REPORT OF PROCEEDINGS BEFORE

GENERAL PURPOSE STANDING COMMITTEE No. 5

INQUIRY INTO OIL SPILLS IN SYDNEY HARBOUR

———

At Sydney on Thursday 22 February 2001

———

The Committee met at 9.30 a.m.

———

PRESENT

The Hon. R. S. L. Jones (Chair)

The Hon. Jan Burnswoods
The Hon. Dr A. Chesterfield-Evans
The Hon. R. H. Colless
The Hon. R. D. Dyer
The Hon. J. H. Jobling
The Hon. J. R. Johnson

CHAIR: I welcome everyone to the hearing today. Notice has been received that for the purpose of today's hearing the Hon. Dr A. Chesterfield-Evans is a substitute for the Hon. M. I. Jones. For yesterday's site inspection the Hon. Helen Sham-Ho was a substitute cross-member of the Committee. I advise that 13 submissions were received in early 2000. Three further submissions have been received in recent weeks and circulated to members. Two further brief submissions were received by the Committee secretary yesterday. They are from the National Parks Association and the honourable member for Manly.

Submissions tabled.

CHAIR: Due to the course of the prosecution and appeal process early last year the Committee has not yet published any of the submissions that have been received. It is my understanding that a number of witnesses who are to give evidence today—for example, the Sydney Ports Corporation—have sought access to the submissions. That is not possible until the Committee resolves to publish the submissions. I therefore seek a motion from a member of the Committee to enable the submissions to be published.

The Hon. R. D. Dyer so moved.

CHAIR: This is the first and at this stage the only hearing for this inquiry. The schedule is tight and I therefore ask witnesses to ensure that their opening statements are brief and to the point. If opening statements proceed for longer than five or 10 minutes at the maximum, I will request that they are tabled for incorporation in the transcript.

GARY MALCOLM SMITH, Refinery Manager, Shell Refining Australia, sworn and examined:

CHAIR: What is your business address or residential address please?

Mr SMITH: My business address is Durham Street, Rose Hill, 2142.

CHAIR: In what capacity are you appearing before the Committee?

Mr SMITH: I am here as a representative of Shell Refining Australia.

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr SMITH: Yes, I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Mr SMITH: Yes, I am.

CHAIR: If you should consider at any stage that in the public interest certain evidence or documents you may wish to present should be heard or seen only by members of the Committee, the Committee will be willing to accede to your request. Do you wish to elaborate on your submission or make a short statement?

Mr SMITH: Yes, In the interests of brevity I would like to bring out a couple of points that were contained within our submission. The first point I would like to make is that Shell Refining Australia takes very seriously its responsibility with respect to both the environment and the society in which we operate. We as a company, both locally and globally, have for some time now published reports against what we refer to as the triple bottom line—our environmental performance, our financial performance and our performance within the society. As an overview I would like to stress that point.

Secondly, as we have said in our submission, and as we have said publicly on many occasions, Shell was deeply concerned by the oil spill that occurred in Gore Bay on 3 August 1999. We have fully investigated that incident and, whilst the investigation team did not find deficiencies in the action of Shell staff or procedures, a number of recommendations were made that were directed toward the response and management of any potential future spill. I am pleased to report that the recommendations of this investigation, and indeed the investigation by the incident analysis team under the direction of Matt Taylor, have now been fully implemented.

The third point I would make is that the management of oil spills, as with the management of all hazards in the oil industry, is a consideration of both the hazard barriers and consequence barriers. By "hazard barriers" I refer in this case to items such as the ship-shore check sheets, the roles of surveyors, the role of training, the role of ship procedures, the terminal integrity and terminal maintenance. On the one half we have the barriers to prevent the hazard from happening in the first place, but we also consider what we refer to as "consequence barriers", in this case our emergency response capability, and in particular our oil response capability and matters such as our ability to detect and quickly respond to a leak should it happen. Both the hazard barriers and the consequence barriers have been considered in relation to the Gore Bay spill and remain under our constant review.

The last point I would like to make is that we pay particular attention at Clyde Refinery and Gore Bay to our management systems and we are very proud of the fact that we have a management system which is certified to IS 09002, which is an international quality standard, IS0 14001, which is an international environmental management standard, and AS 4801, which is a local health and safety standard. I think I am correct in saying that we are the only refinery that is certified to these three standards and I wanted to stress the importance we place on the management of our refinery.

The Hon. J. R. JOHNSON: Shell is the only refinery in Australia so certified?

Mr SMITH: That I am aware of. I think that is correct.

The Hon. J. R. JOHNSON: Are they paramount?

Mr SMITH: They are not essential, but we think they are important to the good management of the facility.

CHAIR: Following the oil spill that occurred at Gore Bay terminal on 3 August 1999 Shell conducted its own inquiry into the spillage. Can you briefly describe how that inquiry was conducted and the conclusions that were reached.

Mr SMITH: A team was pulled together of people from outside the refinery. The team consisted of Barry Adams, who was the team leader and a Shell employee; Mr George Franklin who was working for our shipping arm in Thailand at that point in time was flown in; and an external consultant, Denys Goggin. They were the team members and they conducted interviews with a range of people from, I think, the day after the incident took place. They were on board the day following the spill and took about 10 days to gather their evidence.

The inquiry's terms of reference, if I may quickly refer to them, were: to establish the cause of the incident; to identify any failings in the management system of Shell or the ship that contributed to the incident; to assess the Gore Bay oil spill response reaction in the first eight hours following the spill; to establish what, if anything, could be done to prevent a repetition of the incident; and to establish what, if anything, could be done to improve oil spill response in the future.

The Hon. R. D. DYER: In your written submission you stated, "During the last 10 years Shell managed ships have been involved in two significant spills in which a total of less than 6,000 tonnes of crude oil was lost from two tankers, both of which were struck by passing ships which had the responsibility of keeping clear." I take it that your reference to those incidents is on a global basis?

Mr SMITH: Absolutely—not in this part of the world at all.

The Hon. R. D. DYER: Regarding the *Laura D'Amato* incident adjacent to your terminal, would I be correct in assuming you placed the primary responsibility for that incident upon the chief officer of the *Laura D'Amato*?

Mr SMITH: I do not know if I would want to pin it on a particular individual. I think that is something for the court to determine, but certainly it was the *Laura D'Amato* in the broader context, yes.

The Hon. R. D. DYER: What I am seeking to establish is your perception of whether the responsibility lies with Shell or some other party.

Mr SMITH: The other party, and the *Laura D'Amato* is the other party. I am just being careful not to pick an individual.

The Hon. R. D. DYER: Can you tell the Committee briefly what more stringent measures are now taken when a large vessel berths at your terminal, in order to prevent a recurrence of an incident such as the *Laura D'Amato* incident.

