

**REPORT OF PROCEEDINGS BEFORE**

**GENERAL PURPOSE STANDING COMMITTEE NO. 5**

**INQUIRY INTO THE PERFORMANCE OF THE NSW  
ENVIRONMENT PROTECTION AUTHORITY**

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**At Sydney on Monday 24 November 2014**

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**The Committee met at 9.15 a.m.**

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**PRESENT**

The Hon. R. L. Brown (Chair)

The Hon. R. H. Colless

Dr M. Faruqi

The Hon. L. Foley

The Hon. S. MacDonald

The Hon. Dr P. R. Phelps

The Hon. P. T. Primrose

**CHAIR:** Good morning, ladies and gentlemen. Welcome into the third hearing of General Purpose Standing Committee No. 5 and its inquiry into the Performance of the NSW Environment Protection Authority. Before I commence I would like to acknowledge the Gadigal people who are the traditional custodians of this land. I would also like to pay respect to the elders past and present of the Eora nation and extend respect to other Aboriginals present. Today is the last of four public hearings we plan to hold for this inquiry. The first hearing was held in Sydney on 13 October; the second was held in Lismore on 29 October and the third was held in Newcastle on 10 November. Today we will hear from representatives of the NSW Environment Protection Authority, the Colong Foundation for Wilderness, Professor Chris Fell, Professor Alan Rosen, the Wilderness Society and Lock the Gate Alliance. Before we commence I would like to make some brief comments about the procedures for the hearing.

In accordance with the broadcasting guidelines, whilst members of the media may film or record Committee members and witnesses, people in the public gallery should not be the primary focus of any filming or photography. I remind media representatives that they must take responsibility for what they publish. Copies of the guidelines are on the table. It is important to remember that parliamentary privilege does not apply to what witnesses may say outside of their evidence in the hearing. Therefore, I urge witnesses to be careful about any comments they make to the media or to others after completing their evidence as such evidence would not be protected by parliamentary privilege. There may be some questions on notice. In these circumstances witnesses are advised that they can take questions on notice and provide answers within 21 days of receiving the questions from the secretariat.

I remind everyone here today that Committee hearings are not intended to provide a forum for people to make adverse reflections about others under the protection of parliamentary privilege. Therefore, I request that witnesses focus on the issues raised by the inquiry's terms of reference and avoid naming individuals unnecessarily. Witnesses are advised that any messages should be delivered to Committee members through Committee staff. Please turn off mobile phones. Anyone who wishes to make or receive a phone call should leave the room.

**BARRY BUFFIER**, Chair and Chief Executive Officer, NSW Environment Protection Authority,

**MARK GIFFORD**, Chief Environmental Regulator, Regulatory Services Division, NSW Environment Protection Authority,

**FRANK GAROFALOW**, Manager, Metropolitan Infrastructure, NSW Environment Protection Authority, and

**SARAH LOW**, Project Officer Governance, NSW Environment Protection Authority,

**STEVE HARTLEY**, Principal Manager, Forestry, on former affirmation:

**CHAIR:** Would you like to make a brief opening statement?

**Mr BUFFIER:** Thank you for providing the opportunity to make an opening statement. The EPA vision, as I said at the first hearing, is Healthy Environment, Healthy Community, Healthy Business. I would like to delve a little bit deeper into that issue because it goes to the core of some of the perceptions of the EPA that have been presented in a number of the submissions. This vision is founded on the principles of ecologically sustainable development, one that recognises the interrelationship of these elements and one that recognises that without a healthy environment the other two—healthy community and healthy business—are not sustainable in the long term.

It is no accident that the first two words in the vision statement are "Healthy Environment"; it reflects our emphasis. The EPA is New South Wales' primary environmental regulator with a challenging responsibility of engaging with a large and varied number of stakeholders who have diverse and often conflicting interests, concerns and agendas. To give you a feel for this diversity, the six broad categories of EPA external stakeholders that we engage with are the community, environment groups, business and industry, the Minister and government, local State and Federal government departments and the media. If the New South Wales EPA is to operate in accordance with the objectives set out in our legislation we have to be vigilant in ensuring that there is no regulatory capture from any of these stakeholder groups with whom we engage. And of course with each of these groups the type of engagement we have is quite different, depending on whether we are consulting, advising, informing, listening, researching, partnering, licensing, regulating or prosecuting.

We aim to be independent, evidence-based and transparent in our decisions. The EPA's governing structures and training systems are designed to ensure that the EPA staff are professional, ethical, impartial and open in their dealings with stakeholders. For example, individual regulatory decisions are subject to scrutiny and review by management tiers that are separate from the direct regulations of the business concerned. We directly address issues of regulatory capture in our induction course and authorised officers courses. Over half of the EPA staff have been trained by ICAC on ethical and probity issues, including regulatory capture.

Operating procedures are directed to minimising the risk, such as working in pairs and rotation of staff, and we have improved public notification of regulatory decisions. Our success in meeting these standards is reflected in the 2014 staff survey of the New South Wales public service by the Public Service Commission that found 91 per cent of EPA staff agreed that the EPA has procedures and systems to ensure objectivity in decision-making. This compares to an average for the rest of the public sector of 77 per cent. On the question of "Do staff think that their work group shows bias in their decisions affecting customers or clients?"—90 per cent of staff agreed that people in their work group do not show bias. Again this compares with an average of 78 per cent in the public sector.

By necessity we engage with industry. The EPA's regulation of industry covers waste, contaminated sites, hazardous substances and transportation, native forestry, and pollution from industrial facilities. We manage over 2,500 holders of environment protection licences across more than 100 different types of business activities as well as waste facilities and transport. In 2013-14 we implemented 180 pollution reduction programs against these licensees. In addition, we managed over 17,000 radiation licences, 9,500 dangerous goods licences, nearly 700 pesticides licences and approximately 35 environmental hazardous chemicals Act licences. Many of the Protection of the Environment Operations Act activities that we regulate have site-specific operating conditions, plant and equipment processes and different receiving environments.

The EPA staff need to understand these conditions in order to apply our expertise in environmental management to determine the correct regulatory settings for the best environmental outcomes, and this involves

engaging with industry. Our expertise includes the vast majority of our non-administrative staff who have tertiary qualifications, especially in science, applied sciences and/or engineering to assist in this dialogue with industry. The benchmarks for EPA pollution standards are determined by reference to the best available science in any applicable statutory limits. This is often reflected in national consensus in approach on scientific and technical issues. We do not allow business to dictate these standards.

For water, our principal reference document is the ANZECC guidelines, the Australian and New Zealand guidelines for fresh and marine water quality. For air, we refer to the national environment protection measures for ambient air quality. For noise, our noise guidelines are a guide to EPA decision-making, including the New South Wales industrial noise policy, which is publicly available. For hazardous substances, much of the framework is established through international agreements such as the Stockholm Convention on Persistent Organic Pollutants, United Nations Recommendations on the Transport of Dangerous Goods and the International Atomic Energy Agency. For assessment of contaminated land we use the national environment protection measure for the assessment of site contamination—hardly matters that are dictated to by business.

Using these standards and others, as indicated in our main submission to the inquiry, we make decisions based on the statutory considerations set out in the legislation and at times the limits we set on licences are more stringent because they reflect what is possible under best practice. We listen and respond to the concerns of our stakeholders and at the same time our decision-making practices are grounded in the objectives of the EPA as set out in the legislation, the objectives of the legislation we administer and any specific guidance within that legislation.

In conclusion, I would like to thank the Committee for the opportunity that this inquiry has brought to the EPA for a comprehensive review of what we do and how and why we do it. We have found it valuable to review the progress we have made in the 2½ years and reflect on the EPA's objectives and assess how they are integrated into our processes and operations. As our submission shows, these objectives are embedded into everything that the EPA does. The nature of stakeholder engagement is vastly different to 1991 when the EPA was first established due in part to technological advances and a cultural shift to open government. Our stakeholders and particularly the community are better informed, have higher expectations of environmental safeguards, have immediate access to related information and want to understand our decisions and participate where possible. It was on this basis that the new EPA was established 2½ years ago. We think we have made significant progress during this period but this inquiry has highlighted areas where more work needs to be done. We look forward to receiving your recommendations. Thank you.

**CHAIR:** Thank you, Mr Buffier.

**Mr BUFFIER:** Mr Chair, could I do one other thing, please?

**CHAIR:** Yes.

**Mr BUFFIER:** I would like to explain and tender a document which we have received from the United Nations. At the first hearing on 13 October Mr Andrew Help stated that he was representing the United Nations Mercury Group. The NSW EPA has recently become a member of the United Nations environment program, Global Mercury Partnership, so we were somewhat surprised by this claim and sought clarification from the United Nations. I would like to table the response from the United Nations, which says in part:

Neither Mr. Help nor *HG Recoveries Pty Ltd* has any authority to represent the Partnership or the UNEP Chemicals Branch. The UNEP Chemicals Branch had no prior knowledge of his activities or his claim of representation.

**Document tabled.**

**The Hon. LUKE FOLEY:** I note that when you gave evidence on 13 October you advised the Committee that you have established a branch dedicated to improving EPA governance. When was that branch established and what was the major focus of the work of that branch since its establishment?

**Mr BUFFIER:** Yes. When the EPA was initiated the Minister at the time made it very clear that a primary focus needed to be better community engagement and for us to be engaging and listening to the community much more effectively than had been the case in the past. I think from day one of me taking up the position it was quite clear that we were going to change the structure of the organisation so that it included a branch of the EPA that focused directly on that. In the first month or two when we were developing the strategic

plan and our six key result areas, one of those six key result areas was around stakeholder engagement. At that time it was clear that we were going to do more in that regard.

In our time line we have the details of when that branch was established and I will come to that. In September we appointed Sylvia Bell as director of stakeholder engagement and governance. Prior to that time we had been doing a lot more in terms of the governance of the EPA and that was done under Gary Whitecross, who was acting in that role. We put a lot of effort into the governance issues very early in the piece and I might ask Ms Low to comment on some of the governance issues that we needed to do because in a period of four months we needed to get all of the governance processes in place for the EPA, which was quite a substantial role.

**Ms LOW:** Part of the establishment of the EPA was to establish an EPA board and also to establish the positions of the chair and the chief environmental regulator [CER]. We had an establishment team with the EPA and the Office of Environment and Heritage. Part of that establishment, as part of the O'Reilly report, was that EPA were to get all our corporate and essential services from the Office of Environment and Heritage, so we had to develop a service agreement documenting what all those services were.

The idea of the corporate governance area within the Environment Protection Authority [EPA] is that it would facilitate particular aspects for our board and our governance in relation to the board. We sit under the Office of Environment and Heritage for all those essential and corporate services, such as the code of conduct and gifts and benefits and those other types of things, whereas the position for the board secretariat was particularly in relation to the governance for the board.

**The Hon. LUKE FOLEY:** Thank you. Mr Buffier, I am interested in the corporate governance so I will go to that. Does the board oversee the operational performance of the EPA?

**Mr BUFFIER:** The legislation is quite clear in respect of what it sets out as the board's responsibilities, so the board is an advisory and governance board.

**The Hon. LUKE FOLEY:** How often does it meet?

**Mr BUFFIER:** Eight times a year, but—

**The Hon. LUKE FOLEY:** I note you have had the odd extraordinary meeting in the past year or two.

**Mr BUFFIER:** We have had the odd extraordinary meeting, in every sense of the word.

**The Hon. LUKE FOLEY:** But as a general rule you meet eight times a year?

**Mr BUFFIER:** We program to meet eight times a year. Then there have been one or two other meetings throughout the year.

**CHAIR:** I seek clarification. Mr Buffier, I note on our agenda that you are the chair and chief executive officer.

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** Does the board review the performance of senior staff?

**Mr BUFFIER:** No.

**The Hon. LUKE FOLEY:** Who reviews the performance of senior staff?

**Mr BUFFIER:** My performance agreement is with the Minister and I review the performance of my direct reports, and they review the performance of their direct reports.

**The Hon. LUKE FOLEY:** How many direct reports do you have?

**Mr BUFFIER:** Four.

**The Hon. LUKE FOLEY:** Have you been subject to a performance review by either your previous Minister or your current Minister?

**Mr BUFFIER:** I have been subject to two performance reviews. The arrangement then was head of Premier and Cabinet in conjunction with the Minister. The legislation changed under the Government Sector Employment Act recently and it is now clear that my performance agreement is with the Minister.

**The Hon. LUKE FOLEY:** Your first performance review—

**Mr BUFFIER:** Was with Chris Eccles.

**The Hon. LUKE FOLEY:** And your Minister or simply the director general of Premier and Cabinet?

**Mr BUFFIER:** No, I did the interview with Chris Eccles and then that needed to be signed by the Minister as well. I am not sure what interaction occurred in that regard. Both had to sign it, yes.

**The Hon. LUKE FOLEY:** The state of play currently and for the future will be that your performance reviews are conducted by your Minister?

**Mr BUFFIER:** By the minister, correct.

**Ms LOW:** Can I add to your question?

**The Hon. LUKE FOLEY:** Yes.

**Ms LOW:** The board meets eight times a year but we have a Finance Audit and Risk committee that meets four times a year.

**The Hon. LUKE FOLEY:** Thank you. The performance reviews that you undertake of your four direct reports, how often have they occurred?

**Mr BUFFIER:** Twice yearly.

**The Hon. LUKE FOLEY:** As chair under section 19 of the Act, you manage and control the affairs of the EPA, do you not?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** There are some limitations put on your power to manage and control and I quote subsection (1) of section 19 of the Protection of the Environment Administration Act, your management and control functions must be "in accordance with the policies determined by the Board and any other decisions of the Board, but subject to any directions of the Minister". Is that accurate?

**Mr BUFFIER:** That is correct. The legislation specifically says that the board is not subject to the control and direction of the Minister. So the board and any of its deliberations or decisions cannot be directed by the Minister. The Minister has no power of direction in relation to prosecutions. However, the Minister can direct the authority, so as chief executive the Minister can direct me.

**The Hon. LUKE FOLEY:** Let us go to that. The Minister has certain powers, but they are constrained. Explicitly, the board is not subject to the control and direction of the Minister, is it?

**Mr BUFFIER:** That is correct. My understanding—this predates me—is that that was a specific amendment that was inserted at the time that the legislation was debated in the House. I think it was inserted—

**Mr GIFFORD:** It was moved by the Opposition at the time.

**The Hon. LUKE FOLEY:** Are you referring to the 2012 reforms by Minister Parker and Premier O'Farrell?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** Subsection (2) of section 16 of the Act makes clear that the board is not subject to the control and direction of the Minister in the exercise of any of its functions, does it not?

**Mr BUFFIER:** That is the amendment I was referring to.

**The Hon. LUKE FOLEY:** Yes. Within that general limitation, there are some powers enjoyed by the Minister under the legislation to direct the EPA in certain defined respects, are there not?

**Mr BUFFIER:** Correct, not in relation to prosecutions.

**The Hon. LUKE FOLEY:** I might go to section 13 of your Act, "Ministerial control". Subsection (1) states, "The Authority is, in the exercise of its functions, subject to the control and direction of the Minister", but then subsection (2) goes on to make clear what the Minister cannot direct and control you on. Is that a fair statement?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** If I go to subsection (2), the Act makes clear that the EPA is not subject to the control and direction of the Minister in respect of, first, "any report or recommendation made to the Minister"; secondly, "a state of the environment report under this Act"; or, thirdly, "any decision to institute criminal or related proceedings".

**Mr BUFFIER:** Correct.

**The Hon. LUKE FOLEY:** Is that a fair statement—

**Mr BUFFIER:** That is what the legislation says, yes.

**The Hon. LUKE FOLEY:** —of the constraints on ministerial power to direct you?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** Subject to those constraints, the Minister has a limited power to issue directions. Did Minister Parker ever issue any direction to you and/or the board of the EPA?

**Mr BUFFIER:** The Minister has never issued any directions to the board of the EPA.

**The Hon. LUKE FOLEY:** Do I take it from that answer that that refers to both Minister Parker and Minister Stokes?

**Mr BUFFIER:** Correct, because they do not have the power.

**The Hon. LUKE FOLEY:** They have certain—

**Mr BUFFIER:** They do not have the power to direct the board.

**The Hon. LUKE FOLEY:** They have a limited power to direct you as chairperson, is that right?

**Mr BUFFIER:** They have the power to direct me as chief executive officer [CEO], not in my role as chair.

**The Hon. LUKE FOLEY:** As CEO have you ever received a direction?

**Mr BUFFIER:** No written direction, but I recall certainly there were discussions where we would discuss particular issues and get a feel for what might be required.

**The Hon. LUKE FOLEY:** Sure.

**Mr BUFFIER:** I would need to defer to Mr Gifford on this issue because I think I was on leave at the time of a direction in terms of establishing the committee for Orica at Botany.

**Mr GIFFORD:** Yes, there was a direction from Minister Parker at the time for the EPA to establish a steering committee to oversee the review of the potential for off-site contamination from mercury at Orica's Botany facility.

**The Hon. LUKE FOLEY:** Was that a formal direction under the Act?

**Mr GIFFORD:** No.

**The Hon. LUKE FOLEY:** I think I am right in saying that the Act requires, in the event of any ministerial direction, that that would be in writing and reported to Parliament. That is correct, is it not?

**Mr BUFFIER:** We might have to take that on notice.

**The Hon. LUKE FOLEY:** Sure. Mr Buffier, are you telling us that the Minister explicitly has no power to direct you as chairperson, but has a power to direct you as the CEO?

**Mr BUFFIER:** I have had this matter looked at on a number of occasions.

**The Hon. LUKE FOLEY:** How do you manage that?

**The Hon. Dr PETER PHELPS:** He has two hats. He just whips one off and puts the other one on.

**Mr BUFFIER:** It is relatively straightforward, if you understand what hat you are wearing at that particular point in time, yes. Any direction to me as chair, I would have to relay to the board. I have not had that situation.

**The Hon. LUKE FOLEY:** As CEO are you accountable to your board, your Minister, or both?

**Mr BUFFIER:** Minister.

**The Hon. LUKE FOLEY:** To your Minister?

**Mr BUFFIER:** Yes. That is the way the legislation and other associated legislation makes that clear.

**The Hon. LUKE FOLEY:** With respect, Mr Buffier, I have read the Act. I do not think the Act refers to the position of chief executive officer, does it?

**Mr BUFFIER:** No.

**The Hon. LUKE FOLEY:** It simply refers to the office of chairperson.

**Mr BUFFIER:** That is correct. I have had some discussions—I think possibly in writing—from the Public Service Commissioner on this issue, and the issue arises because when the Act was amended, the position of director general of the EPA was removed and the word "chair" was inserted, which effectively meant that it was a chair and CEO role, so the interpretation requires that. As I said, this all predates me and I was not involved in any of those discussions.

**The Hon. LUKE FOLEY:** I do not think that was my fault. That was legislation from the Government, was it not?

**Mr BUFFIER:** I do not think I said it was your fault.

**The Hon. LUKE FOLEY:** I am just checking that it is not my fault.

**Mr BUFFIER:** That is what I understand happened in respect of getting the legislation done and that explains why you have got this situation.



**The Hon. LUKE FOLEY:** Did you seek written advice from the Public Service Commissioner?

**Mr BUFFIER:** I cannot be certain that I have got written advice on that matter, but I have certainly had some detailed discussions with him about it, and it is absolutely clear in my mind and his. I possibly do have something in writing, but I would have to check.

**The Hon. LUKE FOLEY:** Can I ask you to search your files after today's hearing and if there has been any advice from the Public Service Commissioner on how you manage the dual responsibilities of being both chairperson and chief executive officer, would you be prepared to furnish the Committee with that written advice?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** Thank you. Is there any other statutory body or agency of government in New South Wales that has one person operating as both its chairperson and its chief executive officer that you are aware of?

**Mr BUFFIER:** I cannot quote you a specific example but I can say there are about 300 different statutory bodies and authorities in New South Wales and each of them seem to have their own unique arrangement. I have had some passion for this for some time—that we have some consistency across statutory authorities and bodies like the New Zealand system does of its Crown entities, which makes the process very clear and uniform, and makes interpretation of it much simpler.

**The Hon. LUKE FOLEY:** This is truly unique, is it not, Mr Buffier? I cannot think of another one of the approximately 300 agencies in the New South Wales public service that has one person acting as both chairperson and in the chief executive officer role, whatever it is called.

**The Hon. Dr PETER PHELPS:** Point of order: I do not think it is fair for Mr Foley to ask the witness that question. It pre-disposes that he has a detailed knowledge of all 300 entities across New South Wales. He could assert it, but to ask Mr Buffier if he is aware is an unreasonable question.

**The Hon. PETER PRIMROSE:** Further to the point of order: Mr Buffier has indicated an interest in this and indeed has expressed concern that in New Zealand there is a model, so clearly he has an interest and he is entitled to express an opinion on the basis of his experience and his clear interest.

**The Hon. Dr PETER PHELPS:** Further to the point of order: He was not asked to express an opinion. He was asked whether he was aware of any other instance of this across the public service.

**CHAIR:** Thank you. I uphold the point of order. The witness has answered the question insofar as his knowledge of the other 298 statutory authorities is concerned so we will move on to another question, Mr Foley.

**The Hon. LUKE FOLEY:** Mr Buffier, if the chief executive officer of the EPA reports to the Minister rather than the board, how can the board effectively exercise its oversight role?

**Mr BUFFIER:** As I said, the board is not subject to the control and direction of the Minister. So, the board can do whatever it wants to do.

**The Hon. LUKE FOLEY:** But it cannot direct you as chief executive officer; that is a role for the Minister.

**Mr BUFFIER:** It can approve policies, it can provide advice, and it can require things to be done. The Minister can overrule by directing the authority to do something different from what the board may have agreed.

**Dr MEHREEN FARUQI:** Mr Buffier, I refer to some of the responses to questions on notice from the EPA. I refer to the question about licence holders and the EPA relying on them for environmental data monitoring.

**Mr BUFFIER:** That was question seven.

**Dr MEHREEN FARUQI:** Yes, it was. From that response I understand that you monitor for the completeness of the data provided by the industry but not necessarily the results, or if they are actually using the approved sampling for analysis methods. A similar thing happens in environmental management systems where the process is audited but not the actual results. What processes does the EPA have in place to verify the information? Do you do unannounced spot audits or are there other ways of checking and verifying the data?

**Mr BUFFIER:** I will ask Mr Gifford to respond.

**Mr GIFFORD:** Yes, we do. We have other systems in place. We have a formal audit program that is undertaken by the environmental audit unit, which is staffed by accredited environmental auditors. In fact, the EPA is an accredited trainer for environmental auditors. We train our staff more broadly beyond that unit to be accredited auditors. The auditing function is one that we use to assess compliance with statutory instruments, the conditions of those instruments and the legislation that pertains to the particular activity. The monitoring, the monitoring process and the analysis and results are subject to an audit for a particular premises. Over and above that, all of our environmental protection licences contain standard conditions that require the provision of monitoring data in certain circumstances and our officers will review, confirm and determine whether or not that monitoring is showing any issues that might require a response.

