead concentrate along the transport route or at the Geraldton Port; and address monitoring of fixed soil sampling, dust deposition and air quality sampling sites.

The approval to vary the proposal required the conditions of the original approval (599) to be applied to the variation, i.e. to shipping through Esperance port. Condition 6 is clear in its obligation to require lead carbonate to be handled so as to not enter the environment.

26. We have been told that the process was a failure, with the lead carbonate being more like wet cement. Are you aware of that? Would it be of concern?

DEC is aware that Magellan Metals Pty Ltd released a media statement on 2 May 2007 that this process was implemented but was subsequently discontinued. Magellan advised the Port Authority in April 2005. DEC has not been able to locate any record of having been advised that the process was discontinued

The obligation on Magellan was to condition the product so as not to cause dust or release lead carbonate into the environment. How that is achieved and how the product is described is the responsibility of the proponent. Similarly, the DEC licence is for the export of 'pelleted lead carbonate' and it is the responsibility of the Port Authority to meet its commitment and regulatory requirements in this regard.

Approval and variation of the Magellan project

- 27. Are you aware that the Magellan operation has been described by the Ivernia CEO, Mr De'ath, as "unique without model anywhere in the world to draw parallels"? Should you be?/What does that mean? Would this impact on the management of an environmental impact assessment? Should it?**

No. DEC's primary concern was that the material did not emit dust which would cause a hazard to health or the environment.

- 28. What is the responsibility of DEC in relation to the transport of hazardous materials such as lead carbonate?**

The Environmental Protection Act does not specifically regulate the transport of hazardous material. Specific wastes regulated under the *Environmental Protection (Controlled Waste) Regulations 2004* are listed in schedule 1 of those regulations. Conditions can be imposed on individual projects where they have been assessed under Part IV of the Environmental Protection Act, but this is not specifically required under the Act.

Transport of hazardous and dangerous goods is subject to the *Dangerous Goods (Transport) Act 1998*.

- 29. Did the Department not have any concerns that the lead carbonate was proposed to be transported in "covered kibbles" and not in sealed containers?**

The transport of the material was covered by condition 6 of the Implementation Statement 559 as referred to in the response to question 25.

- 30. Did the Department require any cleaning of the kibbles prior to their returning to the loading facility? If these were not cleaned after being emptied did the Department require them to be covered for the return trip?**

See answers to questions 25 and 29.

31. The Magellan HHEMP states that these will be recovered prior to being sent back – who monitors this?

DEC is responsible for monitoring compliance with the conditions of Implementation Statement 559, including the Health, Hygiene and Environmental Management Program. Due to resourcing limitations, this had not occurred.

32. Was there any expectation that a different regulatory regime – such as the Dangerous Good Regulations – would apply to the lead carbonate at the Port? Do you know if lead carbonate classified as a ‘dangerous good’ under any legislation?

DEC understood that dangerous goods and occupational health and safety legislation may apply to parts of the project.

The question should also be referred to the Department of Consumer and Employment Protection which administers the dangerous goods legislation.

33. Are you aware that the original recommendation for approval of the Magellan project by the EPA was based in part on the assumption that lead carbonate was a ‘dangerous good’ for the purposes of transport (p.20 & Appendix 3). Is there a process for following up on whether the product is classified as a dangerous good and amending the conditions of approval for the project if it is not?

DEC would normally be expected to be advised by the Department of Consumer and Employment Protection whether a material is classified as a dangerous good, as part of the environmental impact assessment process.

The question of whether lead carbonate was classified as a ‘dangerous good’ was not certain at the time of the EPA assessment of the Magellan project. The discussion in Bulletin 996 pointed to the fact that material classified as a ‘dangerous good’ would require specific transport and safety procedures and emergency response plans. These were matters that the EPA expected would be addressed through the Health, Hygiene and Environmental Management Program required under condition 6 of Ministerial Statement 559, irrespective of whether the lead carbonate was classified as a ‘dangerous good’ or not.

- 34. Do you think Magellan's proposal to build a refinery in two years may have reduced the rigours with which the proposal to transport lead carbonate as an interim arrangement was assessed by your agency?**

No. Environmental assessments assess the potential impact on the environment. This is not necessarily time dependent. The proposal to build a refinery in two years is speculative until there is a formal proposal submitted for assessment. No such proposal has been received.

- 35. Are you aware that the refinery is not proceeding as it is now considered by Magellan to not be feasible?**

DEC has no record that Magellan Metals has formally advised as such. However from recent discussions with Magellan, DEC now understands that Magellan has abandoned the proposal for refining lead on economic grounds.