Mr SMITH: Firstly, with regard to intercepting the hazard there is and always has been a ship-shore check sheet, which is the formal communication between the ship and the shore before any discharge operation takes place. That is a document that is used internationally and certainly around Australia. The process up until this incident was that a representative from the ship and a representative from the shore would go down the check sheets and sign that each had done their respective tasks and would sign under the witness of Sydney Ports Corporation and the discharge would begin. We now require that the terminal representative physically sight that the cautions that the ship needs to make before the transfer takes place. We do not simply rely on the information provided to us by the ship; we require our people to actually walk the ship. That would be the first thing.

The Hon. R. D. DYER: Am I correct in believing that is common practice now or invariable practice, where a large vessel berths at your terminal to discharge crude oil that a boom is placed around the vessel shortly after it berths?

Mr SMITH: That is correct. The second recommendation that was part of the Shell report was that we investigate booming of all ships. We have since instigated that practice. It is carried out for us by Sydney Ports Corporation. They have been contracted to deploy the boom and it happens each time we bring in a ship.

The Hon. R. D. DYER: Are the only exceptions to that current practice small vessels used for bunkering ships in the harbour?

Mr SMITH: That is correct. The *Amorina* would be the only exception.

The Hon. R. D. DYER: In the perhaps unlikely event of an oil spill occurring from that vessel, how much oil would be involved?

Mr SMITH: If it was a spill associated with a ship-to-shore transfer, several thousand litres would be an imaginable spill.

The Hon. R. D. DYER: The Committee has a submission from Professor Underwood of the University of Sydney. You may be aware that Professor Underwood's view is that the use of chemical dispersants and detergents and other similar materials is more damaging to the environment and to animal and birdlife than the oil itself. Does Shell have any view regarding that?

Mr SMITH: I have not seen Professor Underwood's submission. The use of dispersants is not something that we would universally promote or adopt. I think the response to each spill needs to be considered in the context of the localities of the spill, the weather conditions, the tidal conditions and the like. I do not profess to be an expert, but my understanding is that there are dispersants that can be used that are no more injurious to the environment than the oil itself, but I do not have any particular expertise in this area. I would add that we did not use dispersants at all during the *Laura D'Amato* spill.

The Hon. J. H. JOBLING: Would you not be aware of submissions by Professor Underwood to the inquiry that was conducted by Justice Talbot?

Mr SMITH: Not specifically. I am aware of Professor Underwood's work more generally, but I cannot specifically—

The Hon. J. H. JOBLING: I am not asking whether you are aware of the individual wording of the submission, but you are aware of the thrust of it, are you not?

Mr SMITH: Generally speaking, yes.

The Hon. J. H. JOBLING: You say your company uses no dispersants whatsoever?

Mr SMITH: Correct. In the *Laura D'Amato* incident?

The Hon. J. H. JOBLING: In the *Laura D'Amato* incident, in this case. Would you like to tell the Committee, then, who did?

Mr SMITH: I have no knowledge of dispersants being used.

The Hon. J. H. JOBLING: And you rely on that as principally the refinery manager of Clyde, as opposed to the manager of the depot in Gore Bay?

Mr SMITH: That is correct.

The Hon. J. H. JOBLING: Following the *Laura D'Amato* incident, other than the boom which is operated by Sydney Ports in the case of oil spills, could you indicate what other preventative

measures your company—or you in particular, as I understand you are responsible overall for both—have put in place to prevent future oil spills in Sydney Harbour, and particularly this terminal?

Mr SMITH: To prevent and to mitigate, we have installed gas detection equipment along the foreshore at the terminal, such that if there is any spill we can detect it quicker than we did on this occasion. We have installed underwater lighting around the berth so that if there is oil on the water you can actually physically see it. This was an incident that occurred at night, and it was hard to detect quickly, so we now have underwater lighting around the ship so that the wharf watch, which is an employee who observes all discharges of ship, is able to respond more quickly.

We have prior to the incident always practised and trained in our emergency response capability and nautical response capability, and we have re-emphasised the importance of that. We have since that incident, as I mentioned earlier, gained accreditation to IS0 14,001, which is a management code for environmental management. They were the primary recommendations of the investigation and the actions which we have taken.

The Hon. J. H. JOBLING: You are not the principal response agency though, are you?

Mr SMITH: It depends on the material. Oil spills are tiered roughly by the volume of spill. For small spills we do respond; for spills of the size of the one that occurred from the *Laura D'Amato*, that responsibility transfers to Sydney Ports Corporation.

The Hon. J. H. JOBLING: I take it that in the event of a spill such as the *Laura D'Amato* or greater, with Sydney Ports being the principal response agency, you have a plan obviously in place to deal with such spills?

Mr SMITH: We do, and we train regularly wit Sydney Ports in exercises to simulate those sorts of responses.

The Hon. J. H. JOBLING: Who else trains with you?

Mr SMITH: The other organisation which we train wit on a regular basis is AMOSC, the Australian Marine Oil Spill Centre, located in Geelong. That is an industry-funded organisation which has expertise and equipment for dealing with oil spills.

The Hon. J. H. JOBLING: Waterways, police, ambulance, and, in the event of fire, hospitals?

Mr SMITH: Indeed.

The Hon. J. H. JOBLING: How often do you do this—once every six months, or once every three months?

Mr SMITH: We have an emergency exercise each year at the terminal and the refinery, so we run two exercises a year.

The Hon. J. H. JOBLING: When was the last one?

Mr SMITH: The last one was, roughly speaking, November of last year, at the refinery.

The Hon. J. H. JOBLING: What happens after it? Is there a getting together, and where does the report on what went wrong and what can be improved upon as a result of that exercise occur?

Mr SMITH: Typically, we have observers who observe these exercises. Depending on who is involved, police, ambulance and fire brigade would also have observers for the exercises played out, if I can use that expression. We then debrief immediately following the exercise. There is then typically a report available. Action items are raised, which are then managed through our management tracking system in the refinery.

The Hon. J. H. JOBLING: Who would get to know about this report and where is it available?

Mr SMITH: It is available certainly from myself and through our own internal management systems. Certainly the agencies that participate in that particular event have access to the report and the findings. It is not published publicly.

The Hon. J. H. JOBLING: In other words, it is purely an internal report?

Mr SMITH: That is correct.

CHAIR: But you will provide it to the Committee, will you?

Mr SMITH: Which particular—?

The Hon. J. H. JOBLING: The last report of the last exercise?

Mr SMITH: We can give you a copy of the last report.

The Hon. J. R. JOHNSON: Would that be with restricted access?

Mr SMITH: Yes, I think so. The last exercise had the fire brigade involved.

The Hon. J. R. JOHNSON: Mr Chairman, you might point out the provisions.

The Hon. J. H. JOBLING: The question is: Why is it a private report? Surely it is in the public interest for the public to be told if there is something wrong and what you are doing to fix it. Why is it not a public document? What is in the document that should not be publicly known, if what you say to us is that you are out there to ensure public safety, prevent oil spills, look after the ecology and the environment, and look after the ships that are there as well as your own staff? Why would do not be wanting to protect all of them by publicly saying, "We have done the exercise. This is what went wrong, and this is why we are trying to fix it"?