**Dr MEHREEN FARUQI:** Does your auditing happen while monitoring is happening? Would you go unannounced and do a spot check rather than after the event?

**Mr GIFFORD:** Yes, and we have previously undertaken an audit program specifically on monitoring. Our formal audits are undertaken generally unannounced. When we determine the forward audit program, we will publicise it, much like the Australian Taxation Office does, to put people on notice about the sorts of activities that we might be auditing. As I said, we have previously undertaken a specific audit around monitoring and monitoring data. That looked at the data itself but also the monitoring that was occurring in real time.

**Dr MEHREEN FARUQI:** I refer to the data that is supplied to you. I am sure that in certain instances there would be a great volume. How do you ensure that if the industry has not specifically pointed out some issues that the EPA picks up issues that could be in those volumes of data?

**Mr GIFFORD:** That can occur in several ways. There is a statutory requirement and a standard licence condition that every licensed facility must provide the EPA with an annual return. That annual return details compliance or noncompliance with licence conditions, including monitoring conditions. That is one way it can be picked up.

**Dr MEHREEN FARUQI:** Are you still relying on the industry to give you that information?

**Mr GIFFORD:** Yes, but it is a statutory requirement. It is an offence not to provide that information, and it is also an offence to provide false or misleading information to the EPA. We also have coercive powers and we can require particular information to be provided to us, and sometimes we exercise those powers in the course of undertaking inspections of site activity. We also require that licensees notify the EPA in the event of an environmental incident that has occurred on site or offsite or where there is potential for environmental harm. Through that process we also often get information about monitoring that has occurred.

**Dr MEHREEN FARUQI:** I refer to the Santos incident involving the Bibblewindi pond leak. A geotest report in 2012 says that Santos knew about that leak or identified it in 2012, but the investigation started much later. Can you clarify what happened? Did the company know about it and the EPA did not? Did the EPA know and there was a delay in the investigation?

**Mr BUFFIER:** I will ask Mr Gifford to provide the detail because there is quite a lot of detail around this. The key issue is that that occurred when the New South Wales Environment Protection Authority was not the regulatory authority for that activity. It is in a different context to what we would normally see where they would be required to provide us with their monitoring data.

**Mr GIFFORD:** To provide further context, prior to 28 June 2013 the EPA was not the regulator for all facets of coal seam gas activities; it was the regulator only for coal seam gas that was in production and producing more than five petajoules of gas per annum. There was one site in New South Wales that triggered that requirement for a licence, and that was AGL's Rosalind Park site at Camden. In February 2013, the Government announced that the EPA would take on an expanded role for the regulation of the environmental

issues associated with coal seam gas. That expanded role was for the EPA to issue licences for coal seam gas activities from exploration right through to production; in other words, removing the threshold test. When that announcement was made the EPA then determined that it would be good regulatory practice to undertake site inspections of known coal seam gas activities because we had not been a regulator of those activities in the past. In the course of undertaking those inspections, one was undertaken at Santos's Pilliga facility. That is when the EPA became aware of the particular issue to which you referred.

**Dr MEHREEN FARUQI:** You became aware of that incident, but a year elapsed between when it occurred in March 2013 and you completing an investigation in November 2013 and then issuing a regulatory action in February 2013. That seems like a long time between when the incident was discovered and when the regulatory action was taken. Can you explain? You have said yourself in your submission that this was a relatively small matter. Why did it then take a year to deal with it?

**Mr GIFFORD:** I think what we said was that it had relatively little environmental impact. It was not necessarily a small matter. We treat every noncompliance the same and undertake a thorough investigation of any potential noncompliance. That is what occurred in this circumstance. Regulatory action was taken immediately to determine the nature of the incident, whether or not there were actual or potential offsite impacts and what action the EPA needed to take immediately. That was done in consultation with NSW Health and the Office of Water, which has responsibility for and knowledge of groundwater and groundwater activity. Once we became the regulator for the activity—that was not until 28 June 2013—we were then able to issue statutory notices.

That ensured, first, that there was detailed knowledge of all of the monitoring and other data that was held by Santos, and, secondly, that a system was put in place effectively to create a closed loop so there was no further pollution. Those activities were undertaken as part of the formal investigation. That investigation took place over the period to which you referred. Subsequently, a decision was made based on the evidence that we had gathered through that investigation period to then take the regulatory action we did. We issued a penalty notice but also required Santos to undertake a pollution-reduction program to remediate the impacts of the leak and to contain it through a closed loop system.

**Dr MEHREEN FARUQI:** Given that there are concerns—the Wilderness Society has expressed them recently—that industry might in some instances be misleading the EPA and the community, would the EPA consider a model where the industry still foots the bill for monitoring according the environment protection licence [EPL] but that it is done at arm's length from them? Some States in the United States have a model that involves the industry paying the money to the regulator and the regulator then hiring the consultants to monitor.

**Mr BUFFIER:** You are talking about doing this across all the monitoring that we require industry to do. The amount of monitoring undertaken in the large facilities is phenomenal and you need a detailed knowledge of the operating systems in place. I am not sure that the Environmental Protection Authority in the United States requires that of all the sites that it licenses. It would be an absolutely monumental task for us to undertake. We run the risk that much of that monitoring has to be embedded into the operating systems themselves. There would be two groups of players. I am not sure that that could work easily.

**Mr GIFFORD:** That would be a very challenging way to approach it. The EPA licenses about 2,800 activities under the Protection of the Environment Operations Act. Most of those activities are subject to monitoring conditions in the licence, and in some cases they are quite extensive and complex. However, along the lines of the model you are suggesting, we require industry from time to time to provide the funding for monitoring that might be undertaken and the EPA then manages that process. A case in point is Orica's facility and activity at Botany Industrial Park, where we have been undertaking a systemic review of the potential for offsite contamination. That is being paid for by Orica, but, as you say, it is at arm's length. The EPA is managing and instructing that monitoring activity and is doing it in conjunction with an independent steering panel.

**Dr MEHREEN FARUQI:** According to answers to questions on notice at page 13 there appears to be a significant uptake in environmental service orders being approved, especially this financial year compared with the two previous financial years. Can you explain that?

**Mr GIFFORD:** We see this as a really important tool for the EPA. There are two aspects to this. One is environmental services orders issued by the court. The EPA might make recommendations to the court about a project that could be undertaken by the guilty party in lieu of a fine or penalty. The importance is the

restoration of the environment, from the impacts of whatever the incident was that occurred. So that is environmental service orders.

**Dr MEHREEN FARUQI:** Has that become a particular priority this year?

**Mr GIFFORD:** No, not so much just this year. I guess what I was getting to is that we go beyond environmental service orders. We have within legislation an ability to issue an enforceable undertaking. We have certainly increased our use of that particular regulatory tool. Through that tool we are also able to require the restoration or rehabilitation of the environment and to have the party that caused the damage pay for those restoration activities. It is fair to say that, in the last two years, the Environmental Protection Authority [EPA] has been looking very closely at restorative justice as well.

We are using some of these environmental service orders and enforceable undertakings as opportunities to engage with the community. We listen to the community about the impacts or issues arising from a particular incident and what remediation or restoration work they would like to see. We include that in the outcomes. The environmental service orders that were put before the court and agreed to by the court for the series of incidents that occurred at Orica's Kooragang Island site are a good example of that.

**Dr MEHREEN FARUQI:** On page 16 of your submission you note that it would require a relatively modest resource increase to clear the contaminated lands backlog. Have you approached the Government about this? And could you provide what the estimated cost would be?

**Mr BUFFIER:** We have indicated in our response that it would take four full-time staff a period of five years. We are in the process of engaging four staff at the moment. I am not sure whether or not the positions have been advertised but we were hoping to have that in place fairly quickly. I am not saying that we will have those four staff for the full five years, because at the same time we are looking at making other changes which would put more responsibility back on to the people who notify us of the sites. We have the backlog because a number of companies just dumped sites on to us without doing any due diligence. So we are appointing more staff as we speak. We are changing some of the requirements and we are going to implement cost recovery on some of our activities there. So we are certainly hoping to clear that backlog sooner rather than later.

**Dr MEHREEN FARUQI:** In answer to another on notice the EPA said that no offices have been closed since 2011. Does the EPA still have an office in Muswellbrook?

**Mr BUFFIER:** We did not have an office in Muswellbrook 2½ years ago. I am not sure when we last had an office there.

**Dr MEHREEN FARUQI:** Do you know when that office was closed? If you would not mind, I would like to know when that office was closed.

**Mr GIFFORD:** I would have to take that on notice. It was many years ago. It was at least half-a-dozen years ago.

**Dr MEHREEN FARUQI:** I have a couple of questions about the Chester Hill fire. I understand that it has cost in excess of \$2 million to clean up, not including the health impacts on surrounding communities. How much of this has been recovered from the operator, if indeed that is the cost?

**Mr BUFFIER:** That is an approximation of the cost. We did hold a bond for the site. I would have to take it on notice as to what that was—it was less than \$100,000. We are pursuing some other avenues to try to recover the outstanding monies. I am not at liberty to go into detail on what the avenues are that we are exploring but I am very keen to recover that money, if at all possible.

**The Hon. LUKE FOLEY:** Mr Buffier, I have been looking at the functions of the board under section 16 of the Protection of the Environment Administration Act. I note that in spelling out the functions explicitly section 16 (1) (b) provides that the board shall:

... oversee the effective, efficient and economical management of the Authority.

Does the board formulate employment and performance agreements with the senior management of the authority, including yourself?

**Mr BUFFIER:** No, the board does not do that. I think the word there is "oversee" rather than manage or be responsible for.

**The Hon. LUKE FOLEY:** Do you have a written performance agreement as Chief Executive Officer [CEO]?

**Mr BUFFIER:** Yes, I have a written performance agreement.

**The Hon. LUKE FOLEY:** But that is not with your board?

**Mr BUFFIER:** It is with the Minister, as required under the Government Sector Employment Act [GSE]. My performance agreement is almost entirely based around the strategic plan in terms of what are the key result areas, and in fact it is an attachment to my performance agreement. For my direct reports the relevant parts of the strategic plan that they are responsible for form the basis of my performance agreement with them, and consequently it flows down. We do have a framework. The board signs off on the strategic plan, and the Minister sees that. So that forms the basis for my performance agreement.

**The Hon. LUKE FOLEY:** So the four senior executives who report directly to you have their performance agreements not with the board but with you as CEO?

**Mr BUFFIER:** Yes, they are with me.

**The Hon. LUKE FOLEY:** Does the board have any role in the appointment of senior executives?

**Mr BUFFIER:** No.

**The Hon. LUKE FOLEY:** Does the board have any role in the removal of senior executives?

**Mr BUFFIER:** No.

**The Hon. LUKE FOLEY:** If there was to be a vacancy for the position of chief executive officer in the future, would the board select and recommend to the Minister a candidate for the position?

**Mr BUFFIER:** No, not as I understand it.

**The Hon. LUKE FOLEY:** So in other words the board has no role when it comes to oversight of the Chief Executive Officer and the senior executives of the authority? The board plays no role, is that right?

**Mr BUFFIER:** The GSE regulations make it very clear that my performance agreement is with the Minister.

**The Hon. LUKE FOLEY:** We went through earlier the constraints on the Minister in the Act on what he or she cannot direct the EPA to do, did we not?

**Mr BUFFIER:** Yes, the Minister has no power to direct the board, as you pointed out. Their power to direct the authority is constrained, particularly in relation to prosecutions and reports.

**The Hon. LUKE FOLEY:** And neither Minister Parker nor Minister Stokes has ever issued you with a direction under the Act, have they?

**Mr BUFFIER:** There has been no written direction. But, as we explained, there was the Orica Botany issue, which could be interpreted as a direction.

**The Hon. LUKE FOLEY:** A direction is:

... required to be tabled by or on behalf of the Minister in each House of Parliament (within 14 sitting days of that House) and is to be included in the next available annual report of the Authority.

That is a provision of section 13 (3) (b) of the Protection of the Environment Administration Act. Was the one direction you have referred us to a direction under that provision of the Act?

**Mr BUFFIER:** I said that it could be interpreted as a direction, but I do not know that it qualifies legally as a direction.

**The Hon. LUKE FOLEY:** Mr Gifford, can you assist us here?

**Mr GIFFORD:** To my recollection it was not a direction under the legislation.

**The Hon. LUKE FOLEY:** Has there ever been, since the reconstitution of the Environment Protection Authority in early 2012, a direction issued pursuant to section 13 (3) of the Protection of the Environment Administration Act?

**Mr BUFFIER:** Not to my understanding of that provision.

**The Hon. LUKE FOLEY:** Mr Buffier, are you in fact untouchable?

**Mr BUFFIER:** What a question! No.

**The Hon. LUKE FOLEY:** The Minister is handcuffed under the Act, and the board exercises no governance role in overseeing the work of you as Chief Executive Officer and the work of your senior executives. Are you in effect the most powerful public servant in New South Wales because of the provisions of this Act?

**Mr BUFFIER:** No, the legislation is quite clear that the Minister can issue a direction to the EPA in a lot of circumstances. So to imply that the EPA is absolutely independent and answerable to nobody is not correct. My performance agreement is with the Minister, and the Minister has the power to issue directions.

**The Hon. LUKE FOLEY:** You told us earlier that the Minister cannot control and direct the EPA.

**Mr BUFFIER:** The EPA board, I said. That is what the legislation says.

**The Hon. LUKE FOLEY:** Which you chair?

**Mr BUFFIER:** Yes, but my performance agreement is as Chief Executive Officer, and I answer to the Minister in relation to that.

**The Hon. LUKE FOLEY:** How many formal reviews of your performance as Chief Executive Officer, as opposed to chair, has the Minister for the Environment conducted since early 2012?

**Mr BUFFIER:** Two, with another one due now.

**The Hon. LUKE FOLEY:** I turn to the issue of resources. I note in your October evidence the statement that the recurrent budget has increased from \$117 million in 2012 to \$142 million in 2014. Is that all new money from Government or is some of that \$25 million increase a transfer of money from other arms of Government?

**Mr BUFFIER:** Largely it would be new. We did transfer some resources from the Office of Environment and Heritage to the EPA, namely in our communications area and in water and air policy. But that saw a reduction in our service level agreement so that would not be accounting for that. Some of it would be showing up because of the \$8 million of additional funding that we have received in relation to air projects, but that is operational money. So, by and large, \$2 million of it is for extra responsibilities under coal seam gas. I could not say it definitively but the bulk of that would not be because of transfers from other areas of Government.

**The Hon. LUKE FOLEY:** Would you be to take on notice and come back to us with some written advice on the recurrent budget increase since 2012—the increase that you drew our attention to from \$117 million to \$142 million—and attempt, as best you can, to break that down for the Committee into what the extra appropriations have been, if I can put it that way, and what has been a transfer to the authority from other arms of Government, whether it be the Office of Environment and Heritage, the Office of Coal Seam Gas or indeed any others? Would it be possible to do that for us?

**Mr BUFFIER:** Yes, it would be possible to do that. I am not sure that it tells the full picture in terms of what resources and what operating budget we have. If we have been transferred positions from other areas of Government then that is extra resources that have become available to us.

**The Hon. LUKE FOLEY:** I am interested in probing the statement you made in October.

**Mr BUFFIER:** Sure, I understand the question. I can certainly tell you that we have more resources than we had when we started.

**CHAIR:** So, just to clarify, Mr Buffier, you will take that question on notice?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** What can you tell us about staff numbers in the authority? How many staff, expressed in full-time equivalents, did the authority have at the time of the reconstitution of the authority in early 2012? How many staff, in full-time equivalent numbers, does the authority have today? Could you assist us with that?

**Mr BUFFIER:** I will take it on notice. I think we did cover some of this in the submission. In broad terms, it was 400. I think we are now over 450, and increasing. But I do not have the exact current figure with me.

**The Hon. LUKE FOLEY:** So you have increased your staff by about 50 over the last 2½ years. Once again can I ask is that because people elsewhere in government are now in your bailiwick as employees of the EPA and/or have there been new positions created that were not under the employ of the New South Wales Government in early 2012?

**Mr BUFFIER:** Certainly there have been some new positions created and some of those have transferred from other areas.

**The Hon. LUKE FOLEY:** Could you do your best to get back to us with some breakdowns?

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** How many sections does the Environment Protection Authority have in the sense of your organisational structure? I note when Mr Harley took us into the forest he advised us that there is a forestry section with around 27 staff. I am just interested in learning how many sections you have operationally.

**Mr BUFFIER:** I have four direct reports; one of those is Mark Gifford, the Chief Environmental Regulator, and Mark has a number of branches under his responsibility.

**Mr GIFFORD:** In particular the question is about operational staff?

**The Hon. LUKE FOLEY:** Yes, it is.

**Mr GIFFORD:** The Regulatory Services Division, which I head up, has three regional-based branches, essentially north, south and Sydney metro, that cover the State and it has a central branch that does environmental policy, audit, regulatory administration, reporting and a range of other things. Then, separate to the Regulatory Services Division, within our Waste and Resource Recovery Branch there are also operational staff who deal specifically with waste and waste-related issues. Then in our Hazardous Incident and Environmental Health Branch there are operational staff who deal directly with hazardous materials regulation, dangerous goods, radiation control responsibilities.

In the Regulatory Services Division and operationally, I do not know the exact numbers—we could take it on notice—but the number of operational staff in the Regulatory Services Division are over half the number of staff in the organisation. Then there are, as I say, operational staff in Waste and Hazardous Incident areas as well. I would have to take on notice the actual number in total.

**CHAIR:** Mr Buffier, just to clarify matters, if you have not already done so would you be able to provide the Committee with an organisation chart that shows the number of employees and the different divisions and so on? That might save a lot of trouble for Hansard.

**Mr BUFFIER:** I am certainly happy to take it on notice.

**Ms LOW:** Can I just add that in part A of our submission it does not document all the sections but it details in quite a lot of detail what all those sections do.

**CHAIR:** I am an old engineer so diagrams are the go.

**Mr BUFFIER:** We will provide a diagram, Chair.

**The Hon. LUKE FOLEY:** We are trying to get our heads around the nomenclature. There are branches, sections, divisions. The Forestry Section, as it was referred to, is fresh in my mind—27 people.

**Mr GIFFORD:** That is a section within a division.

**The Hon. LUKE FOLEY:** It is within a branch within a division?

**Mr GIFFORD:** Yes.

**Mr BUFFIER:** We have divisions, branches and sections.

**Mr GIFFORD:** That is a section within our south branch within the Regulatory Services Division that I head up.

**The Hon. LUKE FOLEY:** You are trying to pull off the dual trick of organising yourselves geographically but also by industries that you regulate in some respects?

**Mr GIFFORD:** Exactly.

**The Hon. LUKE FOLEY:** We have to look at in both senses?

**Mr GIFFORD:** Yes. The model that we have is both a decentralised one in terms of having operational staff on the ground to be able to respond directly to community, industry and undertake environmental protection activities across a range of things that we are responsible for, but then we also have staff who have specific roles and functions under particular areas: waste, forestry, radiation control, dangerous goods et cetera.

**Mr BUFFIER:** The only specific industry group that we have got is forestry at the moment in terms of a section. Is that right, Mark?

**Mr GIFFORD:** That is correct.

**Mr BUFFIER:** Under the new responsibilities we will be picking up for gas we are looking at a structure that would have a dedicated unit around gas as an industry sector. So the forestry model that we have got is likely to be replicated in terms of our new responsibilities for gas, but we are working our way through that process at the moment.

**The Hon. LUKE FOLEY:** I want to go to that but can I ask you first: Is the Environment Protection Authority subject to the New South Wales Government's expenses cap—

**Mr BUFFIER:** The labour expense cap?

**The Hon. LUKE FOLEY:** The labour expense cap that was announced, I think, in the 2012 budget.

**Mr BUFFIER:** The answer is yes.



**The Hon. LUKE FOLEY:** Can you tell us how you have managed to implement that budget decision? Has it involved the shedding of positions and, if so, could you point us to the positions that have been lost?

**Mr BUFFIER:** No, it has not involved the shedding of positions. What it has involved has been negotiations with Treasury to have the labour expense cap increased.

**The Hon. LUKE FOLEY:** So you have managed to avoid shedding any staff?

**Mr BUFFIER:** Our numbers have increased, yes. That is what I have been saying for some time.

**The Hon. LUKE FOLEY:** Your budget has been increased—

**Mr BUFFIER:** Our budget has increased and our numbers have increased.

**The Hon. LUKE FOLEY:** —including by the transfer of particular responsibilities for employees to the EPA in part, and you will get back to us with some—

**Mr BUFFIER:** But that requires a change in the labour expense cap as well.

**The Hon. LUKE FOLEY:** So there has been no impact of the labour expense cap on existing staff or positions that existed within the authority prior to that budget?

**Mr BUFFIER:** The labour expense cap has been an issue we have had to deal with and work with, but we have been able to increase our number of staff and we have managed to work our way around the labour expense cap.

**The Hon. LUKE FOLEY:** In layman's terms was it that when the labour expense cap came in you had to go down a bit, but because of other decisions to increase your responsibilities and staff, in net terms you have come out ahead? Is that the best way to look at it?

**Mr BUFFIER:** In the 2½ years I do not think we have had a net reduction in staff at all at any time.

**The Hon. Dr PETER PHELPS:** If the board were to not exist overnight, what practical effect would it have on the operations of the EPA?

**Mr BUFFIER:** I think it would have a significant effect on the operations of the EPA because the board provides a very significant value-adding in terms of their expertise, in terms of the governance issues for the EPA, in terms of the advice they provide to the EPA, in terms of the reviewing of policy documents that are put to them for approval and in terms of advice to the Minister.

**The Hon. Dr PETER PHELPS:** So effectively they are a second set of eyes on the policies which, presumably, you bring forward to them for review and scrutiny?

**Mr BUFFIER:** Yes. We bring a lot of our documents—any significant change in policy would come to the board. They have a very detailed understanding of the EPA and its operations and our policy positions and they provide significant input into that.

**The Hon. Dr PETER PHELPS:** Finally, seeing this will be our last hearing and we will have to make recommendations, would it be fair to say this: Industry thinks you are too heavy-handed in your regulation of industry; the environmental movement thinks you are too light-handed in your regulation of industry. Given that, you have probably found, in fact, a happy medium in the effective regulation of industry in relation to its environmental requirements.

**Mr BUFFIER:** I think that is a judgement for the Committee.

**The Hon. Dr PETER PHELPS:** The second thing: Given that there is not a single governmental organisation which would not like more money or more regulatory authority, do you believe that you are currently resourced and that the appropriate regulatory framework is in place to do your job at the current time?

**Mr BUFFIER:** I think that an organisation that understands clearly what its priorities are can achieve the outcomes that are required of it. Does that mean that we do everything as well as we could or to the satisfaction of everybody? No it probably does not.

**The Hon. Dr PETER PHELPS:** I have never suggested that there is a government instrumentality out there which does things 100 per cent perfectly. What I am asking is: Is there any significant lack of resourcing or is there any significant regulatory gap at the current time that you can identify which makes the job of the EPA difficult to do? Or is the framework generally where it should be for you to do your job properly?