- 36. Given that Magellan's Health, Hygiene and Environmental Management Program was a significant factor in the EPA's approval of the original proposal and the variation allowing it to export via Esperance, was it satisfactory that the report contains more references to the proposal to transport the lead carbonate by road to Geraldton than it makes specific reference to the Esperance option?**

The Health, Hygiene and Environmental Management Program was amended at the time the change was made to ship the material through Esperance, but it is accepted that there should have been a fuller revision of the plan to address the transport issues to Esperance.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *The EPA and the department relied heavily on the advice of Magellan and the port authority, as I say, that it would be this moist agglomerate or pellet-like material. The actual transport was in ways deemed to be safer because it was largely by rail and rail was deemed to be a safer form of transport than road because there is less opportunity for accidents and spill and it was going to be contained in what was put to us as covered kibbles. It was actually seen as a low risk of spill or accident to be carrying it by train. (Page 12 - 13)*

37. Which agency reviewed that report to determine it was satisfactory? It was required to be made public, but of course the public in Esperance, would not have known anything about the process as they had not been included in the preliminary processes associated with public consultation which occurred in Geraldton, five years earlier

The Health, Hygiene and Environmental Management Plan (HHEMP) was reviewed by the Department of Environmental Protection, Department of Minerals and Energy and Health Department in accordance with condition 6-1 of Implementation Statement 559.

Copies of the HHEMP were sent to the following libraries by Magellan Metals Pty Ltd on 6 January 2005:

- State Library of WA
- Department of Environment Library
- Esperance Library
- Kalgoorlie Library
- Laverton Library
- Leonora Library
- Meekatharra Library
- Sandstone Library
- Wiluna Library

When Magellan Metals requested the change of export point from Geraldton to Esperance on 8 October 2004, its letter to the Department of Environment indicated that there had been public consultation in Esperance through an article and editorial in the Esperance Express (2 September), and presentation and discussions with the Esperance Port Authority workforce and the Esperance Port Development Consultative Committee.

38. Why was the decision to approve the change of the Magellan project so that the lead carbonate was exported through Esperance rather than Geraldton not subject to a public consultation process?

It is not correct that the change was not subject to public consultation in Esperance – see the answer to question 37 above.

The advice received from Magellan Metals (letter of 8 October 2004), particularly in relation to the change to 'agglomeration of the concentrate into [approximately] 10mm granules' and also the transport by road and rail rather than road alone, were factors in the EPA forming the view that the change was not significant and could be approved under section 45C of the Environmental Protection Act. There is no formal requirement for public consultation on these matters, but the EPA encourages proponents to ensure that there is consultation with interested or affected parties.

Licence to export lead

39. That document (the Port Licence) details dust management plans for iron ore, nickel and lead with no obvious difference between the three. (In fact there is more detail about the management of iron ore than anything else!) What allowance was made in the approval to distinguish between the three given the significant potential health effects of lead?

The dust management plans require fugitive emissions to be managed for all loading operations. The dust depositional monitors are required to report depositional concentrations for each type of ore individually including lead carbonate.

The approval to amend the Port Authority's licence to include the export of lead carbonate was based on the representations (application dated 28 September 2004 attachment 3 to DEC's submission to the Inquiry dated 26 April 2007) made by the Port Authority. This application included the following key commitments:

- a. The lead would be exported through a closed conveyor system with water sprays for dust suppression.
- b. As a further measure to prevent dust emissions, the lead carbonate will be produced in moist, small agglomerates (or balls).
- c. Lead carbonate concentrate would only be exported for two years after which time it would be refined into a solid product.
- d. The Port's environmental and health and safety management plans will be upgraded to include lead.
- e. A comprehensive train unloading and ship loading procedure will be developed including minimising dust emissions and spillage into the environment.
- f. The dust gauge monitoring program will be expanded to include lead.
- g. Consultation with the Port Development Consultative Committee was held, the Port had issued a media release and articles appeared in the Esperance Express on the proposal with no negative feedback. The Port would consult with the community on the issue on an ongoing basis.
- h. The 'Port would uphold the highest operational standards if it were to export the lead carbonate product'.
- i. 'On and off-site monitoring programs would be expanded...to ensure there is no impact outside the Port'.

It was on this basis, with the abovementioned extensive list of environmental safeguards that the amendment was approved.

The Environmental Management Plan required under the licence includes a specific dust management section on lead concentrate (9.6.5.3) and is cross referenced to section 9.6.5.2 on dust control for nickel, as the same

loading system is used. The plan also states that a 'new shiploading procedure for lead carbonate will be developed, similar to the existing nickel shiploading procedure. It also states that the storage shed has been upgraded by way of improved sealing of the shed.

The Port Authority also submitted a Dust Management Plan on 30 March 2005 (it was the dust section of the EMP which was submitted at the same time). At that time DEC deemed the DMP to be inadequate and discussions were held about the Port needing to do a risk assessment for all the point and diffuse dust sources and this needed to be incorporated into a review of dust controls and monitoring. This was not followed up after Ms MacCallum's resignation, due to staff changes. It should be noted that the licence condition A1 refers to the Port Authority's Environmental Management Plan, one section of which specifically covers dust management (9.6.5).