Mr SMITH: In principle, I do not have a problem with sharing that information. I guess I would like to take some advice. And secondly—

The Hon. J. H. JOBLING: There is a multiplicity of very large public bodies involved. Irrespective of what you say, why has this not been discussed and why is it not out there in the marketplace?

Mr SMITH: Well, there has been no demand for it.

The Hon. J. R. JOHNSON: Mr Chairman, might I suggest that you might point out to Mr Smith the provisions of restricted access?

CHAIR: So that it will not be published?

The Hon. J. R. JOHNSON: Not necessarily, unless the Parliament overrides the Committee.

The Hon. J. H. JOBLING: I accept my colleague's comment without hesitation. However, there are two exercises a year which could concern a major public incident, the results of which have never been released. My question is: Why is this is not happening? As I have said, I accept my colleague's comment in relation to tabling of a document. Perhaps I will leave that for the moment.

Mr Smith, am I correct that small harbour vessels such as the Jetcat and the ferries are refuelled at Gore Bay, and I believe that fuelling is undertaken on a small scale at Manly wharf, is that correct?

Mr SMITH: No, that is not correct. The only vessels that we refuel in Gore Bay itself are the Manly ferries and the commercial tugs that service the harbour. The Jetcats are refuelled somewhere else; I am not exactly sure where.

The Hon. J. H. JOBLING: Is it possible it could be Manly?

Mr SMITH: I guess it is possible. I think they are refuelled somewhere near Balmain.

The Hon. J. H. JOBLING: Mr Chairman, the reason for the question is that obviously there can be an extreme multitude of small leaks which are simply of nuisance value, and I am curious to find out how they are dealt with.

The Hon. Dr A. CHESTERFIELD-EVANS: I am curious as to why there were not booms around the boat. Apparently, there are now booms. Why have their not been booms before? Why are they not an industry standard? Surely they are a very cheap way of controlling the situation?

Mr SMITH: Booms are very infrequently used worldwide. To our knowledge, the only other location where booming does take place is in some ports in Japan. They are not common practice, they are not totally effective, and they impose other risks, such as safety risks to the ship, which need to be balanced against their mitigating effect in an oil spill. So it is not a simple question to deploy them. In the case of Gore Bay, we did quite some studies of the tidal patterns within the bays to give ourselves some assurance that we could safely boom the ship and not impose a safety risk to the ship.

The Hon. Dr A. CHESTERFIELD-EVANS: The safety risk is that the oil may disperse and could cause greater risk than if the booms were not there?

Mr SMITH: Yes. If the ship is sitting in the middle of an oil spill, it imposes other risks, particularly fire, so it is not a decision we took lightly.

The Hon. J. R. JOHNSON: Mr Smith, information made available to the Committee yesterday indicated that you have a pipeline from Gore Bay to the refinery and from the refinery to Sydney airport. I take it that is both the international and domestic airport. How is aviation fuel delivered to Bankstown?

Mr SMITH: The delivery to Bankstown is by road.

The Hon. J. R. JOHNSON: Who has carriage of inspection of the pipeline for safety or for leakage?

Mr SMITH: In the first instance, we obviously have a responsibility with regard to that. But the pipelines are managed under a code—and, I am sorry, I cannot recall the code number—and a division of WorkCover has responsibility for the management of registered pipelines.

The Hon. J. R. JOHNSON: How often does your company inspect the pipelines, and what method is undertaken, whether it is visual, mechanical or electronic? How often does WorkCover do that?

Mr SMITH: There are a number of methods used to ensure the integrity of pipelines. I guess, at the simplest level, the pipelines are surveyed, walked if you like, or visited on a weekly basis. We do far more rigorous inspections—I am trying to recall the frequency, but it is of the order of every five years—where we put a device referred to in the industry as an intelligent pig up the pipeline which has electronic wall thickness and measurement equipment contained in this device, which travels the length of the pipeline, electronically records the status of the pipeline, and then we can download that data and interpret the state of the pipe. We make those reports available, and we are obliged to do so.

The Hon. J. R. JOHNSON: You make those reports available to whom?

Mr SMITH: We make those reports available to WorkCover, which is the statutory body.

The Hon. J. R. JOHNSON: Have you ever experienced any difficulty with the pipelines?

Mr SMITH: We have never experienced integrity difficulties. The only difficulty we have experienced with the Gore Bay pipeline was in about 1992, where we actually blocked it. It was quiet a task to unlock it. But it was not an integrity issue.

The Hon. J. R. JOHNSON: Blocked with what?

Mr SMITH: Crude oil can be quite waxy, and if it gets too cold it can congeal and you end up with a wax block somewhere between Clyde refinery and Gore Bay.

The Hon. J. R. JOHNSON: There is no likelihood of that happening with the pipeline to the airport?

Mr SMITH: No. It is a completely different sort of product.

The Hon. R. H. COLLESS: Mr Smith, I am just a little confused about the process that allowed the oil to escape into Gore Bay. From reading the report, I understand that there were six tanks on the *Laura D'Amato,* that they were joined by these crossover valves and that they had opened a couple of crossover valves to increase the pumping rate. Is that correct?

Mr SMITH: Let me try to explain.

The Hon. R. H. COLLESS: Just before you go on, I will point out why I am asking the question. The sea chest valves are there in order to pump ballast water back into the tanks, if so required. Is that correct?

Mr SMITH: That is correct.

The Hon. R. H. COLLESS: There is a link somewhere between those crossover valves and the sea chest valves, and the sea chest valves were inadvertently left open.

Mr SMITH: The ship has a number of tanks, I think more than six, and there are manifolds that run the length of the ship which allow you to connect tanks individually to a manifold, which then is pumped ashore. Those manifolds are also connected to the sea chest valves, and the function of those sea chest valves is that, on the very rare occasion when the ship is at sea in bad weather without product, it can ballast the sea water for the safety of the ship. So that is the function of those particular valves. You have a lot of flexibility as to how you line up the discharge arrangements, and in connecting a particular tank to the manifold and the discharge they opened up a piece of pipe which was connected to the sea chest valves. The sea chest valves were thought to be closed, but in fact were open, and that provided the route from the tank to Sydney Harbour, if you like.

The Hon. R. D. DYER: Mr Smith, ideally, what would you—by which I mean Shell—like to see come out of the Committee's inquiry today?

Mr SMITH: I guess from our point of view the Committee serves a purpose of increasing the understanding of the events that occurred in relation to the *Laura D'Amato*. I guess we would also like to put on record our response to that and give a sense that we do take these things very seriously and we are doing all we can reasonably do to ensure that it does not happen again.

The Hon. R. D. DYER: In response to questioning by the Hon. Dr A. Chesterfield-Evans some time ago you were saying it is not worldwide practice to have a boom installed around a large vessel such as an oil tanker when it berths. You indicated such is the practice in Japan.

Mr SMITH: Yes.

The Hon. R. D. DYER: But, generally speaking, not elsewhere. By way of explanation, you pointed out that there are some dangers to the vessel if a fire were to occur. I take it that the various factors and dangers have been weighed up by Shell and the authorities and that Shell is satisfied, in

consultation with the various agencies responsible, that it is appropriate to insert a boom around large vessels berthing at your terminal.