**Mr BUFFIER:** I think from the fact that we have sought to increase our resources successfully over the 2½ years it would give you an indication that we felt there was a need to have more resources than existed at the time the EPA was established. I think that is a significant sort of understanding of where we are. I would certainly like the ability to be able to do things more quickly and in more detail. I would comment, just as an aside, that managing those six stakeholders and engaging with them is quite a resource-intensive process.

**Mr SCOT MacDONALD:** Can you clarify: You said six stakeholders.

**Mr BUFFIER:** I have listed the six stakeholder groups: community, environment, business, government et cetera—and the media. I suppose, to give you an example of that, on Saturday night we got an urgent request from one of the media outlets needing an urgent response by Sunday lunchtime. That required quite a few people to put some time and effort into those responses, and to little overall effect in terms of us being able to tell the full story about an issue. So we are finding that some of these engagements do actually take a lot of time and effort and do not really help us in terms of telling the story very much at the end.

But we are pursuing, to your point, the opportunity for more cost recovery because part of our principles under ecologically sustainable development relate to polluter pays and, as I have indicated previously, we are moving significantly down that path, not as quickly as I would like—again how we have negotiations with Treasury et cetera—but we have introduced cost recovery now for Protection of the Environment Operations [POEO] licence administration and I think on 1 January a new regulation is coming into effect which allows us to retain the funds for charges we would be applying under contaminated land management. So I think there is an opportunity as a regulator for us to move—

**The Hon. Dr PETER PHELPS:** But that is coming through anyway, is it not?

**Mr BUFFIER:** —more into the cost recovery space and, as Mark indicated earlier, we do have the ability to impose requirements on industry in relation to pollution reduction programs et cetera. So if we see a requirement to do something we do have a mechanism, outside of consolidated revenue and Treasury, in order to require industry to do that, which provides us with a lot more flexibility than might otherwise be the case.

**CHAIR:** Do you retain any income from fines and court actions?

**Mr BUFFIER:** We do not retain that, no. Local government retains it when they issue penalty notices under our legislation but we do not.

**CHAIR:** Is that something you think would be worthwhile or, on the other hand, a bit dangerous?

**Mr SCOT MacDONALD:** We would go back to the bounty hunters.

**CHAIR:** That is why I said "or dangerous".

**Mr BUFFIER:** We are not seeking that at the moment.

**The Hon. RICK COLLESS:** Mr Buffier, one of the witnesses we will be talking to later in the day suggests in their submission that the Environment Protection Authority [EPA] should be a fearless regulator of pollution and polluting activities. They are critical of the EPA because they see you as working with companies and they believe that the EPA's objectives and the health and safety of people and communities have been compromised. What is your response to that?

**Mr BUFFIER:** My response to that is covered in large part by what I said in the opening statement, which is why I sought leave to make that opening statement. That is certainly not the way in which we try to

operate the authority. We are very firm in our view about not having regulatory capture by anybody. Our view is that we do need the independence, we do need to have evidence-based approaches to things and we do need to be transparent. I think the view put forward is that the environment takes primacy over everything else and we are to have no regard for anything else. That is not the objectives of the legislation. The objectives of the legislation are quite clear in relation to ecologically sustainable development. That is what we are trying to achieve. We are trying to achieve what the legislation requires us to achieve.

**The Hon. RICK COLLESS:** A couple of the witnesses also talk about the leak at Bibblewindi, which attracted quite a bit of publicity as you are no doubt aware. With respect to the uranium that was found in the groundwater, have you had access to any data that shows what the concentration of uranium in the pond water was?

**Mr BUFFIER:** I might ask Mr Gifford or answer that but I do not think there were any elevated levels of uranium in the pond water.

**Mr GIFFORD:** That is correct.

**The Hon. RICK COLLESS:** What do you mean by "elevated levels"? Was there any uranium detectable in the pond water?

**Mr GIFFORD:** I think it was below the detectable limit. I could clarify that with a question on notice but that is my recollection.

**The Hon. RICK COLLESS:** If it was below the detectable limit in the pond water how could it have been concentrated in the water that was accumulating below the pond?

**Mr BUFFIER:** The chemistry of this I will not provide you the detail on, although we can. Our understanding is that the nature of the water in the pond, including the salinity and PH of it, was such that as it leaked through the bottom of the pond it mobilised uranium that was naturally occurring in the soil.

**The Hon. RICK COLLESS:** There is uranium in the soil below the pond. Is that correct?

**Mr BUFFIER:** That would be our understanding, yes.

**The Hon. RICK COLLESS:** At a detectable level?

**Mr BUFFIER:** I do not think we have sampled the soils separately.

**Mr GIFFORD:** No. Where we detected the uranium was in lower elements of the groundwater below the pond.

**The Hon. RICK COLLESS:** Given that you have made a study of the chemistry of it, is it fair to say that most rock types and soil types in the environment do have some level of uranium in them?

**Mr GIFFORD:** That is my understanding, yes. It varies depending upon the geology and the location and that kind of thing.

**The Hon. RICK COLLESS:** Has the EPA ever done any checks or tests on the background uranium levels in river sediments in the Namoi River?

**Mr GIFFORD:** Not to my knowledge, no.

**Mr SCOT MacDONALD:** Mr Buffier, can I go back to your comment about the media. You were asked for some response, I think, on Saturday. I wondered myself that on Sunday we had a story about basically this inquiry, Santos and Narrabri, timed for the day before our public hearings. You mentioned you had to put some resources into responding to that. It was at the last minute, was it?

**Mr BUFFIER:** Yes. I do not think that related to the story in Sunday's paper but perhaps a story in today's paper, which there was a time line on. The request we got asking for our input into this was at five minutes to eight on Saturday night but it did strike us as a little bit strange because a similar story had run—

**Mr SCOT MacDONALD:** Five to eight on a Saturday night for a story appearing today?

**Mr BUFFIER:** Yes. A similar article had run in the *Northern Daily Leader* back in April, so it was difficult to understand the time pressures.

**Mr SCOT MacDONALD:** What do you think that does to the quality of the debate and the information necessary for people to make informed decisions, if you like?

**Mr BUFFIER:** I think the issue is that we would like to put more resources into making sure that the public understands what the actual position is. On those very short time frames even with the best will in the world it is very difficult for someone to get their head around all of the issues. What I would like to do possibly is to table our response to that request because you can see there that we have provided a very detailed response.

**Mr SCOT MacDONALD:** And what do you get—one sentence in the paper?

**Mr BUFFIER:** I am not making a comment about the sentence but what I am saying is in terms of improving environmental outcomes it would be good to be able to get that story into the general arena. I might have to find where that response is first.

**CHAIR:** That is okay. You can provide it to us at your leisure.

**Mr BUFFIER:** There is quite an amount of regulatory activity that we undertake in relation to radioactive substances. You certainly do not get any comfort from not understanding that. For someone to get across all of that issue in a very short time frame with a few emails is extremely difficult, that is all I am saying. You need to put more time and effort into it if you are going to get good environmental outcomes.

**CHAIR:** Excuse my curiosity but what was the document that Ms Low was waving around?

**Mr BUFFIER:** It was a document around coal seam gas generally, which was another article. I am happy to talk about that as well.

**Mr GIFFORD:** That was a response to a different article.

**Mr SCOT MacDONALD:** Was that the Sunday article?

**Mr BUFFIER:** Yes.

**Mr SCOT MacDONALD:** And these things are popping up a day or so around our public hearings?

**Mr BUFFIER:** Yes. We are happy to table that document too.

**Mr SCOT MacDONALD:** Can I ask you specifically about some statements made by the Colong Foundation for Wilderness. They say in their submission that macroinvertebrate richness below the mine discharge has decreased by 65 per cent and abundance by 90 per cent. Are you in a position to respond to that?

**Mr BUFFIER:** In broad terms we are in a position to respond to that. I think the general statements made by the Colong Foundation we are in agreement with in terms of the licensed discharges do need to be improved. This is something that has been there for a considerable period of time, it certainly predates me and the existing board, but there is room to improve. We have reviewed this licence on a number of occasions. We do believe that the licence conditions on the discharge need to be changed. This is not unique, I suppose. We have other issues with discharges from coalmines. I think West Cliff would be a good example of that where we have significantly tightened up and tightened the restrictions. I will ask Mr Gifford to elaborate in a bit more detail.

**Mr SCOT MacDONALD:** I am going to run out of time so you can take the question on notice.

**Mr GIFFORD:** We are happy to receive information from anyone at any time about environmental impacts. This particular report is one that we are considering currently as part of a review of the licence for the colliery that is discharging into the Wollangambe River.

**Mr SCOT MacDONALD:** My next question goes to the Lock the Gate Alliance submission. Their first point on page 1 states:

Pollution standards and load limits must be imposed based on objective environmental and health standards ... and so unlimited quantities of dangerous toxins are being discharged for example from Hunter Valley mines into the Hunter River, and from flaring at coal seam gas sites into the air near homes.

You would take from that that the Hunter River is in serious trouble. Could the EPA come back to us on that one? It is a very broad statement and the public reading it would be concerned, I would have thought.

**CHAIR:** The question is: Can the EPA respond?

**Mr BUFFIER:** We will provide a response.

**The Hon. LUKE FOLEY:** Could I turn to the White Bay Cruise Terminal. I welcome the authority's clear statements that you would like to do better than the MARPOL commitment. Can you update us on the submission with respect to low sulfur fuel and where you are at with the industry? If New South Wales was to mandate a lower sulfur fuel content for ships visiting the White Bay Cruise Terminal now or next year would that be realistic? In other words, would the shipping industry be able to meet such a requirement?

**Mr BUFFIER:** Just to give maybe a little bit more than you have asked for there, Giselle Howard and I met with Rochelle Porteous, the mayor of Leichhardt council, two weeks ago to discuss what our intent was in relation to ships in ports in Sydney and New South Wales generally. As you said, we have made a number of public statements that we would like to see tighter controls over ships, focused particularly initially at ships in New South Wales ports. On 14 November we convened a large workshop with representatives from the shipping industry. In fact, we were quite flattered that we had people from Norway attend as well.

**The Hon. LUKE FOLEY:** You are doing better than us. We cannot get the CEO of the company to front our Committee.

**Mr BUFFIER:** It would be fair to say that the shipping industry is paying a lot of attention to the New South Wales EPA since we have stepped into this space that has up until now been regarded as being dictated by international conventions and national conventions. At that workshop we made it quite clear and issued a press release afterwards saying that we were determined to do something in relation to shipping emissions in New South Wales ports prior to the MARPOL 2020 deadline. We have engaged some international experts, DNV GL, to assess the technical feasibility, costs and emission impacts of adopting emission reduction measures for ships at major ports in the New South Wales greater metropolitan region.

The three options that are there would be shore-to-ship power, low-sulfur fuel or scrubbers. We think there is the potential to do something in that regard. It is interesting that all Sydney ferries are powered by diesel engines with very low sulfur fuel. Viva Energy at Gore Bay use road grade diesel in their ship the *Destine* there and I think other ships coming in there do too. Not all ships would have the ability to use road grade diesel but certainly some would. We think there is a lot of potential to move down that path.

As a result of the meeting with the mayor we have spoken with New South Wales ports and they are going to reintroduce some air monitoring in that area. We need to discuss with them just what that air monitoring will be on the Balmain peninsula. The mayor was keen to see whether we could do something in terms of two ships berthing at the same time. Because the cruise industry is booming the options there are somewhat more restricted but I think for this cruise season we are expecting about seven ships to be berthing there at double berth arrangements. So we are very confident that we can make some significant improvements. Unfortunately there is not a lot we can do for this cruise season but we think we can certainly reduce shipping emissions in Sydney Harbour and New South Wales ports.

**CHAIR:** On a point of clarification: with regard to putting air monitoring back into the Balmain peninsula, did you say Ports was going to do that or the EPA?

**Mr BUFFIER:** It will be Ports but Mr Garofalow may want to comment on that.

**CHAIR:** My only comment would be—

**Mr BUFFIER:** It is Ports but we would be talking with them about what that monitoring would be.

**CHAIR:** Do not let them put them in wind tunnels.

**Mr BUFFIER:** We will do our best.

**The Hon. LUKE FOLEY:** I welcome the monitoring but I think people are looking for action. I welcome your stated intent. I welcome the stated intent of the environment Minister in question time a few weeks ago. I welcome the statement by the ports Minister, Duncan Gay, who said he would like the industry to lift its game. I think there is a large degree of consensus across political parties. In your authority for a better deal for the residential neighbours, I want to know when the talking will stop. If the industry will not come to the party, when will you bring out the stick? When do you think we can expect some action particularly with respect to low sulphur fuel and scrubbers? What timetable can you give us?

**Mr BUFFIER:** I think a key point is engaging these international experts to do the work because we need to understand what is technically feasible. We could probably introduce a regulation tomorrow which would mean that you would not have cruise ships in Sydney Harbour. So the regulatory ability to do it probably exists now. We do not think we need to do anything special in that regard. Under the Clean Air Regulation, we think we have that power. So the consultants will finalise their report by February I think is the time frame, and at that point we would be looking to make a determination.

**The Hon. LUKE FOLEY:** After February.

**Mr BUFFIER:** Yes.

**The Hon. LUKE FOLEY:** Can I go to coal seam gas? I note the statement on Thursday 13 November by the Deputy Premier, Troy Grant, and the Minister for Resources and Energy, Anthony Roberts. In that statement they announced, "The NSW Environment Protection Authority [EPA] will be the Government's lead agency for CSG, taking over all environmental compliance and enforcement." My understanding is that the EPA assumed the regulation of CSG activities on 28 June 2013. Can you tell us what is new in the November 2014 statement of the Government, compared with what the situation was prior to 13 November?

**Mr BUFFIER:** Certainly. Mr Gifford has been involved in all of the discussions with other government agencies but it is certainly much more extensive involvement than we have had. You are correct, we did take over additional responsibilities some time ago. This becomes even more pervasive now.

**Mr GIFFORD:** I think the two main things are, the first is that it expands the EPA's roles and responsibilities around all types of gas, all types of conventional and unconventional gas, not just coal seam gas. So that includes where there might be gas extracted from shale or sand beds or things of that type as well. So that is different and new. The other thing is, and the particularly important aspect of that announcement is, that it expands the EPA's role and responsibility for the compliance and enforcement of all instruments issued for both the approval and licencing of coal seam gas and gas activities. So that goes beyond our responsibility with respect to environment protection licencing compliance and enforcement but compliance and enforcement of other instruments. Those other instruments are things like petroleum titles and leases and development consents.

**The Hon. LUKE FOLEY:** Will you be issuing the licences?

**Mr GIFFORD:** No. We will be doing the compliance and enforcement.

**The Hon. LUKE FOLEY:** Compliance and enforcement.

**Mr BUFFIER:** Yes.

**Mr GIFFORD:** The current arrangements around coal seam gas, if I can use coal seam gas as the particular example, are that between the EPA and the Office of Coal Seam Gas there is a memorandum of understanding. The Office of Coal Seam Gas is the approval authority for exploration permits and titles, and then the works approvals that flow from those. The EPA has responsibility for the environment protection licence. This change would see the EPA also having responsibility for compliance and enforcement of those petroleum titles that are issued.

**The Hon. LUKE FOLEY:** So you will not issue them but you will have a compliance and enforcement role for those licences as well as your own environment protection licences.

**Mr GIFFORD:** That is correct, and we will continue to play the role that we do now in providing advice on the assessment of the activity prior to those petroleum titles being issued.

**The Hon. LUKE FOLEY:** In light of that change announced by the Government on 13 November, what additional resources will the EPA receive following the November announcement?

**Mr BUFFIER:** We have estimated potentially we will require another \$2.5 million.

**Mr GIFFORD:** No, \$2.9 million.

**CHAIR:** This is a good chance to put the bid in. Go for \$3.5 million.

**Mr GIFFORD:** I missed my opportunity.

**Mr BUFFIER:** We will be raising the matter through the expenditure review committee.

**CHAIR:** Good luck with that.

**The Hon. LUKE FOLEY:** Can you give us a ball park figure on how many of the EPA's staff are currently involved in compliance and enforcement of coal seam gas activity in New South Wales?

**Mr GIFFORD:** We have both a dedicated and integrated model happening at the same time. So there are some dedicated staff who are working solely on coal seam gas activities. I would have to take on notice the exact numbers but it is about four or five.

**The Hon. LUKE FOLEY:** Four or five?

**Mr GIFFORD:** Correct. Beyond that we call on our officers located in our regional offices to undertake site inspections and respond to issues and incidents. So it is an integrated model in that sense. They do not have sole responsibility for coal seam gas; they undertake those activities—

**The Hon. LUKE FOLEY:** I think Mr Buffier said earlier that you are considering a model like the forestry section, in light of the Government's gas plan. Is that right?

**Mr BUFFIER:** Yes.

**Mr GIFFORD:** Correct. For this expanded role and new role that the Government has allocated to us, we are considering the development of a dedicated gas team.

**The Hon. LUKE FOLEY:** The forestry section has 27 people. Where do you think we will end up with a gas team? How many employees roughly do you expect would be in a gas team involved in compliance and enforcement of coal seam gas activity in this State?

**Mr GIFFORD:** Again I would have to take the question on notice to be absolutely accurate, but it will involve at least a dozen operational officers. It will require policy officers, legal officers, scientific officers as well as hydro geologist specialists, for instance, and access to the services that are currently provided to us by the Office of Environment and Heritage around litigation and in particular scientific services.

**Mr BUFFIER:** I think the total amount that we are estimating for staff plus ancillaries, et cetera, is around \$5 million.

**Mr GIFFORD:** In total, yes.

**Mr BUFFIER:** Going forward.

**The Hon. LUKE FOLEY:** Were you involved in discussions with the resources and energy division of Trade and Investment, the Office of Coal Seam Gas and indeed any other relevant arm of government prior to the 13 November announcement?

**Mr BUFFIER:** Yes.

**Mr GIFFORD:** Yes we were.

**The Hon. LUKE FOLEY:** So it did not come as a surprise to you.

**Mr GIFFORD:** No.

**The Hon. LUKE FOLEY:** Are you aware that in the Government's fact sheet "NSW Government's Gas Plan", it states that the Government has created a 150 person strong compliance and enforcement branch? Were you aware of that?

**Mr GIFFORD:** Is that within Trade and Investment?

**The Hon. LUKE FOLEY:** I do not know. It says, "NSW Government's Gas Plan: initiatives this Government has already implemented ... created a community liaison presence in regional New South Wales and a 150 person strong compliance and enforcement branch." Does that come as news to you?

**Mr GIFFORD:** I think that is referring to the arrangements within the Department of Trade and Investment and in particular I think that is both coal seam gas and minerals and resources.

**Mr BUFFIER:** And the issuing of licences and approvals. I think it takes into account the full gamut of what they do.

**The Hon. LUKE FOLEY:** But let us be clear. The Government said compliance and enforcement of coal seam gas will be done by the EPA and by no-one else from now on. Is that right?

**Mr BUFFIER:** The 150 does not refer to us.

**The Hon. LUKE FOLEY:** I am sure you would welcome 150.

**Mr BUFFIER:** If they were paid for.

**The Hon. LUKE FOLEY:** Do you want to put in a bid for 150, in light of this revelation?

**Mr BUFFIER:** As Mr Gifford said, I think that refers to resources and energy. It certainly does not refer to us.

**The Hon. LUKE FOLEY:** It was just a nonsense. There are not 150 people involved in compliance and enforcement. The EPA will have that responsibility and you will have about 12 people. Is that correct?

**Mr BUFFIER:** No, we will have more than 12 people.

**The Hon. LUKE FOLEY:** But nowhere near 150.

**Mr BUFFIER:** No.

**The Hon. LUKE FOLEY:** Can I ask about the environmental protection licence for the Pilliga gas activity? I suspect this is best directed to you, Mr Gifford, as the chief environmental regulator. I understand that there are no load limits currently specified for a range of pollutants, a very long list which I will not read out. Can you tell us why and when do you expect that you will be in a position to impose some load limits on those pollutants?

**Mr GIFFORD:** The licence goes to two separate things. One is about the concentrations of particular pollutants, and that is both to air and water. Secondly, as is the case with a particular activity licence, they sometimes go to identifying pollutants that are subject to our load base licencing scheme. So those are two



different things. The conditions of a licence around discharges, monitoring and concentration, are about the potential for acute impact from the activity. The load base licencing scheme is essentially an economic incentive. What it seeks to do is look at the overall load of pollutants discharging into an environment and allocate a cost per pollutant and by doing that seek to drive down the overall load of pollutants from any particular activity. So the load limit is not necessary in order for that scheme to operate effectively.

**The Hon. LUKE FOLEY:** What was the EPA first advised of the issues regarding the Bibblewindi Pond?

**Mr GIFFORD:** From memory, it was 28 March 2013.

**The Hon. LUKE FOLEY:** Is it not the case that you received a letter on 18 May 2012 from Santos to Ms Jessica Creed at the north-west Armidale coal seam gas project team of the Environment Protection Authority? Have you seen that correspondence?

**Mr GIFFORD:** I think that reference is to correspondence that Santos essentially CC'ed to us that they were providing to the Department of Resources and Energy at the time, which was the regulator for the site at the time.

**The Hon. LUKE FOLEY:** Is it the case that, whether it was CC'ed or not, you were first advised by Santos in that 18 March 2012 letter of issues regarding that pond, leakage from that pond, but that you did not take action until 12 months later? Is that an accurate proposition?

**Mr GIFFORD:** As I said, we were not the regulator at that time. So Santos was not required to provide that information to us. They did that as a matter of, I imagine, full due diligence. We had conversations with the Department of Resources and Energy at the time, which was the regulator and which was considering that information and undertaking action.

**The Hon. LUKE FOLEY:** I turn to the issue alert, which I understand is a document prepared by the EPA, dated 26 March 2013, titled "Potential pollution from a coal seam gas water storage pond in the Pilliga". It goes through the action taken to date by the EPA, the next steps to be taken by the EPA, the recommended action and when the next update will be submitted. It is signed off by you, Mr Gifford. For almost all of the actions there are actions to be undertaken by Santos. I am just wondering why more was not done by the EPA then in March 2013. Why was so much left to Santos to perhaps self-regulate its own activities?

**Mr GIFFORD:** I would not characterise that as Santos self-regulating its own activities. That was the EPA requiring Santos to undertake actions, and part of the challenge for us at that time was that we were not the regulator. We were not the regulator until 28 June 2013.

**Mr BUFFIER:** Could I say one thing, please? On the number of staff in relation to coal seam gas, I think there is a lack of clarity there. Could we supply that on notice, please, to clarify that?

**CHAIR:** Yes, you can take that on notice. Thank you, Mr Buffier and team, for coming in today and giving evidence.

**(The witnesses withdrew)**

**(Short adjournment)**

**KEITH WILLIAM MUIR**, Director, Colong Foundation for Wilderness, affirmed and examined:

**CHAIR:** Before we proceed to questions from the panel, do you have an opening statement you would like to present?

**Mr MUIR:** Yes, I would like to make a short statement.

**CHAIR:** Please proceed?

**Mr MUIR:** My statement goes to the objectives of the EPA in relation to its legislation to protect, restore and enhance the quality of the environment in New South Wales having regard to the need to maintain ecologically sustainable development and it is required when it is doing that to adopt the principle of reducing to harmless levels discharges to the air, water and land of substances that are likely to harm the environment. I would like to refer to a case study of the Clarence colliery. The Clarence colliery is 10 kilometres east of the town of Lithgow, just near the Chifley Highway. It is on the very top of the headwaters of the Wollangambe River and the Wollangambe flows into the Colo, which then flows into the Hawkesbury. When it does so it flows through the Greater Blue Mountains World Heritage Area.