40. In both the DEC approval for export of lead carbonate for Geraldton and the subsequent change to Esperance, no mention is made of the potential health effects of lead exposure. Why is that?

This question is assumed to refer to the 2000 assessment by the Environmental Protection Authority (EPA) reported in Bulletin 996, and subsequent section 45C advice in 2005.

The EPA specifically identified protection of health of the public from lead contamination and lead concentrates as environmental objectives in sections 3.1 and 3.3 of Bulletin 996. The EPA's concerns about particulates and dust arising from the mining and export of lead concentrate meant that the EPA recommended that the proponent prepare a Health, Hygiene and Environmental Management Program (HHEMP), and that condition 6 in Implementation Statement 559 issued by the Minister for the Environment on 28 November 2000, included the Health Department of WA to ensure that health implications would be addressed by Magellan Metals.

The requirement for consideration of health issues relating to lead concentrate (condition 6 – HHEMP) continued to apply through the Ministerial Statement when Magellan Metals requested that approval be given to change the lead concentrate export from Geraldton to Esperance.

41. Is it correct that three monthly air monitoring results required to be collected by the Esperance Port Authority under its licence are reported to DEC annually?

Yes, as per condition G2 requiring "an annual environmental monitoring report containing the data required by any of the conditions of this licence..." and condition A13 (c). The licence preamble (page 2) also

reminds the licensee of its obligation to comply with other legislation including informing DEC as soon as practicable of any discharge otherwise in than in accordance with the licence.

However DEC expects that any licensee would be obtaining the results of each sample in a timely manner and that if any trends were apparent or any results were higher than historically recorded, then the licensee would report these to DEC as soon as possible, investigate why readings were high and take appropriate action. None of these actions were taken by the Esperance Port Authority.

The reporting requirement of the licence was not complied with by the Port Authority in regard to the 2005-2006 annual report, as all the data required were not submitted by the due date (1 November 2006) and were not ultimately supplied until 30 January 2007.

Also Section 72 of the *Environmental Protection Act 1986* requires the occupier of any premises to notify DEC 'if a discharge of waste....has caused or is likely to cause pollution, material environmental harm or serious environmental harm' Failure to do so is an offence under the Act; the maximum penalty for which if found guilty is \$50,000. No such notification was received for the Port Authority with respect to any dust monitoring results.

42. Is it true that air monitoring was done on the basis of readings averaged over a four week period?

Dust monitoring gauges are set up to collect dust over a four week period and the total amount of dust collected in that period is analysed. The licence requires the results to be expressed as mg/m²/month. As such the results represent deposition over a monthly period and no averaging is undertaken.

43. Is it true that in the past, monitoring results needed to be reported on a six monthly basis? If yes, why was this changed?

Six monthly dust monitoring reporting was required in the 2002 licence and this was changed to annual in the 2003 licence. There is no information on departmental files as to why this change in reporting frequency was made.

44. Why is air monitoring not done on an ongoing basis, or at times to coincide with the unloading of trucks and the loading of ships? For example, we have been told only 22 ships had been loaded with the lead carbonate during the course of this arrangement since 2005; it seems that these events were likely to be the most risky in terms of potential pollution?

Historical results from the quarterly dust monitoring had been effective in indicating dust levels from train unloading and ship loading operations.

Given the lead carbonate was to be loaded in a moist agglomerate form, it was considered that the existing quarterly dust monitoring system was adequate to indicate if excessive lead dust was being emitted from the Esperance Port Authority from all of its operations.

In fact the quarterly monitoring did indicate high dust levels for one site in February 2006, however this information was not provided to DEC by the Port Authority until 30 January 2007.

Timely analysis and advice to DEC should have identified that a lead dust problem existed in about March of 2006.

If sampling had occurred only during shiploading, possible dust emissions associated with train unloading and storage in the shed would not have been covered. The whole month sampling system of the dust gauges covers all activities during that month including lead, nickel and iron ore receipt, storage and export activities.

45. What responsibility did the Port have to monitor and act on these reports throughout the year?

The licence required quarterly dust gauge monitoring. The Esperance Port Authority had a responsibility to ensure these samples were taken and analysed in a timely manner and, if any significant levels were found, to advise DEC as soon as possible.

DEC expects all licensees and in fact all occupiers of premises to be good corporate citizens and meet their obligations not to pollute the environment. It should be expected that Government entities should exhibit the highest standards of environmental responsibility and performance.

Regardless of any licence requirements, the Port Authority also has responsibilities under Section 72 to report certain emissions of waste to DEC.