Mr SMITH: We have two comments. Firstly, a lot of ports where oil tankers operate from are not suitable for booming because of the weather conditions prevailing at those terminals. Booming is really only effective in very calm waters, such as we have in Sydney Harbour. So, whilst you might want to do it in other locations, it simply is not a practical solution. So there is that consideration as well. In terms of employing booms in Gore Bay, we are quite satisfied with what we have implemented to date, which is no longer encircling the ship with a boom, which was the path we were originally heading down. We now boom off half the entrance to Gore Cove itself, and we have established that the tide flow in Gore Bay is always in the same direction, so that any spill will wash up against the boom and be contained against the boom away from the ship.

The Hon. R. D. DYER: When I was questioning you earlier I mentioned Professor Underwood, who is Director of Marine Ecology Laboratories at the University of Sydney.

Mr SMITH: Yes.

The Hon. R. D. DYER: You indicated to the Committee that you have not seen his submission to the Committee.

Mr SMITH: No, I have not.

The Hon. R. D. DYER: Are you, however, aware of his views regarding the damage that can be done, relative to oil itself, by chemical dispersants, detergents and so on in the aftermath of an oil spill?

Mr SMITH: In general terms I am aware of his views, but again I say this is not my area of expertise and I would defer to Professor Underwood.

CHAIR: Mr Smith, you said earlier that the recommendations of the Shell inquiry and Mr Taylor's inquiry had now been implemented in full. Have you also had regard to the Commonwealth Transport Safety Bureau report, Captain Filor's report, and implemented his findings?

Mr SMITH: Yes, I am.

CHAIR: Can you assure the Committee that such an oil spill will never happen again in that place? If not, why not?

Mr SMITH: Unfortunately, I cannot give guarantees.

CHAIR: Is it true that that depot may well be closed in the next two or three years?

Mr SMITH: Shell publicly announced in March of last year that we are reviewing the ongoing viability of the refinery in the light of significant investment we need to make in that refinery regarding cleaner fuels. That is a process that is still continuing. But it is not necessary that, should the refinery itself close, the terminal also would close. The terminal could find a role post the refinery closure as just an input facility for product.

CHAIR: Would the risk of oil spills have any part to play in that decision?

Mr SMITH: Not in that decision. It is at the forefront of our mind in our ongoing operation. I am not aware of the risk of oil spills necessarily influencing that particular decision, as to whether the refinery should close or otherwise.

CHAIR: It would be purely a financial decision then?

Mr SMITH: Correct.

The Hon. J. H. JOBLING: Mr Smith, Judge Talbot, in a judgment delivered in the Land and Environment Court on 16 March 2000, said in his conclusions at page 59:

> All tankers' Masters are reminded by the circular that, inter alia, pressure tests of the sea chest valves must be undertaken each time before the vessel carries out discharge or loading operations and tests logged.

In view of that, and accepting the physical examination and assumptions, is this now a requirement of your company at the terminal at Gore Bay?

Mr SMITH: Yes, it is. Most tankers in fact have different arrangements which do not lend themselves to this particular problem. Where tankers such as the *Laura D'Amato*, with that particular configuration, do visit us, they are required to physically take out a piece of pipe to conduct pressure tests to ensure that the valves are closed.

The Hon. J. H. JOBLING: You have an actual checklist that your officer or operator, either the master or the first make, would certify to make sure that this is done?

Mr SMITH: The physical disconnection, or the proving of the valves being closed, is normally done by the ship as the ship is coming to port. We then require the terminal representative to accompany the ship representative down to the valves and actually eyeball that that has been done.

CHAIR: We are out of time. Thank you very much.

(The witness withdrew)

MICHAEL RICHARD ROLFE, Town Planner, 41 Cove Street, Watsons Bay, sworn and examined:

CHAIR: Mr Rolfe, in what capacity are you appearing before the Committee?

Mr ROLFE: I am appearing in two capacities. I am appearing as Secretary of the Sydney Harbour and Foreshores Committee and, as I indicated to the secretariat, I wish also to appear as the President of the Vaucluse Progress Association because there are some aspects of the Vaucluse Progress Association submission that I wish to highlight.

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr ROLFE: Yes.

CHAIR: Are you conversant with the terms of reference of the inquiry?

Mr ROLFE: I am.

CHAIR: If you should consider at any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be heard or seen only by the Committee, the Committee would be willing to accede to your request, that is, to go in camera.

Mr ROLFE: Thank you.

CHAIR: Do you wish to elaborate on your submission or make a short statement?

Mr ROLFE: Yes, I would like to table a photograph I took at Gore Cove on 18 January 2000. The event is made reference to in our submission. It basically shows that a boom that had been put around an oil tanker was hard up against the hull. I would have thought it would have been reasonably ineffective in that location. However, I gather from the evidence just given by Mr Smith that, in fact, that system has been abandoned and another one has been instituted. Since it was part of the evidence, I think it is reasonable to table the photograph. In terms of documentation, is the Committee aware of a document called "Energy of Sydney Harbour: The Supply Chain for Marine Fuels", which was put out by the Office of Sydney Harbour Manager early last year. The only reason it is mentioned is that it is relevant in that it gives a flow chart of how marine fuel travels around Sydney Harbour, indicating whether it goes to a marina by road or by barge and all those sorts of things. I wondered whether the Committee had that particular document.

CHAIR: I am not sure, but we have it now.

Mr ROLFE: The copy I have was sent to me as a draft for comment. You should get the final document, from the Office of the Sydney Harbour Manager.

CHAIR: We will.

Mr ROLFE: It is a good document. As to my opening statement, both organisations believe that the prime the object is to protect the environment. With oil spills there should be two activities. There should be the containment activities of the oil spill and then there should be protection of the environment by taking precautionary activities at sensitive environmental locations. The Vaucluse Progress Association was alerted by one of its members to the potential problems of oil spills on the harbour. In 1992 at a general meeting of the association representatives from the Maritime Services Board [MSB]—I am not sure what the MSB or its successor was called at that time—came and discussed the emergency plans for Sydney Harbour. At the meeting the people who live on the harbour foreshores expressed a view that they can help. Nothing has happened since that time.

In terms of protecting the intertidal zone, there is a resource there—the people who have adjacent houses. It would be of community benefit if authorities gave them advice as to how they could protect the intertidal zone in an environmental friendly way. I have not spoken to Tony

Underwood about this, but maybe they should throw their old carpets weighed down over the surface so that the oil spill gets absorbed into the fabric before it gets onto the rock. Basically, the thrust of our submission is looking at those sorts of things to get the community involved.

CHAIR: Your submission states that your organisation is currently investigating the oil spills at Gore Cove. Would you describe the process of that investigation and its results?

Mr ROLFE: I tabled that photograph to show that the boom was ineffective, in our opinion, at that time. However, it has been moved. They have now placed it in a new location, which would overcome the facts that we sought.