In relation to this mine there has been up to 18 megalitres a day of water being discharged from the mine down the Wollangambe. It has been regulated for many years. This case is not a case of non-regulation but of, I believe, poor and ineffective regulation of that pollution from the discharge. The discharge has elevated levels of metals, high PH and high salinity and these impact on the World Heritage area. The EPA has regulated this mine since its inception. There are water control facilities in place that treat the water chemically to reduce the levels of pollutants. However, there seems to be missing in that control effective feedback to ensure that the operation of the treatment facility and the solution to reduce harm are actually achieved in that it has come to light this year that macro-invertebrate levels in the Wollangambe River are grossly reduced; that the number of these invertebrate creatures that support the aquatic food chain have been reduced by 90 per cent and diversity of the macro-invertebrates has been reduced by 65 per cent to the base case situation upstream.

What this means is that the pollution controls have failed to remove pollution that was causing harm to the World Heritage Area and there was no apparent feedback to identify the cause of that harm on the macro-invertebrates in the stream. Whilst the standards were there, there did not seem to be effective ways of controlling the pollution in a way which would remove the harm to the environment and it appears to me that macro-invertebrate monitoring should be something that should be done by the EPA or by regulation through the EPA to ensure that there is a feedback loop to ensure there is no harm. As a result of knowing that there was harm, the company acknowledged this in March 1999 and stated that it is not an option that is acceptable to Centennial, the Department of Land and Water Conservation, Lithgow Council or the EPA to continue that pollution.

However, the solution that was adopted was to transfer the water or further water from the Wollangambe into the Farmers river catchment. It had been initiated in 1985 and about 30 per cent of the discharge from the mine at some stages during the year would go to Farmers Creek, the drinking water supply of Lithgow city. It was decided to enhance that and the Colong Foundation objected to that and raised it with the then Minister for the Environment, Bob Debus, and then that proposal did not proceed for some time but then it did and ultimately just before the Marangaroo wildfire a 700-millimetre pipe was constructed to transfer more water to the water supply. Why I am concerned about that is that there were noted levels of nickel above the drinking water standard in the water supply and also from 1985 to 2006 this was a specially protected catchment under the previous drinking water regulation and in fact no discharge should have occurred, but it did.

These things are greatly concerning—that the solution to the pollution was something taken that would cause harm to people or potentially cause harm to people and in fact there are still discharges going to the Lithgow drinking water supply and the levels of nickel are elevated in the water that is being discharged to the drinking water supply; that is still an ongoing situation in times of drought for Lithgow city. To sum up: the monitoring of the pollutants does not consider the impact on the biological environment in the World Heritage Area and the review of the EPA in 2001, which I actually have here, recommended the transfer to the Cops River, but then that somehow became a transfer to the water supply for Lithgow, so where it states: "Has any action been or will be taken to prevent the recurrence of non-compliance" this statement is recorded, "investigating transfer of water in consultation with EPA, DLWC and council to the Cops River catchment,

which has similar manganese levels to the natural background." That is my opening statement. I hope that it is clear. It is a very complex situation.

**CHAIR:** That is okay. Is your opening statement written?

**Mr MUIR:** Yes, it is part of the evidence, Mr Chair, which I have tabled. It is in my submission.

**Dr MEHREEN FARUQI:** Good morning, Mr Muir. Thank you for coming to present evidence today. In your submission you mention that the EPA tends to become captive of the industries it regulates and that the regulatory system does not work to protect human health or the environment but lowers pollution toward a standard whilst minimising costs to the industry. Is this a new phenomenon or is the EPA, in your opinion, getting better or worse?

**Mr MUIR:** I believe it is a very natural situation; you are trying to work with people in partnerships to solve a problem. They tell you in committee, I would imagine, that they have financial constraints and that the solution evolves over time and in this case the brilliant idea of transferring more water to the water supply of Lithgow seemed like a good solution. However, there was not a proper description, analysis and risk assessment done so that nickel in this case has been identified, but I would also be concerned about the organic component. The aquifer that they are transferring is a coal seam. There are organic hydrocarbons associated with the water in the coal seam. There has never been any analysis of that and yet it is being supplied to Lithgow. I do not know, and I would like to know, what the actual risk assessment has been of that transfer.

**Dr MEHREEN FARUQI:** Why do you think this has happened? Is it something to do with resourcing of the EPA, the capacity or the expertise within the EPA?

**Mr MUIR:** To some extent it is resourcing and expertise but it is also a culture and it is also something that needs to be continually contested. The only solution is to open up the EPA to questioning, and this is not to attack the individuals but to try to make sure when such matters as harm is occurring, that the questions are properly scoped out to ensure the harm is minimised.

**Dr MEHREEN FARUQI:** You have given the example of the Wollangambe River and the degradation associated with the Clarence colliery as a result of the EPA failing to protect the environment. You have also suggested that both the operation and the regulatory system need review. Could you be a little more specific about what the particular changes might be, in your opinion?

**Mr MUIR:** I think if you have members of the public on the board they can ask questions and receive questions from the public and be a conduit to enable the EPA to be questioned on matters of public concern, such as this example, and I think that is one instrumental action that can be taken. Another is where you are dealing with a sensitive environment, to monitor the biological factors not just the physical factors. It is like if you have a patient, you are monitoring the water and the air around the patient but not examining the patient and examining what condition the patient is in from the physical pollution that is happening and I think that is needed for areas like a World Heritage Area. You need to know what the impacts are and then when you take a regulatory action, has it actually resulted in an environmental benefit or is the company just spending money and not having a benefit? I think the latter is the case in relation to this proposal.

**Dr MEHREEN FARUQI:** Have you had discussions and consultations with the EPA on this particular issue and what have been the response and the outcome of those?

**Mr MUIR:** At the regional level, a good working relationship with the manager, Dr Richard White. He is fully aware of these problems. I have written a report entitled "The Impact of Coalmining on the Gardens of Stone". One of its case studies is this transfer. That is one of two water transfers. This one that we have discussed here is the one that is regulated. There is another which is unregulated that went to the power plants and then the cooling tower in one of the power plants rusted out because it was designed not for saline water but for fresh water and so it collapsed and then had to be rebuilt.

These are solutions that are not very satisfactory and they both suggest that there needs to be more opening up of the Environment Protection Authority [EPA] to questioning by the public about its proposed actions. Perhaps in relation to the licence I mentioned, the 2001 review, this environment protection licence [EPL] for the Clarence Colliery has gone off public exhibition. It was on public exhibition this time and

advertised and some submissions were received, but I think that sort of opportunity needs to be expanded and it needs to a board to be more accountable to the public in relation to the decisions it makes.

**The Hon. LUKE FOLEY:** Mr Muir, for how many years have you dealt with the State's environmental regulator?

**Mr MUIR:** Since 1985.

**The Hon. LUKE FOLEY:** You are a senior figure in the State's conservation movement. How do you and your colleagues in the conservation movement view the State's environmental regulator? They would tell us that they are essentially trying to balance the demands placed on them by industry and the demands placed on them by environmental activists, they take tough decisions and, in effect, when they equally disappoint both of those stakeholders, they are doing their job. Is that a view that you share?

**Mr MUIR:** Well, I do not believe there has been a company that has been shut down as a result of the licensing of pollution. Perhaps there is, but I do not know of one. That is the fine line. The EPA also has difficulty not being a determining authority but a regulatory authority. How does that influence its advice, say, when a development application comes through? Does it say, "This proposal will not meet", or, "This is a marginal case that needs more careful attention"? I do not really see those submissions too often from the EPA. They come through from the Department of Health sometimes but not the EPA. There are times when the EPA should be more outspoken and make its mission clearer to the public. I do not think it is a question of balancing competing matters. It should be a matter of setting the parameters that are required. The standards then should be enforced and if a problem arises in the enforcement then there needs to be more public discussion about that.

In this example, is there a solution to the Clarence Colliery's discharge? Possibly it should be discharged around the water supply catchment and into the Cocks River as the EPA suggested in 2001? Perhaps that should have been the solution but it did not happen and there was not an open discussion about the options for the pollution that was coming out. If you just accept the pollution, then what do you do with it? It becomes a question of expense and a question of transfer in this case, so perhaps that is not a very clear answer but one which is a nuanced answer. I do not think there is a black and white answer, but I think that the standards—

**The Hon. LUKE FOLEY:** We are interested in your perspectives. Is the problem from your perspective one of a weak regulator in the sense of regulatory catcher, that they are essentially captive of the industries they have to deal with on a daily basis, or is the problem inherent in the legislative framework that they are forced to operate under in that it does not give the EPA the strong powers that you and your colleagues in the conservation movement would like? Is it one of those or is it both?

**Mr MUIR:** Certainly there needs to be strong powers and certainly there needs to be third party enforcement. I bring the Committee's attention to the discharges that were taken to the Land and Environment Court by the Blue Mountains Conservation Society. They required a cleaning up of those discharges to the Cocks River that were from a power station. However, that did not solve the problem. The power plant is Wallerawang and it has now closed down. The solution was to clean up but it did not occur. Strong enforcement is necessary but where does it all go? I would like to see more opportunity to challenge decision-making and more transparent decision-making. This goes back to the problem—that the economic issues that go to the professional regulators at the regional senior manager level are not transparent. They make them for sure. They probably make them every day. When they issue an order to clean up, they know it is going to cost. If the mine manager rings up and says, "I'm sorry, if you make us do this we will have to close down next week." What does he do? Probably ring the Minister. All of that needs to be opened up. I do not think it is. I think it is all hidden and buried. It is not just simply a matter of enforcement. It is also a matter of discussing the issues involved.

**The Hon. Dr PETER PHELPS:** Mr Muir, are you aware that Lithgow began to add water extracted from Clarence Colliery to its drinking supply in 2002 ostensibly to try to help make the town drought-proof?

**Mr MUIR:** There was a decision made at that time to augment the water supply, yes.

**The Hon. Dr PETER PHELPS:** And that it was the council that wanted to nearly double that amount in 2009 to more than five megalitres a day.

**Mr MUIR:** That is correct. I believe that is correct.

**The Hon. Dr PETER PHELPS:** And that Lithgow City Council maintains the water is safe.

**Mr MUIR:** Yes.

**The Hon. Dr PETER PHELPS:** And the general manager is quoted as saying, "Based on that information I think we are doing a very good job of meeting water guidelines."

**Mr MUIR:** Right. Do you know that they have, in the past, not met water guidelines in relation to nickel? The water guidelines for drinking is 0.02 milligrams a litre, so 0.02 milligrams a litre is the maximum and that between January 2002 and December 2005, the average level of dissolved nickel was 50 per cent above that standard?

**The Hon. Dr PETER PHELPS:** Is it your assertion the Labor-dominated Lithgow City Council and its administrative staff are misleading the people of Lithgow?

**The Hon. LUKE FOLEY:** It was a National party mayor. I wish the Lithgow City Council was Labor-dominated.

**CHAIR:** Order.

**The Hon. Dr PETER PHELPS:** Not in 2002.

**CHAIR:** Perhaps if the witness would answer the substantive part of the question, not the political side.

**Mr MUIR:** The council were aware of the elevated levels of nickel. They have, of course, a treatment plant. It has to be extremely well maintained. You would be aware of the multiple barrier system for protection of water supplies. In the case of Lithgow, that does not exist. They rely on this treatment plant to get the nickel levels down. I do not feel comfortable with that. I think that if there was a treatment plant at the mine that removed the contaminants so that it did not impact on the health of the water supply or on the Wollangambe River, remembering that the majority of water would be going down into the World Heritage Area, then you would have two layers of protection. You would have the water going into the water supply, meeting the water supply standard for the drinking water, and then going through another plant and it would be safe. You would have at least one fail-safe in it. I do not feel comfortable with the system the way it is.

**The Hon. Dr PETER PHELPS:** Mr Muir, when you have clearly got a situation where a third party is willing to take on the externalities of the coalmine, why is it the EPA's responsibility to effectively vet the coalmine when Lithgow City Council has said, "We will take that water"? If it is anyone's responsibility, surely it is Lithgow City Council's responsibility at that point?

**Mr MUIR:** The determining authority should have regard to the pollution legislation in relation to this matter. My understanding is that they have to ensure that the water that is being treated has contaminants reduced to harmless levels. If they are not, then both the regulator and the decision-maker for the approval of the transfer have failed the community. I believe that is the situation, that the single barrier of a single treatment plant is too high a risk. It poses a risk. If you actually look to some of the advice that residents of Lithgow receive on their council's website in relation to their water supply, there is advice on how to get rid of stains in their washing from floc, literally the muck that is coming out of the mine that is staining their clothes and how they should wash their clothes to remove that stain once it has occurred. Yes, the council may believe it is safe, I am definitely not convinced. The nickel levels have been elevated in the past. The nickel is in the water. The nickel is in the discharge and no-one knows what the organics in the water supply are. No-one has tested them. Whilst we can have a debate about the nickel, because we have some figures, we do not have any data on the organics, the hydrocarbons in the water that is coming out of the coal seam aquifer.

**The Hon. Dr PETER PHELPS:** You mentioned there was a two-third dieback of large invertebrates in the national park. Who did that survey? What do you base that information on?

**Mr MUIR:** I believe the Committee will have received a paper by Nakia Belmer and others, including Dr Ian Wright, in relation to the impact of coalmine waste discharge on water quality and aquatic ecosystems in the Blue Mountains World Heritage Area. I believe that is in evidence.

**The Hon. Dr PETER PHELPS:** Which organisation did these people represent? Was this an academic study at a university or was it a commissioned study on behalf of another group?

**Mr MUIR:** It is by the School of Science and Health at the University of Western Sydney. Yes, the Colong Foundation and the Blue Mountains Conservation Society funded that because we were concerned about the natural environment. We were aware something was seriously wrong. We had written reports in the past. We had brought these matters to attention for more than 50 years and, yes, I was surprised to see that the damage was as great as it was. I thought it would not be as great as it was.

**The Hon. Dr PETER PHELPS:** Environmental studies which are funded by business are to be suspect—

**CHAIR:** Order! Dr Phelps, you are out of order.

**The Hon. Dr PETER PHELPS:** —but environmental studies that are funded by environmental groups are given a free pass. Is that your evidence?

**CHAIR:** Order! Dr Phelps, your time has expired.

**Dr MEHREEN FARUQI:** In your submission you suggest that environmental protection licence conditions must reflect world's best practice. Do you have any opinions on other environmental regulators around the world or elsewhere in Australia that perhaps could be a better model for the New South Wales EPA?

**Mr MUIR:** I am afraid that you are the expert in this area, not me. I would defer to you. Perhaps you can answer your own question. I certainly would not feel confident in answering it and providing a good example

**Dr MEHREEN FARUQI:** It has been suggested that some American States have models that involve industry providing funds for monitoring licences, but the funds are used by an independent authority or consultants to keep them at arm's length. Do you think models like that would improve transparency and independence?

**Mr MUIR:** Having a pool of money contributed by all regulated licensed organisations or industries would then give a bit more arm's length. I am concerned about the independence of some of the reports coming from the mining industry. The report which I quoted and which we funded was peer reviewed. A lot of the advice that comes from mining companies is not peer reviewed. It is often remarkable the amount of information that is missing. Yes, I believe it would be useful to have a separation between the consultant and the mining companies in relation to advice on critical matters.

**Dr MEHREEN FARUQI:** You have strongly suggested that transparency needs to be improved with the EPA. How do you think that could be done both within the EPA as well as in engagement with the community?

**Mr MUIR:** In regard to the board, I think more local government and community representation should be reinstated. I believe it was a mistake to remove those representatives from the board. Community and the local government representatives with appropriate expertise would be very useful on the board and would broaden its experience. I do not have anything further to add in relation to how the EPA could be constructed. I apologise, but I am not an expert in public administration and I do not claim to be. I study issues in detail and get to know them, but public administration has always been a bit of a grey area in my life.

**Dr MEHREEN FARUQI:** That is fine. I am interested in your statement about perverse outcomes that can result when regulatory decisions are not made in an informed and timely manner. You gave one example of extending the pipeline and trying to achieve a good outcome, but that did not happen. Do you have any other examples of how perverse outcomes happen?

**Mr MUIR:** Yes. In relation to the one I discussed, we are talking about a transfer system building a 700 millimetre pipe to transfer water to the water supply. I am disappointed that raising this with the Federal Minister Tony Bourke, who funded it, did not result in a review. It seemed to be a fait accompli. The other examples include the Springvale and Angus Place mines, which are now transferring water to the Cocks River. That is a considerable amount of water as well; these are very wet mines and they are pumping something like

20 megalitres a day currently and that is expected to increase to 35 megalitres a day in the coming decades. That water is not treated, but it is regulated by the EPA. I think there needs to be further conversation about that. It is a lot of water that has unknown impacts on the Cocks River.

**The Hon. LUKE FOLEY:** The stated intent of this Government's reconstitution of the EPA in early 2012 was to deliver the State a stronger environmental regulator. In announcing the new arrangement, the Premier made that his first statement of intent. In your view do we have a stronger environmental regulator today than we did prior to those reforms?

**Mr MUIR:** No, we do not. However, that does not reflect badly on the officers involved. It just means that there is a culture that they need to comply with the needs of industry as well as their licensing. I have seen instances where pollution control licences have been changed so that discharge pollutants can be accommodated. After a treatment plant simply had not performed as it was hoped, the licence was adjusted. That is certainly the case with the Clarence colliery, where the licence was adjusted upwards on more than one occasion, if I remember rightly, in relation to manganese. Does that reflect badly? I suppose there has been more public attention on the EPA in the past two years, but it is a very difficult job.

I think that the only way it can be improved is by opening it up to more accountability and transparency, particularly with regard to economic decision-making. I would strongly suspect that the Committee would have received very little evidence about the economic considerations of the decisions made by the EPA. Probably in at least half of what it does it would consider those issues because in some instances it cannot require the pollution standards that are being demanded. What do the officers do? It is not their fault. They need to open up the debate to that aspect of pollution control.

**The Hon. LUKE FOLEY:** I turn to a question that has not occupied much attention at all in our public hearings. I refer to the question of state of the environment reporting. That is one of the EPA's powers under its Act. As a veteran member of the State's environment movement—albeit one just coming into his prime—what can you tell us about state of the environment reporting in New South Wales? Are you happy with where it is at the moment in both the general sense—that is, the three-yearly state of the environment reports—and in respect of more detailed reports on particular issues of concern to the Colong Foundation for Wilderness? What reflection do you want to give the Committee on the EPA's exercise of its functions in respect of state of the environment reporting?

**Mr MUIR:** These things are so intensely political. State of the environment reporting would be self-censored by the agency itself. I think that that would happen quite a lot. I do not have any good examples to offer right now. You do not want to cause trouble for everybody, including the Minister, by saying, "Well, here are all the problems in the Central West where these mines are struggling; we should close them all down because they cannot meet their compliance rules." Perhaps what you could report on is the overall picture region by region. I do not believe we get very good reporting.

**The Hon. LUKE FOLEY:** In the early 1990s Australian governments adopted the Organisation for Economic Co-operation and Development's pressure-state-response framework for state of the environment reporting. What can you tell us about that framework and do you think that our environmental regulator does well in reporting on the state of the environment in New South Wales under that pressure-state-response framework?

**Mr MUIR:** I am sorry, but I cannot answer that question. I do not know.

**The Hon. LUKE FOLEY:** That is fine; it is not your Mastermind topic. It is not something that has taken up much of our time in hearings, although it has found its way into a couple of submissions, including the EPA's. If you have nothing to add that is fine.

**Mr SCOT MacDONALD:** Do you have any secrets about Mr Foley's camping trip with the Colong Foundation that you would like to share under privilege?

**The Hon. LUKE FOLEY:** I have photos.

**Mr SCOT MacDONALD:** It looked like fun.

**Mr MUIR:** I think we publish all of that in the Colong bulletin for everyone's amusement.

**Mr SCOT MacDONALD:** There are no *Brokeback Mountain* secrets?

**CHAIR:** Cut that out!

**Mr SCOT MacDONALD:** Can you point to any evidence of impact on the world heritage value of national parks? I understand you have specifics about nickel, EC and the like. Is there anything we can point to about impacts on the world heritage area of national parks, particularly in relation to the Clarence colliery?

**Mr MUIR:** I draw your attention to the peer reviewed paper on these matters, which refers directly to that. There is a 65 per cent decrease in macro-invertebrate family richness and a 90 per cent decrease in abundance in relation to the downstream environment as compared with the upstream environment. The downstream environment is the World Heritage Area. In other words, the Wollangambe River in the greater Blue Mountains World Heritage Area is devoid of life to a large extent; it is lifeless due to the discharge from the mine. That is the concern. We are trying to solve that through the EPA achieving its objective of reducing harm to the environment. Its fundamental mission is to remove harming contaminants where they are known to exist. The point I have made about this is that they need to monitor the macro-invertebrates to note and observe their recovery from subsequent actions they take.

**Mr SCOT MacDONALD:** I have conflicting reports on that. We hear from the Foundation about those decreases and Centennial Coal says that that is not necessarily the case. What is the source of your information?

**Mr MUIR:** Right, it is the peer-reviewed report by Nakia Belmer entitled "Impact of a coal mine waste discharge on water quality and aquatic ecosystems in the Blue Mountains World Heritage Area". This is a peer-reviewed paper. I am sorry if that is not sufficient. I think there is more than one paper. I was under the impression that they were going to address this inquiry.

**Mr SCOT MacDONALD:** We heard from the company that the paper has not been peer-reviewed and it has not been published.

**Mr MUIR:** That is incorrect. That is definitely incorrect.

**Mr SCOT MacDONALD:** We hear from one source that it is and then from another source that it is not so I am a little confused there.

**Mr MUIR:** Do you wish me to clarify that? I can.

**Mr SCOT MacDONALD:** If you like, if you could come back to us on notice then that would be helpful.

**Mr MUIR:** Yes, I can make inquiries of the authors. I am sure they can give evidence as to the nature of peer review undertaken.

**Mr SCOT MacDONALD:** That would be good, thank you. On the overall performance of the Environment Protection Authority [EPA], you have said that groups such as the Colong Foundation for Wilderness would like more access to information and to be included in the discussions around monitoring and that sort of thing. How could we make that work? I understand that with a new development everybody gets a say when it goes through a planning process. But, as you have pointed out, this mine has been going for 15 years or more. So what sort of process would you like to see so that the different groups, instead of just shouting at each other from the trenches, could be included and could assist the EPA to do that sort of work in a constructive sort of way?