In addition, under Section 51 of the Environmental Protection Act, occupiers of premises must "...take all reasonable and practicable measures to prevent or minimise emissions". It is an offence not to comply with this section of the Act. Monitoring emissions or the impact of those emissions on the environment is an integral component of meeting the requirements of this section of the Act.

- 46. If these record reports do indicate unusually or dangerously high lead levels, would DEC expect the Port to do something other than wait until the annual report to DEC? Is this a term in the Port's licence? Why not?**

Yes, DEC would expect the Esperance Port Authority to advise DEC immediately that it became aware of high levels or undesirable trends from this monitoring and that the Port Authority would undertake an investigation as to why the high levels were recorded and then take action to ensure that the identified causes were prevented from reoccurring. DEC would expect that the Port Authority would advise it of the results of its investigations and the corrective action taken. DEC would review these actions and decide if any further action was required.

Such reporting is specifically referred to in the Preamble to the Port Authority's licence. It is not a condition of the licence, as such reporting is a requirement of the Act itself (also see answer to question 45).

- 47. Is DEC aware that the Magellan mine relied on a particularly fine grind of the ore mined to 'liberate the lead'?**

No. This question was answered at the Inquiry hearing held on 30 April 2007.

- 48. Should this factor have been relevant to the environmental impact assessment and condition put in place for the management of the product?**

Magellan Metals made specific commitments as to the form the lead would be in, i.e. moist agglomerates.

Likewise it is the responsibility of the Esperance Port Authority to meet its undertaking given in the request to amend its licence to export lead and the licence requirement regarding the form of the material being exported.

The following evidence was also provided at the hearing on 30 April 2007.

Mr Taylor: *Grinding of material would occur in the processing of ore, and the conditions at the mine should aim to minimise lead emissions at the mine itself, but the primary risk associated with dust at the mine would be associated with occupational health and safety issues for the miners and the operators..*

Mr Atkins: *If I could just add to that, in terms of how it is mined is one issue, and I guess Mr Taylor mentioned that in terms of on-site*

occupational safety. It is the responsibility of the miner to have that material in an appropriate form before it takes it off-site and rails it to its port of export. (Page 16)

49. Would you comment on the proposition that lead carbonate is a brittle substance that forms extremely fine particles which can readily be dissipated into the air and water and is prone to particle size degradation when handled?

The Esperance Port Authority stated in its request to DEC to have its licence amended, that the lead concentrate would be exported in a moist agglomerate form of approximately 10mm in diameter. It is the responsibility of the Port Authority to ensure that it meets its obligations in this regard and, if it is unable to do so, to advise DEC.

Furthermore, if the Port Authority alters the type of material, which may alter the nature or volume of waste emitted from the premises, then it is required under Section 53 of the Environmental Protection Act to apply for a Works Approval to do so. The Port Authority neither advised DEC of the change to the type of material, nor did it apply for a Works Approval. It is now understood that Magellan Metals advised the Port Authority early in April 2005 that it was discontinuing forming the lead carbonate into agglomerates. DEC has no record of Magellan Metals advising DEC of this change in the type of material.

DEC believes that detailed physical testing would need to be done by a competent materials handling laboratory in order to answer this specific question about the mechanical properties of the lead carbonate.

50. Would you comment on the proposition that wildlife and stock are unable to differentiate between lead and carbonate and calcium carbonate, which exists in the natural environment and is a source of calcium required by nearly all living species?

DEC officers are not qualified to comment on this specialist area of science.

51. Would you comment on the proposition that when consumed by birds the chemical composition of the lead carbonate alters and once excreted it has an increased water solubility as it decomposes to a lead oxide form?

The following evidence was provided at the hearing on 30 April 2007.

Mr Mell: *We are not chemists, but from my discussions with the Animal Health Laboratory, I would make two points. One is that there were differing views with respect to the water solubility of lead carbonate; the*

written advice is that it is insoluble in water. We have subsequently been advised by DOCEP that it does not take much of an adjustment in the pH to change that solubility. Secondly, very little is known about the processes or the chemical changes that occur in the gut of animals, but what we do understand is that they vary from species to species, so there is a huge range of variation of response, depending on whether the animals are mammals or birds. There is a difference of response between species and even between individuals, and it has a bearing in terms of the processes of digestion.

52. Would you comment on the proposition that the land based dust monitors used at the Esperance Port are inadequate to monitor the emissions in to the environment of Esperance because with strong winds, the fine particulates of lead carbonate can disperse into higher atmospheric layers before descending some kilometres away?

The following evidence was provided at the hearing on 30 April 2007.

Mr Atkins: *The land-based dust monitors did provide and have provided basic information on escapes of lead carbonate from the port area, as indicated by the results in the port authority's annual report. The issue is that those results were not made known to the port authority and from the port authority to the department in a timely fashion.*

Department of Environment and Conservation
21 May 2007