CHAIR: From your research and investigations what, if any, damage can be done by smaller oil spills in the harbour?

Mr ROLFE: We do not have the technical competence of a marine biologist. Admittedly, we do have a marine biologist on the Vaucluse Progress Association but he is involved mainly with the freshwater systems at present and has not got the expertise to give any advice about that.

The Hon. R. D. DYER: In your submission you say:

> We think that a single line of defence is inadequate for the purpose of preventing future spills or for protecting the environment. Work practices are important but they needed to be allied with other failsafe measures, including precautionary bunding, proper containment and defensive measures to apply to environments under threat.

Mr ROLFE: That is in line with the view that I expressed in my opening statement. It is this second line of defence of protecting the environment. There was an example, and we did give you a supplementary submission, when two vessels at the Royal Motor Yacht Club at Rose Bay caught fire and they were dragged across the bay and beached. They were then contained within a boom. The boom was very close to the Rose Bay side drain, which runs up through Woollahra Park and Royal Sydney Golf Club. Up in that area at that particular time there was a duck with little ducklings that lived up the drain and came back down. We wondered whether it would be reasonable to put a second boom across the entrance to that sensitive area on the land to protect that particular environment. In other words, you look at the situation, you look at the mechanical problem of the oil spill and then you look at the environment sensitivity around that location to see whether there is any sensitive environment. I am happy to report to you that the five ducklings survived and are happily still swimming around Rose Bay and growing.

The Hon. R. D. DYER: You represent the Sydney Harbour and Foreshores Committee. Would I be correct in assuming that committee is in the nature of a community action group?

Mr ROLFE: Yes.

The Hon. R. D. DYER: Would I be correct in assuming that your committee and its members have no particular technical expertise regarding recovery after oil spills?

Mr ROLFE: Correct.

The Hon. R. D. DYER: Did you hear the evidence given this morning by Mr Smith, the Shell Refinery manager, about current practices regarding a boom being placed around large vessels before they discharge crude oil?

Mr ROLFE: Yes.

The Hon. R. D. DYER: Albeit from the perspective of someone who is not an expert, would you form the view that Shell and the government agencies that have consulted with it are endeavouring to install a system that will prevent a recurrence of the *Laura D'Amato* oil spill?

Mr ROLFE: They are endeavouring to mitigate the effects of an oil spill. In respect to Gore Cove, as I understand Mr Smith's evidence, a boom was being placed between the main body of the harbour and the oil tanker. However, my recollection is that at the head of Gore Cove there are some mangroves and some wetlands. In line with what I have been saying to you that you contain the

activities and protect the environment, my view is there would be a case for saying if we put one boom across the harbour we should put in another boom to protect the head of the bay at the same time. I just raise that. My reaction would be that you in fact could go one step further.

The Hon. R. D. DYER: My understanding is that the boom is placed around the vessel in question.

Mr ROLFE: I did not get that from Mr Smith's evidence.

The Hon. R. D. DYER: Do you say the boom is placed at some more remote location?

Mr ROLFE: That was my impression.

The Hon. Dr A. CHESTERFIELD-EVANS: I got the impression that the boom does not go completely around the vessel and relies on the tide to push it into that area.

The Hon. J. H. JOBLING: In discussing the boom in Gore Cove and the placement of the boom around a discharging tanker, are you familiar with the direction of the tidal flow in Gore Cove?

Mr ROLFE: No.

The Hon. J. H. JOBLING: If you do not know which way the tide flows, how can you make any statement about the type of boom and where it should be placed with any degree of authority?

Mr ROLFE: The only boom that I indicated I believe may be possible would be a boom at the head of the bay to protect the mangroves and other environmentally sensitive areas.

The Hon. J. H. JOBLING: I will repeat the question: How can you make any statement about the type of boom and its placement if you do not know in which direction the tide in Gore Cove flows? It is unusual. I know in which direction it flows; it appears that you do not.

Mr ROLFE: No, definitely not.

The Hon. J. H. JOBLING: It flows in an anticlockwise way and that is why they placed the boom where it is. There is little point in putting a boom elsewhere if they want to contain the oil. You submitted two photographs in evidence, of which I have a copy. I am looking at a photograph of a spill on 15 August. What is the basis of the photograph of a ship named *Pacific Onyx* out of Panama when we are specifically looking at an oil spill of the *Laura D'Amato* on a different date?

Mr ROLFE: The only reason for submitting that photograph was that the boom was against the hull of the vessel.

The Hon. J. H. JOBLING: On that day?

Mr ROLFE: On that day. Therefore, if there had been an oil spill on the deck of that vessel, most likely the material would have gone straight over the side, missed the boom and ended up in the harbour.

The Hon. J. H. JOBLING: It would be fair to conclude that the photographs are to sustain a hypothetical situation which may or may not have occurred, as you put it, on that occasion?

Mr ROLFE: That is right.

The Hon. J. H. JOBLING: Are you—or your committee—familiar with any of the work or submissions of Professor Underwood from the Marine Ecology Laboratories, University of Sydney, dealing with the break up of oil spills, how they should be treated and what should be done? Professor Underwood, who is considered an eminent person in the trade, is a Professor of Environmental Ecology and a Fellow of the Australian Academy of Science.

Mr ROLFE: I have heard Professor Underwood speak in general terms about all oil spills. I am unaware of that particular document. I have been thinking about clockwise and anticlockwise tides in Gore Cove, since you spoke to me. If, in fact, it is an anti-clockwise tide, the protection of the head of the bay is more important because of the way the water would run around in the bay, so I am happy with my position.

The Hon. J. H. JOBLING: I will not argue the science with you other than suggesting that you have clearly indicated that you do not understand the environmental ecology and tidal flow in the bay.

The Hon. Dr A. CHESTERFIELD-EVANS: You are suggesting, though, that the sensitive areas be protected by a boom that would be there permanently irrespective of the tidal flows, more or less separating that area of the bay from the working harbour?

Mr ROLFE: Yes.

CHAIR: You talk in your submission about small oil spills from jet skis and so on. Does your organisation have any anecdotal evidence of the quantity of those oil spills?

Mr ROLFE: No, not of the quantity but when one swims in the harbour on Sunday when there is a lot of traffic one can actually smell the fuel and the water sometimes has a slight shine.

CHAIR: Are you aware from which particular vessels? Is it mainly jet skis?

Mr ROLFE: Jet skis seem to be the obvious ones. Obviously, it is the two-stroke engines that seem to produce more of a problem than the larger boats and basically one could say two-stroke engines are the problem in the harbour if they get close to swimming areas, and that is a continual problem. People who drive jet skis tend to be less respectful of rules and regulations than other people and they are the people whom you associate with those problems.

CHAIR: Professor Underwood said in his submission that he was more concerned about continuing small pollution events rather than major catastrophic offence because they actually cause more long-term damage so perhaps we should be looking at jet skis and other small vessels releasing oil.

The Hon. J. R. JOHNSON: When did your organisation come into being?

Mr ROLFE: It was founded in August 1979.