**Mr MUIR:** There needs to be some process of inquiry where there are known problems—where regulation has not solved the problem and it is a continuing problem. In the case of this mine I think there should be an inquiry in relation to the overall solutions that were made, which would maybe assist the EPA in making a decision. There have been decisions made in relation to this mine, and money has been spent—many millions of dollars—but it has not solved the problem. That is the concern. We need to open it up so that everyone can be aware of the factors involved and a best solution found.



CORRECTED

**CHAIR:** Mr Muir, thank you very much for coming along to give evidence. We would appreciate answers within 21 days of the secretariat advising you in writing of any questions on notice. Thank you very much for appearing before us today. We appreciate your evidence.

**(The witness withdrew)**

**CHRISTOPHER JOSEPH DALZIEL FELL**, Private Individual, sworn and examined:

**CHAIR:** Welcome, Professor Fell, and thank you for appearing before the Committee today. Are you representing an institution here today?

**Professor FELL:** I am appearing as a private individual, but I have done some work for the Environment Protection Authority [EPA].

**CHAIR:** Professor, you are appearing here today in what is effectively a right of reply. I invite you to make an opening statement.

**Professor FELL:** I am a chemical engineer by training, having served in a number of roles at the University of NSW [UNSW], including Head of School, Dean of Engineering and latterly, Deputy Vice-Chancellor responsible for the university's research and international activities. On retirement from UNSW I established a boutique consulting practice to advise government and industry on issues relating to the process industries and research and development generally.

A little over a year ago, the NSW Chief Scientist and Engineer approached me to see if I would be prepared to undertake a consultancy for the board of the EPA on the EPA's handling of mercury pollution issues at the Botany Industrial Park. I reported to the board on 4 December last year, and delivered a written report shortly after. This was also seen by the then Minister, and a copy was sent to the Managing Director of Hg Recoveries Pty Ltd, who had had an extended correspondence with the EPA on the matter. The Managing Director subsequently offered comments on the report, which I was asked to respond to. The then Minister later tabled the report plus the comment-response document in Parliament, making it publicly available.

My principal findings were that the EPA had correctly applied the protocols of the National Environment Protection Measures [NEPM] but that there were a number of instances where their response to community concerns could be improved. Very briefly, the NEPM is a result of a Council of Australian Governments [COAG] initiative where all State Governments and the Commonwealth set down agreed principles for responding to the threat to the community of chemicals on contaminated land. This was inaugurated in 1999. Whilst the NEPM is in part derivative of earlier protocols established by the United States Environmental Protection Agency [USEPA] and others in 1995, it represents the consensus thinking of all Australian State health departments, environment protection authorities, and Commonwealth and university personnel. Many of the figures in the NEPM were revised in June last year. I will leave it at that. I am willing to discuss in detail the issues associated with the EPA's handling of mercury and other pollution at the Botany site.

**Dr MEHREEN FARUQI:** Good afternoon, Professor Fell. In previous testimony given to the Committee we heard from the Managing Director of Hg Recoveries Pty Ltd. According to the transcript Mr Andrew Helps said:

The other thing the EPA does not understand is the hazard index. It is ranking the few things that it has recognised that are off-site PCBs, DDT and all these sorts of things against the ... hazard index. This was an issue that Professor Fell did not go near ...

Do you have a response to this?

**Professor FELL:** I certainly was aware of the hazard index approach. It is one of the approaches that is used, but it is certainly not the only approach. The NEPM has drawn on the hazard index approach and others to come up with its measures. It is perhaps more sophisticated than the hazard index. For the benefit of members, the hazard index is a measure of how much a person can safely take of the chemical. You take the amount that is actually being delivered, divide it by the amount that they can safely take and that gives you the hazard index. Typically if it is one for a chemical that causes cancer then that represents a risk of one in a million people contracting cancer from ingestion of the chemical at that level.

**Dr MEHREEN FARUQI:** Was there a particular reason that you did not address this issue at all in the independent assessment of the performance of the EPA with respect to the activities of Orica at the Botany Industrial Park?

**Professor FELL:** Yes, basically the NEPM postdates the hazard index approach. I personally believe it is simply better.

**Dr MEHREEN FARUQI:** Professor Fell, did the EPA edit or change your report in any way?

**Professor FELL:** In a very minor way, which I should explain. Customarily when I do a consulting report I give it to the client to check that there are no technical errors but I will not change my major findings. There were two instances where the EPA did pick up something. One was that I used the term "residential C" instead of "recreational C" class land. It was purely a typo I am afraid. That was corrected, and it was totally meant to be from all of the context. The second was a suggestion, which I took on board as a very good suggestion, that for any assessment of the level of pollution under the NEPM a particular reading can be 2.5 times the NEPM recommendation and still be acceptable as long as the average is okay. I simply put that in for the benefit of readers.

**Dr MEHREEN FARUQI:** Professor Fell, in your report you state that you have interviewed the EPA and others. Can you tell us who the others were who you interviewed as part of your work?

**Professor FELL:** I did give a list of the people I interviewed at the back of the report. They include community representatives, the Managing Director of Hg Recoveries Pty Ltd and a senior person in the health department.

**Dr MEHREEN FARUQI:** Despite your findings that the EPA correctly considered and applied standards and appropriately addressed the concerns raised by Mr Helps, the community is still very concerned about issues of contamination from mercury and HCB. How do you think that can actually be resolved? What would be your recommendation on how to resolve that situation?

**Professor FELL:** I did make several recommendations in the report. One is to have the EPA people at the community meeting from a very senior level so they are able to commit the EPA so that one does not have to refer back to get agreement on steps to take. The second one was to actually produce more information for the community. I do not just mean bald scientific information but also an explanation of how that should be used. The community was often of the opinion that they were talked over to—in other words the EPA people did not tell them what their thinking actually was, and that is very important.

**Dr MEHREEN FARUQI:** A number of submissions have suggested that the EPA board, as it previously did, should have community representatives and council representatives. Do you think that is a way of improving that communication and engagement with the community?

**Professor FELL:** I am not sure I am really able to comment on that except in very general terms. I think the EPA board should comprise people with scientific expertise—people who actually work in their community and who can not only provide some feeling for how to communicate information to the community but also take information from the community and use it most wisely.

**Dr MEHREEN FARUQI:** Did your report contain any criticism of the EPA's handling of this matter of mercury and HCB contamination and pollution?

**Professor FELL:** Yes, it did; but in very general terms. The analyses that were produced totally separate to the EPA by the Office of Environment and Heritage laboratory were very unfortunate because a number of revisions were provided. Certainly the community would have been quite disturbed by the number of revisions being provided without an adequate explanation for why that was. Having followed the situation, I believe the final set of figures was in fact correct. But it was a bit of a shambles, if I can use that word, getting that information out. There was also the question of the categorisation of one of the locations on which sampling was undertaken. It was clearly Recreational C, that is, HIL C territory. In fact, the EPA, I believe, having seen how good the result was for mercury, said this is Residential A, but it later reported for PCBs that it was Recreational C territory.

**The Hon. LUKE FOLEY:** Professor Fell, thank you very much for your time today. It was the Chief Scientist in the first instance who approached you to see whether you would be prepared to conduct an independent review for the EPA, is that right?

**Professor FELL:** Yes.

**The Hon. LUKE FOLEY:** When did you first talk to the EPA about your possible engagement?

**Professor FELL:** Shortly after. I am sorry, I do not have the date with me of the time, but it was in October. I was invited to meet with the EPA representatives. I really wanted to understand fully exactly what this meant and that I would have the freedom to seek information and deliver a full report, and I was assured of that, even to the extent of questioning them if it was a highly adverse report how would they respond. The response was it is to the board and that is exactly where it should be. On those grounds I was happy to take the commission.

**The Hon. LUKE FOLEY:** One of the concerns that has been raised with this Committee is that you were "interviewed" by senior figures within the Environment Protection Authority before they engaged you. What would you say to that?

**Professor FELL:** Those who know me would say that is not a situation that I put myself into. I was quite clear with the EPA that having been asked by Mary O'Kane to take on this role that I wanted to satisfy myself that it was a proper role where I would have full information and have full freedom.

**The Hon. LUKE FOLEY:** Records before us indicate that the October 2013 meeting occurred on 14 October, and that the Chief Executive, Chief Environmental Regulator and Manager of Contaminated Sites met with you about your potential engagement. Is that correct?

**Professor FELL:** That is correct.

**The Hon. LUKE FOLEY:** Do you believe you received all relevant information from the authority to assist you to conduct your independent review?

**Professor FELL:** That is a very good question, thank you, Mr Foley. Yes I do believe so because I treated it quite forensically. When I was initially given a bunch of emails and other correspondence, as I got deeper into it with the interviews and other things I asked for more and was willingly given them. I believe some confusion has occurred in at least one person's mind because I listed 50 communications between the managing director of Hg Recoveries and the EPA. That person subsequently suggested I had missed 20, but in fact I had seen those documents but they were not between the managing director of Hg Recoveries and the EPA—sorry, the Managing Director, I will call it that and save repeating the whole thing—they were directly to either the Minister or the Minister's chief of staff. I did not include those, although I certainly saw them.

**The Hon. LUKE FOLEY:** I, for one, can vouch for the fact that Mr Helps is a regular on email. It is indeed the case that you had to examine a great deal of correspondence between Mr Helps and the authority and, indeed, Mr Helps and others regarding his concerns. Do you think you examined all of the relevant information to and from Mr Helps in the course of your inquiry?

**Professor FELL:** I cannot give an absolute answer to that. There might be something hiding somewhere, but I certainly believe I examined all relevant information. One of the comments I would make is that there was considerable repetition in the documents. I certainly got the full flavour of what was being suggested.

**The Hon. LUKE FOLEY:** One of the concerns, once again, that has been raised with this Committee is that prior to your engagement when the EPA was considering engaging CRC Care before they moved away from that, I think for proper reasons, that there was an email from a manager in the EPA that suggested perhaps not sharing internal EPA emails. To your knowledge have you received all relevant information from the authority, including internal correspondence?

**Professor FELL:** Yes. When the Chief Scientist approached me, the original task was to be a desk audit of a bunch of emails and she was suggesting maybe a week or so. When I looked at the task and discussed it first with her and then with the EPA I said, "That's not what I'm interested in doing. If it's going to be an inquiry it will be a full inquiry", and they subsequently provided me with, I think, 50 or so emails, which I augmented by getting further information as a result of discussions with the community, with Mr Helps and with others.

**The Hon. LUKE FOLEY:** One of the problems we have had on this Committee is that we are all laypersons—none of us have expertise, to my knowledge, on the sort of duelling cases here from Mr Helps and from the authority. How would you summarise to us, as laypersons, what happened here? Is it the case that the EPA got it right and Mr Helps is wrong or is it the case that the EPA got some or most things right but was not

perfect and that Mr Helps, whilst wrong in some respects, was right in some others? Where would you put the needle on that pendulum?

**Professor FELL:** At the end of the day, from a scientific viewpoint, the EPA's job is to follow the appropriate guidelines for handling pollution. They did follow those; that is in the NEPM. We are actually talking about a total of 40 samples only. Initially they were taken by Mr Helps and then the EPA, as a result of Mr Helps' samples, broadened it out and had the Office of Environmental Health do samples, which were more widely examined. You have asked me would it all have happened—or I interpret what you have asked me is would it all have happened without Mr Helps' involvement? I believe there was sufficient concern amongst the Botany community about mercury for the EPA to have taken the step it did, and indeed the Minister set up the independent review, which has tracked down towards doing a much wider set of sampling.

I think it is worth saying that if you follow the dynamics of this story, if you like, that initially it was all about mercury. The evidence to date suggests that mercury is not a major problem. That, of course, was backed up by CDM Smith in their report. That is not to say that the pollution of groundwater is not serious and that is being treated. It is not to suggest that the vapour mercury that crosses across to the Botany Hillsdale area is not serious. But, in fact, the steps that were taken to treat that contaminated site do appear to be correct. The dynamics of the whole situation now change, in that no longer is mercury the key thing. As a result of these measurements taken, PCBs—polychlorinated biphenyls—which is a particularly nasty thing with a tolerance of 1 milligram per kilogram, 1 PPM, and possibly HBR—but that turns out, with these 40-odd samples, to not be a problem—and then what we call PAHs—hydrocarbons of the like of benzene and toluene and things like that—and some metals are. It is worth saying about the metals that the Botany Hillsdale was an area of tanneries and chromium was widely used in tanneries and you will expect to find a bit around.

As far as lead goes, that was used in tetraethyl lead. Did Mr Helps' study precipitate getting to this end? You really have to ask the EPA about that, but I would expect you would find in any industrial area of Sydney significant traces of some of these non-mercury compounds. That is not to say they do not intend to, but would you examine all areas of Sydney, so to speak? You have to decide which might be the biggest problem. Correctly, we are now looking at it widescale—not 40 samples, but many more—to ascertain if there is a major problem in the Botany Hillsdale area and I think, in my view, the EPA has taken the right steps in that direction.

**CHAIR:** Over to Dr Phelps now.

**The Hon. Dr PETER PHELPS:** Unfortunately, Professor Fell has just answered the two questions I was going to ask in relation to mercury as a problem and the EPA's response to it at first instance.

**CHAIR:** In that case we will revert to Dr Faruqi.

**Dr MEHREEN FARUQI:** You have had a long career as a chemical engineer and I am presuming you have had engagement with the EPA in all its different shapes and forms throughout that career.

**Professor FELL:** Not a lot. Having said that, the Department or School from which I came, which founded my career, was the first in Australia to offer a Master of Applied Science in Environmental Pollution Control. In fact, many of the current officers in national EPAs are a derivative of that degree. Whilst I was Dean of Engineering I was heavily involved in establishing the environmental engineering degree. So I have been in there but not talking directly—

**The Hon. LUKE FOLEY:** You taught them everything they know.

**Dr MEHREEN FARUQI:** I am a beneficiary of that environment.

**Professor FELL:** If I can expand on that for one second. My knowledge of chemicals in the environment is heavily conditioned by the fact that I worked for quite a few years in removing pollutants from water by membrane processes. That is another story.

**Dr MEHREEN FARUQI:** Many of the submissions that have come to the Committee are suggesting that there is a perception that the EPA is captured by the industry and that it needs to become stronger and a more fearless regulator in order to protect our environment and our communities. I am just wondering if you have any knowledge or opinion of how that could happen: how could the EPA address all these issues that have been raised with this Committee?

**Professor FELL:** In this instance of mercury pollution of Botany I do not believe the EPA has been captured by industry. I believe there is a healthy relationship between the two. The EPA has leant on Orica pretty hard. Casting the net wider across the world it is a problem for EPAs to strike the balance between the community and industry because obviously if we want economic development we probably do need to have industry involved in that and obviously the community has real concerns about the health aspects. But I think we have to bear in mind the question of risk in this whole pollution control situation. In other words, one part in a million of possibly contracting cancer; that is a very much better health risk than driving home from here today or catching an aeroplane.

**Dr MEHREEN FARUQI:** Just exploring that risk a little bit more, we do know that there is no safe threshold limit for mercury contamination in residential areas. In those sorts of things should we be using the precautionary principle and avoid risk altogether because of what could happen?

**Professor FELL:** Can I question your comment that there is no safe limit? Mercury is not a carcinogen, it is not a cancer producing pollutant. There is, supposedly, if you read the literature—and the latest literature—a safe limit for mercury, and that is enshrined, if you like, in various countries' pollution regulations.

**Dr MEHREEN FARUQI:** Is it enshrined in New South Wales regulation, do you know?

**Professor FELL:** It certainly is. Insofar as New South Wales has back-to-back legislation with the Commonwealth adopting the National Environment Protection Measure [NEPM] and it gives values for both methylmercury and mercuric compounds, it does not give figures for elemental mercury. That is the mercury we used to see in thermometers. World Health gives a figure of 0.2 micrograms per cubic metre for air that people breathe. In fact, the EPA's regulation on the licence is 0.1. As far as mercury goes, there is pretty well-established literature. I contest the comment that was made by the MD about that.

**The Hon. LUKE FOLEY:** Could I just follow up on the question of whether there is a safe level of mercury. I note at page 2 of your review report in your executive summary you state:

Unfortunately the NEPM does not give a maximum safe value for mercury in soil where some of the mercury is in elemental form ...

What do you mean by "unfortunately"?

**Professor FELL:** If it had said the level should be 10 milligrams per kilogram, 40 parts per million, which is the figure for methylmercury, which is not very nice stuff, or 44 mercuric compounds, it would have been so much easier. We would have known where we were coming from because the maximum figure in these 40 samples was 5 parts per million and the average was less than 1. But it did not give that. If you go back to earlier treatments by the United States Environmental Protection Agency you will find that the level for elemental mercury comes out as about between 20 and 40 depending on assumptions you make, so we are looking pretty good on that.

The reason why they do not give a figure is if you have just a solitary drop of mercury it will actually vaporise at quite a high level but, because it has trouble getting to the surface if it is underground and it gets diluted by the air, it fairly quickly gets diluted well below the World Health figure of 0.2 micrograms per cubic metre. The NEPM says if you have elemental mercury present you should do a full detailed study. In fact, that is what the Human Health and Environmental Risk Assessment did. That is a 2008 one followed by the 2013 update of that, both by highly reputable environmental consultants. So in fact you have a situation where with the NEPM legislation at the moment you have to do the sums each time rather than just compare it against a figure.

The other comment I would make is if you have got elemental mercury in soil it is going to evaporate over time, or complex with the soil, and the latter is much more likely so you would be arguing against that 10 and 40 figure. Just imagine for a moment if you can—forgive me, it is the teacher in me—you have got one part per million in this room. Right over in that corner you have got a microdroplet or a nanodroplet of mercury and it decides to evaporate. It has to get its way through the soil and then it gets diluted by the air when it gets up there. But it is gone when it evaporates; there is no more mercury in the soil. The Orica plant stopped producing mercury or using mercury in 2002, so in fact that is it. The only source of mercury now is any off-gassing from contaminated soil. Sorry, I have gone on a bit, Mr Foley. I cannot resist talking science; that is my nature.

**The Hon. LUKE FOLEY:** Would you agree that the errors by the laboratory, if I could put it that way, and the three revisions three of the test results contributed to community distrust or disquiet?

**Professor FELL:** Of course they did, and not unreasonably. They would expect people to get it right. In fact, if you have a look at the three changes that did occur, the first one, if I can go on for another second, had to do with reporting. In fact, the Office of Environment and Heritage [OEH] reports a level that is half the detectable limit. In other words, if your machine only detects to 10 parts per million even though there is nothing detected it would report 5 parts per million. It is just a convention. However, when you sum up the contributions from a lot of things that are not detected at half of the limit of detection you get a strange result. That was the first revision, to actually fix that one up.

The second one was they basically found that they had made a mistake in the calculations and in fact for the metals they were 100 times higher than they reported. That is pretty terrible. I am trying to remember what the third one was. Forgive me for that. But let me say they are obliged to correct as soon as they find something. As is moved up the managerial chain in OEH it was picked up and the final figures were correctly given but I totally understand the community's concern. They expect to have good data and for it to be freely made available to them.

**The Hon. LUKE FOLEY:** Various internal correspondence suggests that one of the explanations for the errors was the requirement to get the results back very quickly to meet a timetable for media releases or commentary. In your expert opinion would it be better to hasten slowly and get the testing results right rather than being hostage to a demand to fit in with some predetermined timetable for media commentary?

**Professor FELL:** Clearly, the right thing to do is to get it right but what person can withstand a big media concern—I will not say attack—about this issue? I have read the emails and I can understand why it happened. Unfortunately, it should not happen.

**The Hon. LUKE FOLEY:** Finally, a concern has been raised with us that four versions of your report were run by the EPA before its final submission. What would you like to tell us about that? Could you put us at ease that your work was not subject to oversight or the like from the EPA?

**Professor FELL:** That is a very valid question.

**The Hon. LUKE FOLEY:** Can we be satisfied that following the draft versions the final version is completely your work, completely and utterly independent and not subject to any rewriting or revision by those who engaged you?

**Professor FELL:** You can be totally assured that every word written was by me. Can I briefly explain why there were four versions? I have told you about two of them. One of them was the miswording of recreational for Residential C. That was one. The second was a valid suggestion, as I said, about explaining how one reading could be 2.5 times the Health Investigation Level [HIL]. The third one was a date that I had got wrong for the submission. I changed it from I think the 10th to the 19th.

The fourth one, however, was a result of the EPA's wishing. The report was originally written for the board and the EPA decided they would like to make it available to a much wider audience. I had written the report as one would a scientific report and I became concerned about the risk of action being taken because our defamation law is pretty loose in this direction. So I took advice and after that advice I produced a redacted version where I chose my words carefully. Rather than saying something was wrong I said it may be wrong. Those were the four. All versions and the final report were totally mine.

**The Hon. LUKE FOLEY:** When you were first engaged you understood the engagement to be that you would report to the board and that your report would not be publicly released?

**Professor FELL:** That is correct.

**The Hon. LUKE FOLEY:** At what point did you learn that the EPA wanted to release your report more widely?

**Professor FELL:** I was asked by the EPA chair if in fact it would be okay to release the report more widely, initially to the people concerned with the oversight committee that was established for the mercury

activity at Botany. I said that before that can be done I do need to get legal advice because obviously it would go out to a much wider audience, and it did. It went to the press, I gather. At that stage they then decided the sensible thing to do would be to make it widely available so people could see it.

**Mr SCOT MacDONALD:** You talked about the sampling and said it started off being probably inadequate. Are you satisfied now that there is sufficient sampling?

**Professor FELL:** What has happened is for stage two of the implementation plan the contract has been let to WSP Environmental to go and take many more samples. In fact, the EPA really could not go into people's backyards to take samples. The new sampling regime will offer people who put their hand up to have their backyard sampled; to actually have someone go into them and take samples. Having read a previous transcript, you have been obviously been over this area in some detail. I am confident now that we will have a good set of information. In addition, there is quite a bit of debate about the quality of mercury in air monitoring. I believe that problem has been resolved with a sensitive instrument now to be used.

**The Hon. Dr PETER PHELPS:** You mentioned the unfortunate oversight of a safe level of elemental mercury in soils missing from the NEPM. As part of the recommendations of this Committee do you believe it would be advantageous for our environment Minister to recommend at the next Council of Australian Governments meeting that he goes to that there be an elemental mercury standard set, or do you believe it such an isolated problem and the issue of evaporation to be such that there is no need to have an elemental standard set?

**Professor FELL:** I would see great benefit in having an elemental mercury standard set with some explanation of how it is derived.

**The Hon. Dr PETER PHELPS:** Presumably that is largely so there would be, if you like, an ease of mind of those people who ask what the safe standard is and say that there is no listed safe standard. If there were a nationally accepted safe standard you could point to that.

**Professor FELL:** The issue I think that is on the table is if you go low enough in total mercury concentration in the soil, if you have to assume it is elemental mercury will there be a significant off-gassing? I suspect not because if mercury has been around in the soil for a long time it has probably reacted to form either methylmercury if it is a wet soil or a mercuric compound. It is like any metal: it will oxidize.

**CHAIR:** Thank you very much for agreeing to give evidence today. It was most illuminating. As Mr Foley elucidated, we are not all that technically competent so having someone like you here is of benefit to the Committee and our findings. We would appreciate it if we could have answers to any questions that come up on notice within 21 days. Thank you once again for agreeing to give evidence.

**(The witness withdrew)**

**(Luncheon adjournment)**



**ALAN ROSEN**, Resident, Balmain, affirmed and examined:

**CHAIR:** Are you appearing as an individual or are you representing a group or an institution?

**Professor ROSEN:** I am appearing in my capacity as Chair of the Clontarf Cottage, which is a community centre in the immediate vicinity of where the cruise ships are.

**CHAIR:** Thank you. We have a submission from you. Before we begin the examination by the Committee, would you like to make an opening statement?

**Professor ROSEN:** I was saying first of all that I represent a community centre, and it is the local site where the residents who are concerned about the issue of the overseas cruise terminal meet. I am no expert on environmental public health issues generally. I do have a background in community psychiatry and I have a position as a professorial fellow in public health at the University of Wollongong, as well as my more substantial research position at the University of Sydney. I am generally in favour of a working harbour and have no problems with the ships being there in general. It is just the configuration and the emissions particularly and other environmental effects that the community is concerned about.

Generally as a community we feel that it is a very bizarre concept, putting a huge overseas shipping terminal with very toxic emissions up against a densely populated residential area. It is something that most communities would not understand or tolerate. It was not so close to any housing in its previous location at Barangaroo, but in fact it is an issue that I think should concern the whole of Sydney because eventually the whole of Sydney will get badly polluted if we allow this sort of thing to continue. But it is causing very distressing health effects to our local community. That includes headaches, streaming from conjunctiva and various other membranes, inflammation of mouth and other membranes and a lot of respiratory problems in the short term. We are aware that most of the toxins involved, including sulphur dioxide, nitrous oxide, toluene, benzene and formaldehyde, all are also proven long-term toxins in terms of cancers.

We are also concerned about the response from Health in this regard in that they agree that all these emissions are very toxic. They consider all the research to have been done and they are not taking account of what is happening to our community in terms of recording both the quantity and qualitative effects on the community. We think they should be doing so. But more centrally we think there needs to be some immediate amelioration of the impact of these ships because the science is in, we know how toxic these emissions are, the funnels are in line with the houses in a very densely populated area. We know that if we do not do something about it, Sydney will become like Hong Kong, where you cannot see the city by day; you have to wait for the lights to come on at night. Basically, we will end up just seeing the city on New Year's night and during the Vivid Festival if the emissions get as bad as they are in some of the other heavily used ports. We know the tonnage involved. Some of the research has been done by our local community.

We do not have experts in the field but we have people with science backgrounds and microbiology backgrounds who have looked at that. We know the exact tonnage of impact of these emissions, and we know how they could be well ameliorated. So the first thing we need to think about is whether the ships can get shore to ship power as this seems to be not an immediate thing that can be addressed by the EPA, so we are told. Then it means that the ships should be moved as soon as possible, that much more low toxic fuels should be used, including lower levels of sulphur dioxide because the rates that are allowed in Australia exceed the international WHO rates by 35 times. They allow up to 3.5 parts per 100,000, and the WHO level is 0.1. So that should be dealt with immediately by this Government. We do not have to wait for the change to the Australian standard if this Government has a will to do something to change it.

**Dr MEHREEN FARUQI:** Thank you for coming today to present evidence. In your submission you raise some serious concerns about the health problem clusters around the White Bay terminal since the ships started docking there. Can you explain a little bit more what those concerns are, what you have seen or others have seen in terms of illnesses and what are your fears about the long-term implications if this goes on?

**Professor ROSEN:** The range of illnesses, the first thing that seemed to crop up that I am aware of were respiratory disorders, and this occurred at all ages and some people who are already vulnerable to respiratory disorders but their respiratory physicians, who are prepared to testify, have said that their new exacerbations are substantially due to the emissions. However, the thing that also concerned me was that there were not just exacerbations; there were a number of people with new disorders and also little kids who are not

part of the campaign to try to do something about the ships and are obviously not part of the explicit concerns, but very little kids, some of whom are not talking yet, also have respiratory complaints.

As for other complaints, in the main there is a wide range but the ones that we hear about most often are headaches, and they are possibly due to the emissions, the vibrations and the noise, the streaming of eyes and other membranes and inflammation of mouths, and we hear about people having disturbed sleep, and that is obviously going to result in a number of stress disorders and result in anxiety and depression, which is more my territory. But the main thing is at the moment the wide range of disorders. Our other concern is that public health feel that as the research is already in, and they have established this association, they do not feel that another scientific study would make a difference, and I agree with that. But I think they should be documenting a possible cluster of events, both quantity and qualitatively, and there should be much more monitoring of what the effect is on the community. But as the science is in, I do not think we should be delaying the amelioration.

**Dr MEHREEN FARUQI:** Have you spoken to the health agencies in terms of documenting the effects?

**Professor ROSEN:** I have.

**Dr MEHREEN FARUQI:** And what has been their response?

**Professor ROSEN:** We initiated some meetings through the public health department, initially at Royal Prince Alfred Hospital. They invited all the other agencies, which I think was appropriate, and we have had a series of eight weekly meetings since then. But what public health says, and public health at the Ministry of Health is also represented there, is that first of all they should have been consulted when the ports authority was trying to establish the cruise terminal there and they were not consulted. This is a letter from the Minister for Health, Jillian Skinner, who said they were not consulted as part of that process.

Secondly, they see no point in running a study because the science is already in and you would need to establish very large population effects. I understand that. Also, a public health study takes a long time. But there is enormous concern in the community, and it has been left to the local community and particularly to one school group which has done a qualitative study and are getting many, many responses in terms of the distress, the fear, the concern of those families and particularly for their kids. That is coming through so there are qualitative effects that are not being tracked formally at the ministerial or the departmental level, and I believe they should be doing so.

**Dr MEHREEN FARUQI:** Even though the Health Department is saying a public health study would be expensive and long term. I know you have had three meetings with various government departments on this issue. Having spoken to the community and read the submissions, I know there is a bit of frustration in the community that yes, government departments are talking to them but there has been no tangible outcome or action as yet coming from them. So in your meetings has there been I guess a promise of some action?

**Professor ROSEN:** No, and that is the major concern. There are people who are suffering currently from those not short-term effects but more immediate effects which are ongoing because the number of ships coming into that terminal is increasing. We have two there today, and there is expected to be 140 this season and it will keep going up year by year almost exponentially eventually. So we are concerned first of all about how many ships will be there simultaneously, how many stay overnight and the impacts of all these ships. So there is no action being taken that will ameliorate this immediately. Now there are actions they could take because we know of those immediate effects. We know that they are valid because of the studies that have been done in the past, and we also know that it is valid that there will be long-term carcinogenic effects on the community, especially as it is at such close quarters.

What has not been studied is a community that is at such immediate close quarters to the funnels. It is not just where the ships are situated right next to suburban streets, but it is where they are in terms of them being below a cliff and the cliff is level with the funnels or the top of the cliff and that is where the suburban streets are and they are very densely packed. So that has not been studied effectively, and again that would take time. But rather than take time for a long-term study and then be sorry afterwards, we should be taking preventive action now and there are preventive actions that could take place and there is no promise whatsoever after four of those meetings convened by public health but now joined by all the other departments, all other relevant bodies, including the regulatory bodies, including the EPA.

**Dr MEHREEN FARUQI:** One of the preventive actions you mentioned which could be done pretty quickly was the issue of the fuel, that the EPA could stipulate a fuel with a much lower sulphur content.

**Professor ROSEN:** That is right, particularly the sulphur content. Having much less toxic fuels, much lighter fuels, is an important thing that could be done but the most immediate thing that could be done, because they have not completed their studies, they put it out to consultants about when we could have shore to ship power, and some of the ships have the capacity. The most immediate thing that could be done if we have the shore to ship electricity capacity would be to move the ships that were already capable of it onto it. That is not possible and we have no time estimate about how long it will take or whether it is possible. We are getting long-term possibilities only and they are only in the realm of possibilities but the action that could be taken is we understand that at Garden Island there are facilities for shorter ship power.

The current international standard is shore to ship power, which is also called alternative maritime power or on-shore power supply. It has been applied in most of the Northern Hemisphere ports and particularly in the largest American ports, including Los Angeles, Long Beach, Miami and New York. We have not got any of that; except the Navy has it. That is one possibility. The other possibility is just to move the ships further away, and that is Glebe Island, but that would take some rearranging of the temporary convention centre facility there. There is no good solution but there are better solutions to what we have that are causing such an impact on the residential community.

**The Hon. LUKE FOLEY:** Professor, thank you very much for your submission and for giving evidence today. Could I pick you up on one comment you made in answer to Dr Faruqi. You talked about overnight berthing. Could you tell us how much of a problem that is? How many of the ships berth overnight?

**Professor ROSEN:** I have not got that information but some of the people who are here with me would have that information.

**The Hon. LUKE FOLEY:** In your experience is it a significant problem?

**Professor ROSEN:** It is.

**The Hon. LUKE FOLEY:** So there are regular overnight berths, are there?

**Professor ROSEN:** They are not regular; they are intermittent and some ships are doing it obviously because they are coming in at the same time as another ship and they cannot use the facility, which only operates for one ship at a time; I assume that is what is happening today when there are two ships berthed there. Sometimes it is for repair or post-repair. We have had a ship recently, a very large ship, stay there for over a week, and these ships are up to 90,000 tonnes so they are not moderate-sized ships, they are large ships.

**The Hon. LUKE FOLEY:** That is news to me because my understanding until now has been that almost every ship that berths at the White Bay Cruise Terminal comes in in the morning and leaves in late afternoon but you are telling us there is a significant issue of overnight berthing?

**Professor ROSEN:** Yes. Can I call for information about the numbers?

**CHAIR:** Take that on notice.

**The Hon. LUKE FOLEY:** We might ask you to get back to us with some more information after today?

**Professor ROSEN:** Okay. And why it is a more severe effect is that it is already affecting people with effects that occur, not just the day the ships arrive or come and go—they are ongoing effects—but particularly if they stay overnight, and they all exceed their noise limits on the monitored noise limits and the vibrations are significant, and some people are very affected by that, and that means that affects sleep, and then you enter my territory of how sleep gets to anxiety, depression and trauma effects.

**The Hon. LUKE FOLEY:** And of course with ships berthing during the day on Mondays to Fridays fewer people who reside in Balmain and Balmain East are exposed to those emissions because they are at work?

**Professor ROSEN:** There are a lot of kids around.

**The Hon. LUKE FOLEY:** Sure, but my point is that if the ships are there overnight, then almost everyone is exposed?

**Professor ROSEN:** Yes.

**The Hon. LUKE FOLEY:** Because the emissions are continuing through the night?

**Professor ROSEN:** That is right, but they stay through the weekend as well, so it is not just a Monday to Friday effect.

**The Hon. LUKE FOLEY:** The industry has told us in submissions to this inquiry that there is hardly any overnight berthing. You contest that?

**Professor ROSEN:** I contest that.

**The Hon. LUKE FOLEY:** I commend you and your neighbours for coming up with not just protests but solutions for us to contemplate. There are three major solutions that I hear from the local community—shorter ship power, lower sulphur fuel and scrubbers on the ships?

**Professor ROSEN:** Yes.

**The Hon. LUKE FOLEY:** Let us deal with them in order. To your knowledge the ships that berth at the White Bay Cruise Terminal are equipped for shorter ship power, would that be correct?

**Professor ROSEN:** Just a little bit less than half of them are equipped currently. Most of the others are ships which would be rejects in the Northern Hemisphere and from the cruise routes elsewhere, so we have the rejects.

**The Hon. LUKE FOLEY:** This is the problem, is it not, that tougher regulation in the European Union and the United States of America—

**Professor ROSEN:** That is right.

**The Hon. LUKE FOLEY:** —means that we are getting the older, dirtier ships?

**The Hon. Dr PETER PHELPS:** The fish that John West rejected.

**The Hon. LUKE FOLEY:** Indeed.

**Professor ROSEN:** That is right.

**The Hon. LUKE FOLEY:** And the only way to deal with that is to raise the bar—

**Professor ROSEN:** That is right.

**The Hon. LUKE FOLEY:** —in New South Wales, is it not?

**Professor ROSEN:** I have heard that the environment Minister, Rob Stokes, has stated that in some obtuse way he would consider linking the solution for the former White Bay power station with the fate of the cruise terminal. The only way I could see that linkage working is if you consider that these ships are already antiquated, vintage ships and we could turn the White Bay ex-power station into a museum for antiquated cruise ships. It would be very popular.

**The Hon. LUKE FOLEY:** Indeed, I think it was probably a longbow being drawn linking those two. If one is to take an optimistic view the community has the attention, I think, of all of the parties in the Parliament. I think there is a cross-party consensus sympathising with what your community is going through. I do not think it is a contested debate. I think the Environment Protection Authority is well intentioned here.

**Professor ROSEN:** Yes.

**The Hon. LUKE FOLEY:** I think the environment Minister and the ports Minister have made statements in the Parliament calling on the industry to do better?

**Professor ROSEN:** I agree.

**The Hon. LUKE FOLEY:** With all this goodwill that you have from Ministers, parliamentarians and environmental regulators, can I ask: when is it time to stop the monitoring and studies and actually take tough regulatory action? Have we reached that point or do we need to do more studies?

**Professor ROSEN:** I am not talking about stopping the monitoring; I think that should be ongoing but I do not think that is the priority. The priority is, as we already know, the effects of those emissions. We also know how concentrated they are because of geographically where they are located. I think we need to take amelioration action straightaway and continue the monitoring as well, including the health and qualitative effects on the community, but I think the priority is taking immediate, concrete action, and that means finding another spot for those ships until shorter ship power can be installed and even so there is a problem for the rest of Sydney.

I think we should be looking at lighter fuels for the whole of the Sydney Basin and we should be talking about how to save the city from disappearing, as I was saying earlier. But I think immediate action needs to be taken on behalf of this community that is suffering the immediate deleterious effects. We really do need to find another spot for these ships immediately and if the overseas terminal is going to stay in action, it should stay in action with shorter ship power only and only ships that have that fitted and that can use it should be allowed there.

**The Hon. RICK COLLESS:** Thank you, Professor, for coming in today and for your submission. Following on from this issue of the fuel, the fuel that the majority of these ships use, as I understand it, is what they call bunker fuel. Can you give us a description of the problems with that fuel? What is in it that is causing all these issues?

**Professor ROSEN:** I am no expert on this and it is outside my area of expertise but my understanding is that these are high benzene, high toluene, high formaldehyde fuels, as well as the sulphur dioxide content and also the particulate matter, both at 2.5 PM and 10 PM, only one of which is being monitored at the moment—the larger of those, so we need to deal with all those aspects of the fuel that are there. They are particularly high sulphur dioxide fuels. I understand from the EPA that this is a problem, not just for the ships but it is a problem for the trains that come into Sydney as well.

**The Hon. RICK COLLESS:** So we are talking about fuel that is accessed in Sydney Harbour itself?

**Professor ROSEN:** Yes.

**The Hon. RICK COLLESS:** Not fuel that is accessed somewhere overseas and they bring it in?

**Professor ROSEN:** I am not sure what they do but they have a supply of it and I understand that the proprietors of ships say they would have some difficulty bringing in the other fuels, but I think it is just a matter of a trip from Singapore, so it would not take long. The issue is whether the Government insists that they use these much cleaner fuels. If they insisted I think there would not be much of a problem bringing it in.

**The Hon. RICK COLLESS:** Those ships actually do refuel at White Bay itself?

**Professor ROSEN:** Yes.

**The Hon. RICK COLLESS:** Is that via a tanker that pulls up alongside them?

**Professor ROSEN:** Yes, a small one—a tanker ship.

**The Hon. RICK COLLESS:** Yes, I understand. That sort of fuel is also used in other marine vehicles on Sydney Harbour or are you unsure about that?

**Professor ROSEN:** I would not know but it would be my assumption that that is so.

**The Hon. Dr PETER PHELPS:** Your submission talks about representations to the relevant government departments and Leichhardt Council. Could you give an indication of Leichhardt Council's role in this matter to date?

**Professor ROSEN:** Leichhardt Council has been uniformly supportive of the action that the local residents are taking and we have had support from the different political parties represented there, and they usually attend the community meetings and provide that support explicitly.

**The Hon. Dr PETER PHELPS:** In answer to a question on notice which they took after the last hearing they indicated that they were not seeking to get legal advice in relation to a possible nuisance tort on the basis that such an idea was misplaced and that it was the State Government's responsibility. Surely as an interim measure don't you believe that Leichhardt Council should at least be investigating this as a possible way of seeking some short-term relief before a final solution is arrived at?

**Professor ROSEN:** We have a Leichhardt councillor here who has been very involved in this matter. You could either address this to him or we could take this on notice.

**The Hon. Dr PETER PHELPS:** I am just thinking that considering that Leichhardt Council, according to its annual report, has annual revenue of \$90.4 million that it would be able to find some amount of money to seek legal advice on behalf of its constituents about a possible way of seeking remedy through a nuisance tort?

**Professor ROSEN:** Would you like us to take that on notice or would you like to address that to Mr Stamolis, who is here?

**The Hon. Dr PETER PHELPS:** The last time the councillors took it on notice they said they wanted to wash their hands of it, so I am just concerned: do you believe that Leichhardt Council is doing enough at the current time to seek short-term measures to ameliorate the effects of what is going on?

**Professor ROSEN:** All I can say is that they have been very supportive. We have had a change of mayor in the time this deleterious effect has been peaking and they have both been very supportive.

**Mr SCOT MacDONALD:** Can you tell me what interaction you have had with Carnival? Has the resident actions group had a dialogue with them?

**Professor ROSEN:** There are residents who have been involved with the advisory committee.

**Mr SCOT MacDONALD:** What has the response been like?

**Professor ROSEN:** To my knowledge they have not been very helpful in terms of offering any solutions that would actually ameliorate the conditions up there.

**Mr SCOT MacDONALD:** In the short or long term?

**Professor ROSEN:** Look, Carnival's attitude is: "We didn't want to be there in the first place. We didn't think it was an ideal spot." I think they are thinking about the tourist market. They did not think it was a very good place to have people embark and disembark from their ships.

**The Hon. Dr PETER PHELPS:** They are probably right, are they not? Balmain is very nice, but it is not at the top of your mind when people say "Come to Australia and see Rozelle Park."

**Professor ROSEN:** There are a lot of confused people wandering around with wheelie bags in the wrong park of Balmain.

**CHAIR:** We are out of time. Professor Rosen, if there are any questions on notice, the secretariat will send them to you. We would appreciate receiving any answers you may be able to provide within 21 days, if possible. Thank you very much for agreeing to appear today.

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**Professor ROSEN:** Thank you. I want to say, in conclusion, we do not know yet whether the noise and the vibrations will kill anybody, but we certainly know that the emissions will. The noise and the vibrations add enormously to the stress and to the qualitative effects in that concentrated residential area, and could well lead to distress, prolonged sleep disturbance and sleep loss, profound anxiety and depression and possibly suicide.

**CHAIR:** Thank you.

**(The witness withdrew)**

**NAOMI LOUISE HOGAN**, Newcastle Campaign Manager, Wilderness Society, and

**KATHERINE MARGARET FLECK**, individual, affirmed and examined:

**CHAIR:** Before we proceed, would either or both you like to make an opening statement?

**Ms HOGAN:** We would like to spend 10 minutes between us making some opening comments.

**CHAIR:** That is up to you.

**Ms HOGAN:** These comments will be based mostly around the specifics of the groundwater contamination case in the Pilliga Forest, based on evidence that we found through a freedom of information request and hundreds of those documents.

**Ms FLECK:** My interest in the Environment Protection Authority's [EPA] performance during its investigation into groundwater contamination in the Pilliga by Santos' coal seam gas exploration is as a beef cattle producer who is reliant on groundwater for livestock. We live in the petroleum exploration licence [PEL] number 12 area, of which Santos has a 65 per cent interest as the operator. PEL 12 is adjacent to PEL 238, which contains the groundwater contamination under discussion. Most livestock properties in the Liverpool Plains are solely reliant on groundwater. Over the last decade I have designed over 40 stock water reticulation systems across the Liverpool Plains. Of these, all but one rely on groundwater. Access to unpolluted groundwater is paramount for the survival of the majority of sustainable livestock and cropping enterprises and for towns and communities across much of New South Wales west of the Great Dividing Range.

Over the last few months I have read most of the documents released to Naomi Hogan of the Wilderness Society of Newcastle as the result of two applications under the Government Information Public Access Act 2009. The documents revealed there was ongoing communication between Santos and the EPA regarding issues at Bibblewindi pond three for a period of at least 10 months prior to the official notice on 26 March 2013. A letter dated 18 May 2012 from Santos to the Department of Trade and Investment, Regional Infrastructure and Services and copied to the EPA states, "The results of the interim assessment of pond 3 shows there is a direct connection between the saline water in the pond and the subgrade beneath the liner." A second letter, sent by email and dated 13 November 2012, from Santos to the Department of Trade and Investment was forwarded to the EPA on the following day. The subject line is: "Summary of Analyses". It states, "Further to the electrical resistivity testing, we have collected additional monitoring data from piezometers at Bibblewindi pond 3. The results collected in October 2012 indicate highly varying electrical conductivity and concentrations of metals and cations across the site."

The EPA did not release their final Investigation Report into this groundwater contamination until 11 March 2014. The report states, "The EPA was previously notified that there were concerns about the integrity of the liner in pond 3. No information was provided at the time to suggest any pollution had occurred." In fact, Santos had clearly informed the EPA in the two letters just quoted from that testing of piezometers around pond 3 had occurred in February and October in 2012, which showed elevated total dissolved solids levels and highly varying electrical conductivity and concentrations of metals and cations. This information should have alerted the EPA to the fact that pollution was possible or even probable.

Following receipt of the second letter, the EPA failed to fulfil one of its objectives—that is, to adopt the precautionary principle. Namely, if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. If the EPA had observed the precautionary principle, it would have required the contents of pond three to be removed to an appropriate licensed facility for disposal. Instead, they permitted ongoing environmental damage as toxic water leaked from pond three into underlying aquifers. The contents of the pond were not transferred to Santos' Leewood facility until July 2014—more than two years after the EPA was first alerted to the problem.

The EPA delayed in informing the public about the groundwater contamination. Almost a year passed from 26 March 2013 when the EPA issued the official notice until details of the event were released on 11 March 2014 in the investigation report. The only other details the EPA provided in the media release on 18 February 2014 were that "water quality testing by Santos of the surrounding aquifers showed elevated levels of total dissolved solids and other elements outside the average readings for the aquifers in the area". The EPA



chose not to talk to surrounding landholders reliant on groundwater, even though they knew there were elevated levels of barium, lead, strontium, nickel, aluminium, boron and uranium, and did not know for a period of time if locals were drinking that water. Again, the EPA failed to fulfil one of its objectives—that is, to reduce the risk to human health and prevent the degradation of the environment.