The Hon. J. R. JOHNSON: Do you have individual members or corporate members?

Mr ROLFE: We have members that come from a range of backgrounds.

The Hon. J. R. JOHNSON: I did not ask you that. Do you have individual members, corporate members or both?

Mr ROLFE: We have four municipal council members, 10 community groups and 18 individuals.

The Hon. J. R. JOHNSON: Do you have a registered office?

Mr ROLFE: Yes. I mean, we have an office but we are not an incorporated body.

The Hon. J. R. JOHNSON: You are an unincorporated body. Do you have experts in various disciplines to advise you?

Mr ROLFE: No.

The Hon. J. R. JOHNSON: Do you have public funding?

Mr ROLFE: No.

CHAIR: What would your committee like to see come out of the inquiry of this Committee?

Mr ROLFE: A situation where there is a more comprehensive plan for dealing with oil spills in Sydney Harbour and a community information program to tell people how the community can help; if, in fact, there is an oil spill and it is coming your way, what you, as an individual can do. Obviously, the more people we can get to deal with the situation and the quicker we can deal with it, the less impact oil spills will have on Sydney Harbour.

(The witness withdrew)

THOMAS JOSEPH McLOUGHLIN, Natural Areas Policy Officer, Friends of the Earth, 17 Lord Street, Newtown, sworn and examined:

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr McLOUGHLIN: Yes.

CHAIR: Are you conversant with the terms of reference of the inquiry?

Mr McLOUGHLIN: I am.

CHAIR: If you consider at any stage during your evidence that in the public interest certain evidence or documents that you may wish to present should be heard or seen only by the Committee, the Committee would be willing to accede to your request.

Mr McLOUGHLIN: I do have one point of information but it would be later on, probably after my opening comments.

CHAIR: You wish to give evidence in camera?

Mr McLOUGHLIN: Yes.

CHAIR: Do you wish to briefly elaborate upon your submission or give a short statement?

Mr McLOUGHLIN: Yes, I do. In particular, I would like to introduce myself a bit more fully. I am the natural areas policy officer of Friends of the Earth, which is not funded by the State or Federal governments so we are completely independent and free to comment and criticise. I have done this kind of work for eight or nine years now. My background and training is a zoology degree and I have also been admitted as a solicitor in New South Wales but I am not practising as such. The organisation I am with was founded in 1974. Mr Johnson might find this relevant, that we are an incorporated association. My main purpose today is to question whether Shell is a fit and proper corporate citizen to operate in Sydney Harbour.

This is very important because Shell is being trusted at Gore Cove with the environmental commons of Sydney Harbour. Further afield there is great public interest in Shell's role on the north-west shelf, and this is on the front page of the *Australian Financial Review* today, yet from the research we have done it appears that Shell has an appalling record of environmental and safety mismanagement. No doubt Shell will argue that Friends of the Earth is simply against the company because it is an oil company but I submit that the research in our submission—and I will mention additional information soon—provides quite a reasonable and factual basis for strong criticism of the Shell company.

Shell became a corporation of interest to Friends of the Earth, Sydney in 1995 after we heard of its performance in Nigeria where it owns the majority of oil business and there is very significant oil pollution in place in that country. I do not need to go into the detail but that is when we became interested and looked in greater detail at its performance. When the oil spill occurred on 3 August I went down within 18 hours, by 9.00 a.m. the next morning to witness it for myself. In response to the gentleman's comments about clockwise and anti-clockwise tides and the like, from my direct observations it was the wind that made the real impact on how the oil travelled on the surface of the water. It was the wind that carried the oil over the oil boom, through the oil boom or under the oil boom and to me the tidal movements at the time did not really make any difference at that stage.

I urge members of the Committee to read our submission because it has extracts of direct quotes from various people who are very knowledgeable on this matter, much more knowledgeable than myself, such as Peter Morris, who are headed up the Ships of Shame inquiry in Australia and now has an international role. It has comments from Mr Jim Starkey, who represented, at least at that time, the Australian Institute of Petroleum and who was due for retirement soon after the comments he made. From my impression he felt he had a freer hand to say what he really thought about the

situation. Frankly, he put Shell as managers of the terminal in the picture as far as direct legal responsibility for the safe work systems at the terminal itself. We make comments from reports on the public record about other incidents that Shell has been involved in such as the one that is quoted in the *Sydney Morning Herald* of 7 August, which stated that "This is not the first time oil has been spilled at Gore Cove. In 1984 about 40 tonnes of crude oil spilled into the harbour at Gore Cove when a Shell barge pumped 1,900 tonnes of oil into a tank with a capacity of 1,217 tonnes. Shell was found to be negligent and was fined $25,000. In 1993 about 10 tonnes of crude oil spilled into Gore Cove as it was being transferred from one tank to another both on land."

We heard from Mr Smith that there have been two oil spills. In the last few weeks I have been advised that there has been another oil spill, not at Gore Cove but of a ship owned or controlled by Shell called the *Neptune Derada*, which sailed from Australia to San Francisco and was impounded on the 23 September 2000 in San Francisco Harbour by the United States authorities and prosecuted for leaking oil all the way across the ocean and at San Francisco. The details of that can be obtained from the head office of Surfrider Foundation, telephone No. 07 5534 2855. The project officer is Ms Jody Adams, who has extensive documentation of the court proceedings. I understand that the Sydney office of the Maritime Union of Australia is also aware of this incident and the contacts are Zoe Reynolds and Patty Crumlan, telephone No. 9267 9134.

Similarly, when we looked into this research and we started putting our questions to the rest of the environmental network, we were interested to learn of this report in the *Age* newspaper of 19 August 1999, which stated "Shell faces 35 safety charges over refinery" in relation to a facility in Victoria. The lead states that Shell Refinery Australia has been charged with breaching Victoria's health and safety laws after an audit of its firefighting facilities last year. I urge members of the Committee to take note that it says "firefighting facilities", which is quite a critical issue in relation to the risk of ignition of the fumes. As I mentioned in the submission a full 18 hours after the spill the fumes at Shell Park, which is a good 100 to 200 metres away from the Gore Cove terminal, were nauseating. I could manage for 15 seconds before I felt a panicky reaction to get out of the place. This was surrounded by houses.

The Hon. JAN BURNSWOODS: Do you mean fumes or odour?

Mr McLOUGHLIN: It was not visible. It was invisible, but I cannot see too much of a distinction there. It was obviously in the air that I was breathing.

The Hon. JAN BURNSWOODS: By fumes one imagines that you mean something flammable whereas odour is not necessarily flammable.

Mr McLOUGHLIN: It seems to me that the stronger the odour the more concentrated it is and the higher the risk of the ignition. Certainly at the terminal itself there are signs on the fence line and on the ship itself saying "No smoking", et cetera.

The Hon. J. H. JOBLING: Surely you would expect to find those signs there, would you not?

Mr McLOUGHLIN: Yes.

The Hon. J. H. JOBLING: They were unloading flammable cargo. Surely they would be in breach if the signs were not there? Surely you are not trying to make the point that the signs should not have been there?