One of the means suggested in the Act of achieving this objective is "To adopt the principle of reducing to harmless levels the discharge into the air, water or land of substances likely to cause harm to the environment." Clearly the EPA has failed to adopt this principle. Some of the other suggested means of achieving this objective are to promote community involvement in decisions about environmental matters and to ensure the community has access to relevant information. By failing to inform the community until two years after it first became aware of the potential for groundwater contamination, the EPA has failed to use these means to achieve its objectives. As a local landholder, I must trust in the EPA to protect the environment, including the groundwater I rely on. Today, EPA's performance has not warranted that trust.

**CHAIR:** Thank you. Ms Hogan.

**Ms HOGAN:** I want to make a few points. I am here as an environmental advocate for the protection of groundwater and the Pilliga is a significant recharge area for the Great Artesian Basin and an important environmental area. I am here because I found out that Santos and its coal seam gas activities contaminated an aquifer when it said to the public that that would never happen. I want to make a few points in relation to the EPA's submission into this inquiry and also table one further report that has come to light in the past few days. First, I think it is very important to note that the EPA's submission did not include the date of May 2012 that Margaret spoke of, which is when the EPA was first alerted to the fact that the ponds were leaking. The EPA did not take action when Santos sent that email. In its submission the EPA argues that it was not, at that point, the lead regulator for coal seam gas, but that it was still the newly independent, supposedly robust, EPA, as stated in 2011.

What we can see is that the EPA's submission is very different from the email chains. We have trawled through hundreds of emails and saw that there were many months in which the Department of Health was confused, where there was a lack of data and that it did not know whether landholders were using that water for stock. Instead of informing the landholders that there could be a concern, they chose to wait on Santos. Therefore, it did not take a precautionary approach. It should have followed up and sought firsthand information, those reports, from the consultants who were testing the water. It did not do that. It again waited almost a year for Santos to make the phone call to say, "We have contaminated an aquifer and found some uranium." It led to the EPA taking action, which is great, but they did not then go and verify that information firsthand or seek the reports or notify any landholders.

The additional report that I want to table is an audit site report visit. It was from the EPA on 22 and 23 May. It looked at the Santos sites and there are two points in this document that I want to bring to light in reference to this inquiry. The audit that they did of the Santos site was supposedly to build the profile of the EPA as the new lead regulator for the industry and to increase community confidence. Yet what was in this report was never released to the public. This audit outlines questionable safety procedures, leaking ponds, inadequate monitoring, unreliable analytical methods, yet it was not disclosed to the public. It was only because the *Sydney Morning Herald* hounded the EPA to get these documents. It came out in the media last week and we can see that they knew of ongoing problems with the site.

**CHAIR:** You are seeking to table the document?

**Ms HOGAN:** I am seeking to table the document today. The other point I want to make in reference to that document is that in that site visit report, you can see clearly that Santos told the EPA that the area was not a recharge area. In fact, we know that the Pilliga is a significant groundwater recharge area for our Great Artesian Basin. The EPA simply took the word of Santos and wrote down that it was not a recharge area and did not verify the information. That is the key concern for the community about this whole process, that the EPA is not forthcoming in its own investigations and it is not verifying data from the companies that are causing the pollution.

**Dr MEHREEN FARUQI:** Good afternoon. Thank you very much for coming today to present evidence. Your submission and a number of other submissions have stated that it was clear that as early as 2012 Santos and EPA knew about the leak in the ponds, or at least about the holes in the liner. Now the recent freedom of information papers that have been released show there is information that it was known that the

Tintfield pond liners also had holes. Why do you think the EPA would not be taking any action? Why would they not be using the precautionary principle?

**Ms HOGAN:** My view is based solely on the email chains between the EPA and the staff that I read. They say quite clearly that they do not want to single out any operator. The feeling from the chains was that instead of being on the front foot and reporting it to the public, the EPA was concerned that it would set a precedent and that it would single out an operator. I believe it is the EPA's job to single out operators. If it sees a pollution event it should call it. In this case it did not and it is unclear to me why the EPA would not single out operators that are polluting the New South Wales environment.

**Dr MEHREEN FARUQI:** I refer to page 203 of the EPA's submission, which states:

The EPA's initial investigation showed that there was no known risk to human health, livestock or the environment...

How do you respond to that? If that was the basis of an EPA decision or judgement, what would be your response?

**Ms HOGAN:** In this case unfortunately I think it was blind luck that no-one was hurt and that stock did not water from a contaminated aquifer. You can see from the email chain that it was months before NSW Health was able to make any clear assessment of whether or not human health was being impacted or if stock were watering from an aquifer that was contaminated to an unsafe level. Obviously everyone is pleased that it did not lead to any health concerns, but it is not because the EPA took robust action as soon as it knew there could have been a problem—which was in 2012.

**Ms FLECK:** Other government departments to which they referred some of the information do not use the phrase "no risk"; they use the phrase "low risk".

**Dr MEHREEN FARUQI:** That is a fair point. Other submissions have raised the concern that the EPA is too close to the industry that it regulates. There are similar claims in many of the submissions that I have read. Given that you also have concerns that Santos might be misleading the EPA, what do you think can be done to change the situation? How can the EPA become a much stronger and more fearless regulator?

**Ms HOGAN:** I think it needs a strong culture shift. The recent announcement and the EPA's submission about putting more staff on the job are useful. As soon as there is any risk we need people doing first-hand investigations. The culture that we have seen demonstrated by the email chains is that they wait, take guidance from Santos about what is and is not possible, and take its word on whether there is likely to be a pollution incident that matters to anyone. It does not matter how many staff are on the ground if that is the culture. As Ms Fleck said, the EPA should have a good, hard look at its objectives.

**Ms FLECK:** I do not think the EPA should be directed by the extractive industry companies. A letter that followed the official notice states:

The rehabilitation of Pond 3 will need to wait until we can transfer its contents to the new facility at Leewood.

That letter is dated 27 March 2013. That had government approval only the week before. In the initial application for the Leewood facility Santos said that it would be transporting to an appropriately licensed facility in metropolitan Sydney an estimated 1.3 gigalitres over the next three years of exploration and appraisal. This pond is about one-tenth of that size. There was a shift from the statement in the initial submission to truck produced water to Sydney to leaving a leaking pond until it had a new facility.

**Ms HOGAN:** There is a strong case that they could have taken action months, if not years, earlier. Santos could have trucked that water to a licensed facility. Instead, those ponds were still there as recently as a few months ago leaking into aquifers. We believe that is not an appropriate response.

**Dr MEHREEN FARUQI:** Your submission also notes that the United States Environmental Protection Agency provides an example of an agency that sets out to achieve environmental objectives. Can you tell the Committee more about that and whether that model could be used by the New South Wales EPA?

**Ms HOGAN:** I stated in my submission that the EPA's tagline about its mission is problematic in itself. It is "Healthy environment, healthy community, healthy business". While an inclusive approach is good, the problem is that the EPA should first and foremost be looking to protect human health and the environment. In

fact, the United States Environment Protection Agency's mission is to protect human health and the environment. The confusion about protecting healthy business is perhaps a side issue that the EPA does not need to have as its top tier guidance. We need an organisation which is clearly independent and robust and which puts human health and the environment first and foremost. The other agencies will deal with the rest.

I am concerned about the EPA's submission to this inquiry talking up the memorandum of understanding that it has signed with the Office of Coal Seam Gas and the Department of Planning and Environment. I am concerned that that collaborative approach involves working with other agencies that have a different set of objectives. The Office of Coal Seam Gas's objectives are largely to promote the industry. Instead of having a robust, independent EPA that is working at arm's length from both the companies and the agencies that are working to promote them and gas exploration and production, we need one that is separate. Of course they need that talk to one another. However, we need the EPA to have the strength to take action when it is required and not to be concerned about singling out operators or setting a precedent.

**Dr MEHREEN FARUQI:** A number of submissions have referred to the EPA's transparency and how it engages with communities. You have also raised those issues. Does the Wilderness Society have ongoing engagement with the EPA on this matter or other matters? What has been your experience in terms of transparency and openness?

**Ms HOGAN:** The key example for me of when the EPA was not transparent or open was this whole process, and also the way in which it went public with the \$15,000 fine instead of informing landholders or even telling the public. It issued a media release that, as Margaret Fleck said, was very watered down and did not contain much detail. It chose to send that media release to only one newspaper in Narrabri and put it up on its website. It was not until we found the reference to uranium in the Government Information (Public Access) Act [GIPA] documents that we spoke with the media, which then reported it, that the EPA made any public comment or agreed to meet with farmers and the Wilderness Society. It eventually released an investigation report into what had happened.

If it were not for us getting those GIPA documents and talking to the media, the EPA would not have publicly released that investigation report. An organisation like Santos would have been able to continue to say what it says in newspaper advertisements; that is, that it has never contaminated an aquifer and that it poses no risk to groundwater. The EPA would have seen those ads and kept quiet. It might not have seen them, but that is part of the problem. The EPA should have been on the front foot so that the people of New South Wales could make informed decisions about the risks of these sorts of industries.

**Dr MEHREEN FARUQI:** I refer to the \$1,500 fine. You know that the legislation has been amended and that that fine would now be \$15,000. Do you think that is an adequate deterrent for a company like Santos for that sort of contamination?

**Ms FLECK:** No. In terms of relative income and penalty that is miniscule.

**Ms HOGAN:** We saw the example of Santos being taken through the Land and Environment Court and being fined \$52,000 for surface contamination at that site. Someone did the maths and it was about 10 minutes' worth of company profits. Clearly with companies like Santos it is not enough to impose a \$1,500 or \$15,000 fine if there is to be a strong deterrent. I know the EPA argued that it was up to Santos to pay for the rehabilitation. Unfortunately the rehabilitation that we have seen on the surface has not been successful. It still has not cleaned up the aquifer; it is still contaminated with heavy metals. Santos also used this pollution event to push forward approval of the Leeward ponds, which have capacity for the 850 wells that it is trying to push through from production. Santos is saying that it is spending millions of dollars, but it is spending money on things it is pushing through the approvals process to enable it to build gasfields across this region and to push ahead with an industry that poses risks to New South Wales.

**The Hon. LUKE FOLEY:** It has been said regularly in recent years that parts of the Pilliga subject to current coal seam gas activity are in the recharge zone of the Great Artesian Basin. That seems to be contested by Santos. Can you provide the Committee with more information about that? I would have thought it was simply a matter of looking at a map showing the recharge zone. Why is this a contested debate?

**Ms HOGAN:** That is a very good question. It is mapped very clearly; it is mapped by the National Water Commission, the CSIRO and the New South Wales Office of Water. I have emails requesting the Office of Water to clarify the situation and it has responded clearly showing that they are Great Artesian Basin

recharge beds. I have heard from people who have done the tours around the Pilliga that Santos staff are saying that it is not a recharge zone for the Great Artesian Basin. I am not sure why they can continue to say that or why the Government has not been more clear with regard to the knowledge it has through simple science. It is all mapped.

**The Hon. LUKE FOLEY:** Have you provided any of those maps in your submission to this inquiry? Would you be prepared to provide them to inform the Committee's deliberations?

**Ms HOGAN:** I have not provided them to date, but I am very happy to do so as soon as I can.

**The Hon. LUKE FOLEY:** Are you familiar with the announcement made by the State Government earlier this month about the NSW Gas Plan?

**Ms HOGAN:** Yes, I have read the gas plan.

**The Hon. LUKE FOLEY:** That announcement tells us that the EPA will assume responsibility for compliance and enforcement with regard to the coal seam gas industry. My understanding is that the EPA assumed that responsibility in June 2013. Was that a reannouncement or is there something new in that announcement about the role of the EPA? Can you help us?

**Ms HOGAN:** You would have to ask the Government. My reading is that it is a reannouncement of the way it now works.

**The Hon. LUKE FOLEY:** In your experience, what New South Wales Government resources are devoted to compliance and enforcement of the coal seam gas industry's activities in New South Wales? You spend a fair bit of your time at work dealing with coal seam gas industry activity. What can you tell us about the resources devoted by our Government to compliance and enforcement?

**Ms HOGAN:** I do not know all the numbers, but every time I have met with the EPA in recent years—and I have been going out to the Pilliga and looking at this for the past three years—the response is always, "We couldn't possibly", "We don't have the resources to go out there to do the water test", "We don't have the resources to have anyone out there", "We only have this staff member." That has been an ongoing conversation that has not necessarily changed since the announcement of the appointment of more staff. I am obviously hopeful having read the EPA's submission that it will employ more staff. It would appear that it does not want them to be funded only by the taxpayers. However, I am still extremely concerned because without a culture shift it does not matter how many staff there are if they are not bringing to light any pollution incidents.

**The Hon. LUKE FOLEY:** This morning the senior executives of the EPA told us that they are looking at setting up a section within the authority to operate in the same way that the Forestry Section operates; that is, a dedicated section within a branch within a division of the EPA that will deal solely with compliance and enforcement in the gas industry. Would you welcome that?

**Ms HOGAN:** I would welcome that, absolutely. I think it needs a lot more oversight. But I am concerned that the Government has said that it will be pushing ahead with these strategic projects. We are hearing from the Minister for Planning that they want to cut the assessment time by 170 days. I am concerned, despite there being more staff watching over these projects. Let us remember that this contamination event came from just a handful of wells operating and Santos is looking at pushing ahead with 850 wells in the coming years. So I am concerned that the industry is taking off on a massive scale. We have seen in Queensland recently another 6,000 wells go up for approval. So there is a concern that the industry wants to expand at an increased rate before we have had enough evidence to show that it can actually operate safely.

**The Hon. LUKE FOLEY:** Okay, this is not a re-run of the inquiry this Committee ran into the coal seam gas industry; this is an inquiry into the performance of the Environment Protection Authority [EPA]. We were told this warning by executives of the EPA that currently there are four or five staff within the authority who principally deal with compliance and enforcement when it comes to the coal seam gas industry, although from time to time there will be additional resources from regional staff and the like who may be sent to look at a particular issue. Does that information reflect your interaction with the authority on the regulation of coal seam gas?

**Ms HOGAN:** Yes, from all of those email chains you would have been able to see that there are about four or five people, who tend to be representing the EPA in different ways, who are talking about the issue of coal seam gas.

**The Hon. LUKE FOLEY:** Did you see the media release and associated fact sheet that the Government released on 13 November about their new gas plan?

**Ms HOGAN:** Yes, I did.

**The Hon. LUKE FOLEY:** One of the dot points in the fact sheet said that the Government has devoted 150 staff to compliance and enforcement. Is that a fair statement?

**Ms HOGAN:** It is not something I have witnessed in recent years. It does not sound right to me, but it could be something that they are planning.

**The Hon. LUKE FOLEY:** I am not sure that they are planning that. The EPA executives, who now have complete carriage of compliance and enforcement, tell us that they would like to increase their staff numbers in this area, currently four or five staff, to 12 or more staff members. They are seeking increased funding of around \$3 million to devote more resources to this. But that is a far cry from the 150 staff that the Government boasts of, is it not?

**Ms HOGAN:** Yes, it is a very far cry.

**The Hon. RICK COLLESS:** Just following on from that question from the Hon. Luke Foley, I think it is worth reminding him that the EPA representatives this morning did say that that number was across a range of different Government departments not solely the EPA. Taking that into consideration, would you think that figure is probably a realistic figure across all departments of Government that are involved in the gas industry, including Resources and Energy, Trade and Investment, the EPA et cetera?

**Ms HOGAN:** Possibly, I could not say. I have probably only spoken to about 12 different Government representatives from the Office of Coal Seam Gas, the Department of Planning and the EPA.

**The Hon. RICK COLLESS:** Ms Fleck, what part of the Liverpool Plains are you from?

**Ms FLECK:** The western region.

**The Hon. RICK COLLESS:** Whereabouts?

**Ms FLECK:** Between Tambar Springs and Mullaley, slightly west of that line.

**The Hon. RICK COLLESS:** I know the area quite well so thank you for that. Ms Hogan, can you describe to us what a perched water table is?

**Ms HOGAN:** The first I heard of it was when Glenn Toogood, who is a hydrogeologist with Santos, was describing the upper of the two aquifers that were impacted and polluted in this incident. He described it as a perched layer which was more shallow water closer to the surface than the underlying aquifer, which was the deeper of the two aquifers contaminated in this case and which was at about 35 metres.

**The Hon. RICK COLLESS:** The term "perched water table" in soil science, for example, is quite common. It relates to water that is temporarily held up in a layer above where the freestanding water aquifer level might be. The water that was accumulating below the pond was described as being on a perched water table.

**Ms HOGAN:** It was in a perched water table and the underlying aquifer that was sitting at about 35 metres—both of those. It is documented clearly in the EPA's final investigation report. Both of those aquifers were impacted.

**The Hon. RICK COLLESS:** So what you are saying is that the water that was in the freestanding water table, the aquifer itself, also had an increased level of uranium?

**Ms HOGAN:** That is correct.

**The Hon. RICK COLLESS:** I think what you refer to in your submission is an elevated level of uranium. So what was that level elevated above?

**Ms HOGAN:** There are water monitoring bores across the Pillaga so we are talking about background levels of other aquifers and other water in that same sort of 35-metre aquifer in different areas of the Pilliga.

**The Hon. RICK COLLESS:** Ms Fleck, is there anything you would like to add?

**Ms FLECK:** I agree, basically it was a comparative exercise. So they found monitoring bores which showed there was an elevated level. As they expected, it did dilute, if that is the right word, between the so-called perched water table and the lower and deeper aquifer. I would say that that is a bit of a name change for Santos. In their earlier communication they only used the word "aquifers".

**The Hon. RICK COLLESS:** What was the level of uranium in the Bibblewindi pond itself?

**Ms FLECK:** It was below the minimum detectable level.

**The Hon. RICK COLLESS:** So it was below the detectable level?

**Ms FLECK:** Yes.

**The Hon. RICK COLLESS:** What would that indicate?

**Ms FLECK:** It is less than 0.005 grams per litre.

**The Hon. RICK COLLESS:** If there is no detectable level of uranium in the pond water then how can we have a detectable level in the perched water table?

**Ms FLECK:** It was mobilised out of the soil due to the chemical make-up—

**The Hon. RICK COLLESS:** So the uranium did not come out of the pond water, is that what you are saying?

**Ms FLECK:** No.

**Ms HOGAN:** The uranium went into the groundwater because of the coal seam gas activities. That water was highly contaminated with salts. As it travelled through the soil other metals, such as uranium, came out of solution and filtered into that water. So uranium that was fairly safely contained in soil that had not been tampered with was then causing that. That was all clearly outlined in the EPA's final investigation report.

**The Hon. RICK COLLESS:** I just want to be clear about the question I asked about it though. The uranium did not come from the water in the pond, did it?

**Ms FLECK:** No.

**Ms HOGAN:** No, it came into that perched layer.

**The Hon. RICK COLLESS:** So the uranium exists in the geological formations there.

**Ms HOGAN:** But it does not exist in the groundwater, which is accessed by farmers. Many of the downstream farmers are completely reliant on groundwater. The concern is that uranium that was otherwise fairly safely contained in soil is now mixing with highly saline water which is bringing these metals into solution and then into water which is used by downstream users.

**The Hon. RICK COLLESS:** Can you explain what the chemistry of that is? I am a bit confused about how a saline water would in fact dissolve uranium.

**Ms HOGAN:** It is listed in the EPA's report and in Santos's own reports which we attached as the documents obtained under the Government Information (Public Access) Act [GIPA]. They say that the uranium and other metals were likely to have come into solution through that coal seam gas water being in contact with the soil.

**The Hon. RICK COLLESS:** Is that in this report which you tabled today?

**Ms HOGAN:** No, not the one tabled today; the one added to our submission.

**The Hon. RICK COLLESS:** I think you said the depth of the standing water table below those ponds was 35 metres. I thought it was a little deeper than that; I thought it was about 50 metres, but that is variable. Are you aware how much water was extracted from the perched water table when they were doing the testing?

**Ms FLECK:** It was 1,270 litres.

**The Hon. RICK COLLESS:** Over what time period?

**Ms FLECK:** I cannot answer that.

**The Hon. RICK COLLESS:** As I understand it, the rate they were able to extract it at was quite low. The amount of water that was there was quite minimal, in fact. I have in my mind a figure of 10 litres per day.

**Ms FLECK:** I have heard that figure too. They were only extracting from one intersection monitoring well. We cannot conclude that all the water was entering that interception—

**The Hon. RICK COLLESS:** I am not suggesting that. I am just saying that the flow rate was very low.

**Ms FLECK:** Yes, but it has been established that there was quite some lateral movement in the pollution plume.

**The Hon. RICK COLLESS:** Have you had any information about what the uranium levels are in the Namoi River sediments, for example?

**Ms FLECK:** No.

**Ms HOGAN:** No.

**The Hon. RICK COLLESS:** As I understand it, some research that has been done on the background uranium levels in that general area shows that in the Namoi River sediments they are in the vicinity of 700 to 800 micrograms per litre in the sediments themselves. What I am getting at is that the concentration of uranium apparent up there is probably not all that unusual in terms of the concentration of uranium across the landscape, particularly in some of the heavier basalt soils.

**Ms FLECK:** I think there is a difference between uranium being adhered to soil or clay particles and actually being in water that is drunk.

**Ms HOGAN:** The concern is that an area that does have uranium concentrated in different soil particles is not a good place to be building a gasfield, for example, that needs to mobilise high amounts of highly saline water and then figure out how to dispose of waste. We have clearly seen in the example that when that water comes into contact with this soil it can bring those metals into solution.

**The Hon. RICK COLLESS:** Have you had a look at the construction techniques involved in the Leewood ponds?

**Ms FLECK:** Yes.

**Ms HOGAN:** Yes.

**The Hon. RICK COLLESS:** Have you seen the liners that they are required to put in there?

**Ms FLECK:** Yes.

**The Hon. RICK COLLESS:** Could you describe it for the Committee?

**Ms FLECK:** They have two geomembrane layers, and they have a leak detection system between the two. In theory any leak cannot get through the two layers. They also have a pump back system. So should there be a leak in the first layer they then pump it back into the pond.

**The Hon. RICK COLLESS:** And then it would show up in the second layer, would it not? So it is a double layer?

**Ms FLECK:** Yes, there are two geomembrane layers.

**The Hon. RICK COLLESS:** So do you not feel confident, given that level of technology involved in sealing those ponds, that the chance of anything leaking out of those ponds would now be extremely low?

**Ms FLECK:** It depends on the quality of construction, obviously. There were issues at Bibblewindi, which used a two-millimetre geomembrane. It was supposedly a properly-engineered dam—unlike pond 1 and pond 2 at Bibblewindi.

**The Hon. RICK COLLESS:** What I am getting at is that surely the EPA has taken the bit between its teeth, so to speak, in providing the regulations regarding the Leewood ponds. They have taken responsibility for what actually happened at Bibblewindi and provided some regulations so that it does not happen again?

**Ms FLECK:** I do not think that removes every possibility.

**Ms HOGAN:** I also think it does not take away from the way in which the EPA carried out the investigation into the groundwater contamination that did happen?