Mr McLOUGHLIN: No, of course not. It is absolutely critical that they are there. But we have not had any investigation of the level of risk of ignition. I could not agree with the Committee member more; there needs to be a release of the Taylor report, which has been kept secret to date, and Shell's report. I do not know if Mr Smith was unaware, but that report was requested by Kerry O'Brien of the *7.30 Report* in front of the ABC television audience on 4 August. That request is quoted word for word in our submission. The *Australian* newspaper ran an editorial column commenting that Shell offered to release the report on condition that the Taylor report was released, and it chastised—

The Hon. JAN BURNSWOODS: Hang on a minute! All of that was in the period leading up to the court case in which this inquiry and other things were deliberately not released because court action was pending.

Mr McLOUGHLIN: I am just making the observation that they have not been released.

The Hon. JAN BURNSWOODS: That may be, but it is irrelevant to talk about what a TV person did or did not say in August 1999.

Mr McLOUGHLIN: It has been said in evidence earlier today that it was not requested. It has been requested.

The Hon. JAN BURNSWOODS: But your implication that the material should have been released then is contrary to the way in which all sorts of inquiries, including this inquiry, were consciously deferred because of pending court action against the people responsible.

Mr McLOUGHLIN: The editorialist of the *Australian* was not convinced by that. I think the term used was "what hogwash", or something like that. The editorial term is included in our submission. It still has not been explained on what basis the legal privilege is there and indeed on what basis it should continue. Frankly, it is a taxpayer-funded report and should be released. I made some comments on pages 33 and 34 of our submission about unresolved questions, which I urge the Committee to consider as it deliberates on this matter.

For instance, from our point of view there has been a failure to date to seize documentary evidence from Shell regarding operating manuals, safety procedures, correspondence, and their investigation report. By comparison, there was an accident in a nuclear facility at Tokaimura in Japan. Probably there were less people exposed to direct physical harm there and the Japanese authorities just went in and got the documentation to check on their safe work systems. As far as I can tell that has not happened, or it happened in a very limited way.

The Hon. J. H. JOBLING: I am sorry to interrupt you again, but with respect, a deal of the information you are giving must be either anecdotal or personal. The allegations are extremely broad. At any stage did you seek to appear in the prosecution before Justice Talbot?

Mr McLOUGHLIN: We certainly made public statements at the time, and our interest was known.

The Hon. J. H. JOBLING: No, that is not what I asked you. Did you seek to appear as a witness? If so, under what capacity?

Mr McLOUGHLIN: To be honest I am not aware of Justice Talbot's Inquiry. I am aware of the prosecution of the owner of the *Laura D'Amato*.

The Hon. J. H. JOBLING: Precisely!

Mr McLOUGHLIN: It was a legal proceeding.

The Hon. J. H. JOBLING: Yes. You have made a number of claims.

CHAIR: It is not time for debate now, he is still making his submission.

The Hon. J. H. JOBLING: I am trying to deal with it, because he is referring to it. From the comments you have made here why did you not seek to appear as a witness to assist the prosecution of the *Laura D'Amato*, and ipso Shell?

Mr McLOUGHLIN: With respect sir, we gave material to the Environment Protection Authority. From memory they undertook the prosecution, so they certainly were aware.

The Hon. J. H. JOBLING: They did not call you as a witness?

Mr McLOUGHLIN: No, they did not. We were probably technically wrong in doing this, but we provided a copy of the text of our submission, very broadly, because of the broad public interest. That was with the knowledge of the copyright provisions of the Committee, which on principle I do not agree with. It is our intellectual material, it is all on the public record, so we should have the right to be able to publicise it. That seems to have been resolved by your order earlier today.

The second matter that seems unresolved is why the volume of oil spill was under-reported for so long. First it was reported as 10,000 and eventually it came to 300,000. Also, I noticed from my submission that on the morning of 4 August it was said that oil booms are containing the oil. I contacted ABC radio and said, "I am watching the oil actually travel over the boom. It is not containing it." As that position became unsustainable that claim was dropped as well.

To continue, (c) “Failure of Shell to effectively implement the joint ship-to-shore safety checklist and ensure safe operating procedures". For instance, Jim Starkey, who is in the industry, said it should have been avoided if the ship-to-shore joint checklist was implemented. "(d) What if any legal issues prevent release of the Taylor report", and I have gone into that. "(e) Apparent non-compliance with the Contaminated Land Management Act and the offensive odour regulations". We do not see any move to prosecute for those fumes or odours travelling over the boundary of the facility, up to 20 kilometres away in some cases according to public reports.

To continue, (f) “Why were the Health Department and fire authorities, including the CSIRO, given no role regarding investigation of oil pollution threats to public health and ignition risk respectively?" Certainly the *7.30 Report* was impacted at Gore Hill studios that night, 3 August. They hammered Mr Doug Hyde, representing Shell, the next night asking "What was the ignition risk?" Mr Hyde was very cautious in his response. He said, "If that is an issue we will investigate that." I think it was a significant issue; a lot of people were very lucky.

To continue, (g) “Shell's illegal attempts to prevent our organisation or at least an agent for Shell including myself access to public land at “Manns Point”. Two days later we were at the public parkland and it was suggested to us that we could not go to the edge of the water and have a look at what was going on. We ignored that. We took photos, and they are included in our submission.

Shell's joint liability for competency of charted ship's crew, and they did charter the *Laura D'Amato* and safe operations proximate to the terminal.

(i) “What was the motive for the highly speculative sabotage scapegoat theory?” That theory ran through the whole media contingent on 4 August. Mr Peter Duncan, representing Shell Australia, took questions on that. The significance is that no-one can expect Shell or any other organisation to manage a safe work system and safe work environment if there is malicious intervention, a malicious saboteur. That, of course, takes the heat out of any suggestion of Shell's joint responsibility. And that was the case; it forestalled condemnatory criticism and ended up directed at the ship owners. If it is the case that it was just a mistake, just incompetence, or poor training, or an unsafe system, or underpaid, untrained staff, that all changes. That puts Shell back in the picture.

For instance, Peter Morris, in relation to Mobil managing its holding dock at Yarraville has said that the terminal operator has responsibility. They manage the terminal, they are responsible for the safety of the ships, whoever owns the ships. The same applies to Shell at Gore Cove, whether the *Laura D'Amato* is owned by them or charted by someone else. It is my contention that there was no sabotage. There was no individual left who bailed out from the crew at Dubai, or wherever. This is highly speculative and highly convenient. It is proper at this point that we should go in camera if you want any more details on that, if you want more information on why I believe that that is true.

CHAIR: It is the only time you want to go in camera?

Mr McLOUGHLIN: Give me a moment to check my notes.

CHAIR: It would be better to cover all in camera matters in one go.

Mr McLOUGHLIN: There is one matter; Mr Starkey has indicated that the boom system was in place in Japan for about 10 years. I did seek out an article which reported that, but I did not

have any luck. We allude to it in our submission. I cannot help feeling that Mr Jim Starkey and Mr Peter Morris are central experts for this Committee to be informed.