**The Hon. RICK COLLESS:** But they have moved forward.

**Ms HOGAN:** I do not know that it was as a result of the EPA's work that Santos chose to put in ponds that are hopefully less likely to leak. Certainly we have concerns about the scale on which they are now operating, and some ongoing concerns about what actually happens to the water sitting in those ponds. Apparently evaporation ponds are banned in NSW. But at the moment we have massive ponds, the size of 300 Olympic swimming pools, sitting out there evaporating, basically. So there are ongoing concerns with the language around coal seam gas regulation and the activities that we are seeing. There are ongoing concerns about how to deal with that waste in a way that it does not come into contact with and contaminate the environmental water. That is why we want our EPA to stand very robust, strong and transparent on any activities around coal seam gas.

**CHAIR:** That concludes this session. Ms Fleck and Ms Hogan, thank you for appearing before the Committee today and for your evidence. We ask that any answers to questions on notice be returned to the Committee within 21 days of receiving those questions.

**(The witnesses withdrew)**



**GEORGINA WOODS**, New South Wales Coordinator, Lock the Gate Alliance, affirmed and examined:

**CHAIR:** Would you like to make an opening statement?

**Ms WOODS:** Thank you, I will. Lock the Gate supports a well-resourced and independent EPA. We have observed the EPA work closely with the industries that it regulates and our belief is that in some cases that is entirely appropriate—cooperation is much to be encouraged and recommended. But we also think that the EPA's functions should not be reliant on the companies that it regulates and their commitment to transparency and accountability and provision of information; it is too much of a risk that companies are not going to be open about their activities. We want the EPA to be able to take action when necessary against the will of the companies that it works with.

We do identify in our submission a number of problems with the performance of the EPA but we would also like to put on the record that other government agencies also, in our experience, fail the community in their regulation of the mining industry, particularly the Department of Planning and sometimes the Department of Trade and Investment. So while we are very happy to give evidence here about the EPA we think there is a broader case to be discussed about the role of government in overseeing the activities of the mining industry and the impacts it has on communities.

The things that we raise in our submission that I wanted to highlight today are, firstly, the question of the EPA giving industries licences that do not impose load limits on pollutants. We raise a couple of examples in our submission, but essentially it has been our experience that there are pollutants listed in the licence but there are not any effective limits introduced by the licence, which is effectively a blank cheque for those particular pollutants. One of the main problems that we think communities that engage with the mining industry are facing is a lack of transparency about data. In a lot of cases, in the Hunter coal industry, for example—and this is similar in the coal seam gas industry—companies are required to monitor groundwater and air pollution and other environmental matters but they hold that data and it is not generally made available to the public.

I am aware of councils in the Hunter who have tried very hard to get monitoring data out of mining companies and have not been given it. So we think there is a strong argument for the EPA to be the ones who hold data and make it available to the public, noting that the Chief Scientist's report recommended that there be a whole-of-government data repository for all of these matters so that people can be informed about the industries that they have to live alongside. Similarly, we use the EPA public register and we find it very useful in most cases and really support having an online and available elsewhere public register for the EPA, but we would like to see more disclosure, particularly of their non-compliance reports and the annual reports that are submitted by companies, and generally a predisposition towards disclosure rather than a holding back of information.

In the question of compliance, the Wilderness Society has already given evidence about the Santos situation and the Tyntesfield pond. We consider what happened out there, particularly with having the Bibblewindi pond firstly leaking and then compliance action taken and then the Tyntesfield pond leaking, there was no escalation in the EPA's response to that. We are concerned that the EPA's compliance activity and enforcement activity is not really sending a message to companies that repeat offences are going to result in escalated penalties, that similar actions have been taken in AGL's Camden gas field, and mines that breach their conditions for water discharge; there is not a clear pattern where a repeated offence of the breaching of the conditions of your licence leads to an escalating penalty.

Finally, we think the EPA needs to be empowered and independent to impose the limits that it sees fit according to health requirements and State and national policy. We think there is a case that when it comes to State significant development in New South Wales, the EPA does not have a free hand to impose the pollution limits that are necessary to protect communities from the impacts of mining and that there is an argument to look at the way that mining approvals are treated. For certain kinds of development my understanding is that the EPA is not permitted by law to not follow the recommendations that are made by the Department of Planning, for example. So they are not really free to do their work. I think that will do as an opener. Our submission highlights some specific examples of the stuff that we wanted to raise.

**Dr MEHREEN FARUQI:** Thank you very much, Ms Woods, for coming here to present evidence. There seems to be an overwhelming feeling in the community that they were locked out of the communications

process dealing with the Santos incident. What was your experience in talking to community members who were affected by this and how were they consulted by the EPA, for instance?

**Ms WOODS:** I do not know if my experience of it would be comprehensive; there may have been people consulted by the EPA and they did not tell me about it. But there is generally a concern that people are not aware of the negotiations that go on behind the scenes between the EPA and the companies they regulate and that people are not being given access to data so that they can watch and understand what is happening in their local area. The point I was trying to make about who holds the data and who can make it available, I think it was clear from part of the freedom of information documents that the Wilderness Society got that the EPA were in a position where they had to actually ask Santos for permission to give that information to the Department of Health so that the Department of Health could make an assessment about the impact of that leak.

We just do not think it is appropriate that that amount of discretion should be in the hands of the company and at their disposal. The public agencies need to have the information and they need to be able to give the information to the public and to other agencies.

**Dr MEHREEN FARUQI:** The EPA has now been the lead regulator for coal seam gas in New South Wales for almost a year and a half. From your perspective can you give a bit of a report card on EPA's performance so far?

**Ms WOODS:** I suppose it has been mixed. We are really pleased that the EPA were given the role because they have the statutory responsibility for the matters that are impacted by coal seam gas operations and they have the corporate experience to regulate mining, but I suppose because the industry is already underway and giving the EPA the authority to regulate the industry came on top of an industry that was already underway, they have had to catch up a lot. One of the examples that we cite is the EPLs that have been given to the exploration projects that do not impose load limits on the dangerous carcinogens that come out of flaring. Prior to their excess gas they flare it off when they need to, but that creates air pollution. The EPLs had to be given within a certain time frame so they had to give them those licences but they did not impose any limits on those carcinogens and for people in Gloucester who live in Forbesdale, they are actually quite close to those wells.

I suppose handing the agency the responsibility to regulate an industry that was already underway and had a great expectation that they would be able to continue doing what they were doing meant that there were mixed results. We think that when it comes to the non-compliance events in Camden and in Narrabri that the EPA has not firmly demonstrated that it is going to take a tough approach when it comes to pollution events that endanger water and air and people who live nearby.

**Dr MEHREEN FARUQI:** Just coming back to that example of flaring where there were no load limits imposed and you said that there might be time pressure and that is why load limits were not regulated, do you think there is something else going on as well? Do you think the EPA has the power to do that and if they had enough time that could be done?

**Ms WOODS:** I suppose in saying it is a time pressure I was being generous. I hope that was the reason why, but there is a culture of adaptive management that says we will see what happens and then we will regulate in response to what happens. I had a conversation with somebody at the EPA—and I am afraid I am not able to remember her name—asking her why there were not load limits imposed on the EPL for the Waukivory project, and their response was essentially that they would wait until AGL had submitted their first report about how much of these toxins were being released by the flare and then sort out the loads for the licence in response to that. It is a suck-it-and-see sort of approach. Adaptive management is sort of the buzz word, but in our view, for a risky industry like coal seam gas it does not seem to us appropriate to not take the precautionary approach right from the outset.

**Dr MEHREEN FARUQI:** Just in that sense of the EPA taking a precautionary approach, do you think the EPA has those resources or expertise to be able to then look at the precautionary principle within risk management and be able to do that? I asked a similar question this morning of the EPA in terms of reliance on industry for a lot of monitoring data as well and, like you said, again it is a similar situation. Do you think more resources and more expertise within the EPA would help move towards EPA being more responsible and using the precautionary principle?

**Ms WOODS:** I am not really privy to all of the arrangements in the EPA, about how much of their resources they dedicate to this stuff, but certainly there is a big industry out there. For the Hunter coalmines, for

example, there is a hell of a lot of them and a lot of EPA resources have gone into those mines, but there is a limit to what you can do and they do seem to have to rely on the companies to collect a lot of the data, which would be fine if the data was immediately being handed over to the Government to be used in its raw form and shared with the public. I am sure that more resources are always welcome when it comes to regulating highly damaging industries.

**Dr MEHREEN FARUQI:** If you had three key recommendations to make to this inquiry about how to make, as you say, EPA more fearless and more independent of the industry or being captured by the industry, what would be your three top recommendations?

**Ms WOODS:** I think in part there needs to be a whole-of-government commitment to fearless regulation of the mining industry and that the EPA should not be left on a limb to have to, after generous approval processes are gone through that do not require the companies to uphold a stringent stand of environmental protection, do that on their own at the end of the process. I think the EPA has a strong statutory basis that should enable them to do that, but guidance from the whole-of-government process that is involved in mining approval and compliance work I am sure would help set the culture and the tone that public health and environmental protection are high priorities and that mining companies, like other businesses, need to be able to comply with those standards.

**CHAIR:** We will move on to Mr Foley.

**The Hon. LUKE FOLEY:** Is your concern that the legislation, that is the Protection of the Environment Administration Act that establishes and confers powers on the EPA, does not provide the authority with sufficient powers or is it that the authority is too close to the polluting industries they regulate? Is it one or the other or both?

**Ms WOODS:** I do not think the problem is the Protection of the Environment Administration Act; I think it is probably more likely to be in the Environmental Planning and Assessment Act and in the processes for handing out exploration approvals and project approvals which hamper the EPA's capacity.

**The Hon. LUKE FOLEY:** You would like them to be a consent authority?

**Ms WOODS:** Yes, so if they had a concurrence power they would be more empowered to say this is actually the standard that needs to be complied with when it comes to air quality for mines or for water; that is the basis. But it is our experience that the EPA does work very closely with industry and when they do not have statutory power and they may have limited resources they then become reliant on the industry. So, yes, that does develop a culture of closeness that in our view does not necessarily translate into sufficient teeth and bite. Is that answering your question?

**The Hon. LUKE FOLEY:** Yes, thank you. I will go to the question of load limits under the environment protection licences. Am I right in saying that mining for coal has always been exempt from the load-based licensing scheme but that coal seam gas is not exempt from the load-based licensing scheme?

**Ms WOODS:** Not exactly. My understanding is that they can put loads on the licences. People use load-based licensing to refer to having to pay per kilogram or per tonne but a load-based licence is a licence that limits the amount of pollution that can be emitted. Coalmines do have those but, for example, the mines in the Hunter that discharge water into the Hunter River and its tributaries have loads imposed for salt and acidity levels but they do not have any loads imposed for mercury and other metals, which they do discharge into the Hunter River. It is at the discretion of the EPA, I believe, to determine which pollutants need to be controlled.

If somebody found that there was mercury poisoning in the river and they could attribute that to the mines and they did not have a licence that enabled them to pollute with mercury they could take that mine to court. But for the CSG licences having those toxins listed in the load licence without actual volumetric or weight limits on them means that you cannot take action for that pollution because it is licensed but there is not actually any limit on the amount of that pollution that the company can create.

**The Hon. LUKE FOLEY:** To your knowledge when was the first environment protection licence for a coal seam gas company issued? It is a fairly recent area.

**Ms WOODS:** Last year, or early this year, in February. Well, no, I cannot say that for sure. But certainly, as you said earlier, it was announced last year that the EPA would have to licence exploration projects. I believe they gave the first sort of draft ones in November last year.

**The Hon. LUKE FOLEY:** Could it be the case that the EPA is genuinely trying to grapple with an emerging area of regulatory activity on their part and whilst they have not yet set load limits in their environment protection licences for coal seam gas companies it is something we ought to expect in the near future?

**Ms WOODS:** Yes. I need to correct what I just said because of course the Camden gas field has been there for longer than that and it does have a licence. I think that the new arrangement was about licensing the exploration projects. The Camden gas field does impose load limits on carcinogens from the flares, so I suppose we can expect that they will introduce those for the Waukivory project and the Narrabri project. Our objection is that they wait and see how much the company expects to need to pollute before they set the limit rather than setting the limit based on a health assessment of what the impact will be on the community or the environment.

**The Hon. LUKE FOLEY:** I take your point but one of the principal findings of Chief Scientist Professor O'Kane's review was that the industry has come with a rush in the last decade or so and governments and agencies are all catching up. Is it not the case that it is understandable that the EPA has not got on top of this question yet—that is, what load limits to set in issuing environment protection licences? When would your group expect some degree of certainty from the EPA in the issuing of those licences and setting load limits in those licences or are you not prepared to cut them any more slack?

**Ms WOODS:** It is true that the industry has come in a rush but, no, I cannot accept that we should allow an industry to just roll out across the landscape, see what happens and then set pollution limits. I think it is a simple matter to go to the United States or Queensland and have a look at what has happened as unconventional gas has rolled out there. In the United States they are banning flaring from January. They are ahead of us because they made the mistakes and then introduced the regulation afterwards when they found the impact that it was having. I think it is pretty reasonable to look around the world and to look around Australia to see what is best practice and let that inform partly what we are doing. I forget the other part of your question.

**The Hon. LUKE FOLEY:** I probably do as well. It would be your strong submission to this Committee that in regulating coal seam gas activity in New South Wales the Environment Protection Authority should prioritise as a matter of urgency setting load limits in the environment protection licences they issue to coal seam gas companies?

**Ms WOODS:** For the purposes of this submission, yes, I certainly think that. But, as I said, they are banning flaring altogether in the United States because of the pollutants that it emits near people. I think there is an argument for a range of regulatory measures to be brought in, which has not happened in New South Wales. For the toxins that are produced by coal seam gas flares there are for some of them Australian and New Zealand Environment and Conservation Council [ANZECC] guidelines and national pollution inventory guidelines. We are not swimming in the dark about how much of these toxins people can bear, the environment can bear or cattle can bear. All of those things could certainly inform an up-front regulation from the EPA.

We are mainly concerned that operations are rolling out and impacts are being felt, as we heard from the Wilderness Society and as we hear from people in Camden, and the regulator is supposed to just respond to impacts and incidents rather than being ahead of the industry and saying that you will not have this impact because we value people's health and environmental health.

**The Hon. Dr PETER PHELPS:** Would the Lock the Gate Alliance be happy for the collection and commercial use of gas extracted from exploratory retention licences as an alternative to flaring?

**Ms WOODS:** It would certainly create less pollution for it to be collected.

**The Hon. Dr PETER PHELPS:** The three components of the current EPA's charter involve healthy environment, healthy communities and healthy business. The Wilderness Society indicated that they were not happy with the healthy business aspect of it. What is the view of the Lock the Gate Alliance on having healthy business incorporated in the EPA's core function?

**Ms WOODS:** I certainly do not think that we should have unhealthy business in New South Wales. I mean, business exists and if it exists it should exist for the public benefit and in the public good. I certainly support healthy business.

**The Hon. Dr PETER PHELPS:** The submission by Lock the Gate is critical of the regulatory arrangement whereby there is a great reliance on self-reporting. Realistically, what is the alternative to self-reporting considering the number of companies that are covered by EPA purview? Surely you are not suggesting that there be a bureaucrat with a water tester and an air monitor at every business. What is the alternative to self-reporting, if you like?

**Ms WOODS:** It is a difficult question. I am sure the Government cannot afford to have regulators at every facility. We do think that government and the EPA should foster stewardship in private industry around the environment and that it should be a matter of responsibility being taken by businesses to make sure that they are operating cleanly. I guess the balance in our view is way out of kilter. We would not be advocating no self-monitoring but where the EPA, as was reported in the press yesterday, gives two weeks notice to a company before coming to do a spot audit, where they do not have the resources to visit all the industries or a representative sample of facilities from each industry every year, where they do not get the data given to them by the companies so that an independent auditor can actually review them should they choose to, that is a level of opacity that is currently leading to the distrust from the community that these industries are not being adequately overseen.

**CHAIR:** Would you describe the Lock the Gate Alliance as a property rights organisation or an environmental non-government organisation or a mixture of both and, if so, what would the mix be?

**Ms WOODS:** I probably would not have leapt to either of those descriptions. Our purpose is to support communities and people that are affected by inappropriate mining. We are an alliance of organisations and people across the country that have experience of and are affected by unconventional gas and coalmining in particular, although there are people in our network who work on other mining issues. A lot of the impacts of inappropriate mining are environmental, so we know a lot about environmental impacts of mining and there are environmental conservationists in our movement. There are also a lot of people in our movement that are concerned about the lack of rights for landholders when they have to face up against multinational mining corporations. There are a range of matters that we take in but I suppose mining advocacy or advocacy for those threatened by mining is our main purpose.

**CHAIR:** Does the Lock the Gate Alliance get involved in things like wind farming and that sort of thing?

**Ms WOODS:** No.

**Mr SCOT MacDONALD:** I will go back to the terms of reference, which concern the performance of the EPA. The issue that you brought up, and it is common to a couple of submissions, is the relativeness of the \$1,500. Given that, and I do not think anybody contests it, there has not been any harm to human health or the environment. I am happy to hear if you contest that. Why is that \$1,500 inappropriate?

**Ms WOODS:** There was harm to the environment.

**Mr SCOT MacDONALD:** Or stock, I should add to that list.

**Ms WOODS:** It is inappropriate in the context of the industry and the size of the proponent of the industry because it would not act as a deterrent to a company of that size when they were balancing up the amount of money that they might have to spend on adequately containing their wastewater against the amount of money that they might be fined if they do not adequately contain their wastewater. That is really the balance that we are seeking them to strike. If a company had to make a decision about whether to spend money on protecting the community and the environment would they look at the fine and say that we cannot afford that and it makes more business sense for us to protect these matters.

**Mr SCOT MacDONALD:** You are looking for deterrence?

**Ms WOODS:** I suppose so, yes. I may be wrong but my understanding is that at that time it was not actually available to the EPA to impose a higher penalty and that has since been changed, which I think is good.

But the amount it has been changed to is still not necessarily going to impact on the financial decision-making of a company that wants to save money on production costs at the expense of the people and environment around them.

**Mr SCOT MacDONALD:** You think any company will make a hard-headed decision about continuing to not comply and cop the fine or the value of the deterrence—

**Ms WOODS:** I think we have to accept that there individuals and businesses operating in New South Wales who do not take an altruistic approach to the impact of their activities on the environment and other people.

**Mr SCOT MacDONALD:** Putting the level of the fine to one side and going back to the performance of the EPA—as we have been told, the EPA only became the peak regulator in the middle of 2013—are you still putting to this Committee that the time taken was too long to respond?

**Ms WOODS:** To the Bibblewindi leak?

**Mr SCOT MacDONALD:** That leak, yes.

**Ms WOODS:** Yes. And also the response to the Tenterfield incident did not represent an escalation from what they had done at Bibblewindi.

**Mr SCOT MacDONALD:** Just going to the AGL in Camden, again we are looking at \$1,500 fines plus there are some notifications and what not.

**Ms WOODS:** Yes.

**Mr SCOT MacDONALD:** That operation is the only productive operation in this State. In your view, is the EPA continuing not to perform there as per our terms of reference?

**Ms WOODS:** Yes. I think there is a series of non-compliance events listed in our submission and there is not a clear demonstration that AGL is being punished more severely the more often they breach their conditions.

**Mr SCOT MacDONALD:** So deterrence is important, obviously. In terms of performance of the EPA, they have only limited resources, so they are looking at forestry and we have covered forestry. They are looking at White Bay and all those sorts of things. How does Lock the Gate rate these incidents, whether it be marine pollution or forestry or whichever? Do you make a judgement in those terms?

**Ms WOODS:** I do not think it is our responsibility to do that. We are not going to trade off the importance of one pollution incident against another.

**Mr SCOT MacDONALD:** I will not argue with you. Coming back to deterrence, you have locked on, have you not?

**Ms WOODS:** What do you mean?

**Mr SCOT MacDONALD:** You have locked on at some of these sites like Santos.

**Ms WOODS:** No.

**Mr SCOT MacDONALD:** I thought you had at the Pilliga.

**Ms WOODS:** No. I have been arrested at protests previously but I have not locked on at the Pilliga.

**Mr SCOT MacDONALD:** Not the Pilliga, sorry.

**The Hon. RICK COLLESS:** Bentley.

**Mr SCOT MacDONALD:** It might be Bentley.

**Ms WOODS:** No. You must have mistaken me for someone else.

**Mr SCOT MacDONALD:** Should we have escalating deterrents for that?

**Ms WOODS:** I think it is a generally accepted principle of the justice system that past history of offence is taken into account in sentencing. That is not my decision; that is an accepted principle of the justice system.

**The Hon. Dr PETER PHELPS:** Presumably you would like a situation where the EPA did not exist—in other words, the companies acted in an altruistic manner and would not need the heavy hand of government to force them into appropriate environmental outcomes. Would that be correct?

**Ms WOODS:** If we are talking hypothetically about an ideal society, I would love to live in a society where people took responsibility for their actions, yes.

**CHAIR:** Hypotheticals are disorderly at all times.

**The Hon. Dr PETER PHELPS:** You spoke about inappropriate mining. In that case, can you point to what you would consider to be best quality LNG operations or coalmining operations which you think are best practice?

**Ms WOODS:** I am not able to dredge that up just to hand. There is certainly a spectrum.

**The Hon. Dr PETER PHELPS:** I just thought you might have—would it not be good if they could operate like X does in relation to coalmining or X does in relation to LNG drilling.

**Ms WOODS:** For coal seam gas mining, there has been some work done recently, although I do not think it is made available yet, about best practice, which is not necessarily putting forward particular operations as best practice but best practice regulation. There is a spectrum of behaviours in the coal industry in the Hunter, which is where I am from. But I could not immediately dredge to mind which one I would hold up as an example of the right way to mine.

**The Hon. Dr PETER PHELPS:** So you cannot think of a single example in New South Wales of good quality coal seam gas or coalmining operations.

**Ms WOODS:** Well, I think we are on the record as believing there is not sufficient regulation of coalmining or coal seam gas in New South Wales.

**The Hon. Dr PETER PHELPS:** But there is not one example that you think represents an adequate standard?

**Ms WOODS:** I just do not have—I mean, I have not got that in front of me. I could not just pick someone out of the air. I am afraid that when it comes to mining it is not my experience that companies choose to limit their operations in order to protect the environment.

**The Hon. RICK COLLESS:** Do you envisage a day when all the potential and perceived problems with, say, gas mining are properly addressed and Lock the Gate would agree to the continuation of the coal seam gas industry, or are you just fundamentally opposed to the coal seam gas industry?

**Ms WOODS:** I thought I was here to talk about the performance of the New South Wales EPA—

**CHAIR:** Quite correct. You are.

**Ms WOODS:** —not about the vision that Lock the Gate holds for New South Wales.

**The Hon. RICK COLLESS:** It comes back to the fact that the EPA would then become redundant.

CORRECTED

**CHAIR:** Yes, that would be wonderful. Save some taxpayers dollars. The questions are starting to drag and get off the point. Ms Woods, I congratulate you on the evidence you have given. I wish all of our witnesses were as succinct as what you have been. Thank you for coming today.

**Ms WOODS:** Thank you.

**(The witness withdrew)**

**(The Committee adjourned at 3.20 p.m.)**