The Hon. J. H. JOBLING: Is that the same Peter Morris as the former Federal member?

Mr McLOUGHLIN: I am really not sure.

The Hon. JAN BURNSWOODS: Yes, it is.

The Hon. J. H. JOBLING: I know it is. But if the witness does not know the answer to that, I am concerned about any statement he makes on his behalf.

Mr McLOUGHLIN: I am not claiming to interpret anything.

The Hon. J. H. JOBLING: You claim the person you name is an expert.

Mr McLOUGHLIN: Yes.

The Hon. J. H. JOBLING: But you do not know his background. You are now relying on statements he made as an expert.

Mr McLOUGHLIN: No, that is not quite correct. I am aware of his career as heading up an inquiry into the ships of shame which I presume was after his political career as a Federal member.

The Hon. J. H. JOBLING: Mr Chairman, with respect the assumption may not be valid. The witness should be very careful of quoting experts and not knowing what he is quoting from.

Mr McLOUGHLIN: It is a matter of public record. He headed the inquiry into the ships of shame.

The Hon. JAN BURNSWOODS: Peter Morris was a member of the Federal Parliament until 1998 and the ships of shame inquiry was published in 1992.

Mr McLOUGHLIN: I am going on the reports that I have seen.

CHAIR: The Committee wishes to know whether you want to give evidence in camera now or later?

The Hon. J. H. JOBLING: Are there other matters to be dealt with in camera? I would oppose going in camera for only one matter now and then going in camera again later.

Mr McLOUGHLIN: I just want to make the submission that a ship of shame is not just a ship that is rusty.

The Hon. JAN BURNSWOODS: We really want to know whether there is more than one matter to be dealt with in camera?

Mr McLOUGHLIN: Yes, there is only one matter.

The Hon. JAN BURNSWOODS: It would be more convenient to deal with that at the end of your evidence.

Mr McLOUGHLIN: In terms of continuity it might have been okay to do that, but there are two other things I would like to say separately from going in camera. There are some important matters that I feel Professor Underwood, as an expert, would be qualified to answer, and without being presumptuous, these are matters that are of concern to the Friends of the Earth as an environment group. Has the pollution from that incident embedded into the sea wall? For instance, there is a photo we have provided in our submission where the oil has obviously affected the sea wall. Does this increase the corrosion of the sea wall and other harbour infrastructure? I think that is an important question for the Committee.

Secondly, have hydrocarbons saturated the rocky substrate of the littoral zone—that is the water-land interface—such that this pollution will leach out toxic hydrocarbons over a lengthy time? Even if the majority of it is dispersed in a fairly brief time and if the marine creatures that suffer mass mortality are quickly replaced by their robust natural systems and recolonised, given all of that, is there still pollution leaching out over an extended period of time, such as years and decades? That is an important health matter.

Thirdly, given the ability of sedentary marine creatures like filter-feeding shellfish to recolonise after mass mortality, will those particular animals be contaminated too, even though they are alive? How would that slow poison effect relate to the slow flushing regime of the harbour? The harbour is known to flush quite slowly, up to a year for the water to fully flush.

Lastly, given the toxicity of the hydrocarbons released, it seems likely that all the birds that ingested oil were fatally poisoned, especially given their preening behaviour. In particular, apart from the four or so penguins that were saved, there were media reports that the National Parks and Wildlife Service had received 300 reports of oiled birds, and it seems likely that those 300 and all the others that were not reported were fatally poisoned. That might be of interest.

The Hon. J. H. JOBLING: Sorry, Mr McLoughlin, do you have those questions written down?

Mr McLOUGHLIN: I have provided a copy to the staffer for the Chair.

The Hon. J. H. JOBLING: We have a copy of those questions, do we, Mr Chairman?

Mr McLOUGHLIN: Its with your staffer. For your benefit at the time when the Professor gives his evidence.

The Hon. J. H. JOBLING: Could we have those reproduced for the benefit of members of the Committee? It might be an idea also, seeing they are technical, to present them to the Professor in advance.

Mr McLOUGHLIN: The thing is that the press is known well for advocating the robustness of the marine system, and there is no doubt that they are robust. I am only a simple graduate, but I do not think it is quite that simple. There is no doubt that oil would penetrate the substrate, and I have not heard any resolution of that issue.

CHAIR: We had better ask you questions. Time is getting the very short so maybe you can be brief.

Mr McLOUGHLIN: All right, but did you want to take that information in camera at the end?

CHAIR: Yes. You state that Shell and the Government have effectively orchestrated a cover-up, a shared liability, of the impacts of the oil spill, possibly to maintain employment and business interests at the Gore Cove terminal. Unfortunately Taronga Park is implicated in the Government's PR cover-up strategy. How have you come to these conclusions?

Mr McLOUGHLIN: Well, it is pretty much a pattern across oil spill incidents, particularly since the *Iron Baron* spill in Bass Strait, but also virtually every big oil spill you see. There are some contrived media images presented of wildlife being cleaned and rehabilitated. These are admirable efforts but the reports of probably fatally poisoned multitude of birds—300 estimated that were probably fatally poisoned—gives a wholly different impression of what the actual impact is and how impossible it is to stop that from happening.

The Hon. R. H. COLLESS: Can I interrupt there and ask you, when you say the reports of 300 birds, estimated, that is highly anecdotal evidence.

Mr McLOUGHLIN: That is from the parks service.

The Hon. R. H. COLLESS: No, how many deaths of birds were confirmed as a result of the oil spill—confirmed?

Mr McLOUGHLIN: All the birds that were taken into rehabilitation by Taronga zoo, apart from the penguins, died.

The Hon. R. H. COLLESS: How many?

Mr McLOUGHLIN: They only took that many in.

The Hon. R. H. COLLESS: How many? How many birds died?

Mr McLOUGHLIN: I am trying to answer your question, if you would just bear with me. A 100 per cent mortality of the birds, apart from the penguins, taken in by Taronga zoo. That, to me, is indicative—

The Hon. R. H. COLLESS: That is not what I asked. I did not ask you about a percentage. How many birds?

Mr McLOUGHLIN: I think the member already knows the answer. No-one knows for sure.

The Hon. R. H. COLLESS: I do not know, that is why I am asking.

Mr McLOUGHLIN: That is why I suggested the question to the Professor. For instance, in our submission we refer to Duncan Leadbetter of Ocean Watch who points out that the fractions can be quite toxic.

The Hon. J. H. JOBLING: Can I come back to that please. You must understand, Mr McLoughlin, that we are trying to produce a report which has evidence in it that can be confirmed, and not anecdotal evidence.

Mr McLOUGHLIN: Sure.

The Hon. J. H. JOBLING: What you have just said is it is estimated 300 birds died. Who estimated it, how and where? I am sorry, that is reported. That is a statement that may or may not be correct and may or may not be anecdotal, because you cannot source it. You are requoting it in evidence under oath, I remind you of that. My parliamentary colleague then took up the question of the number of animals, birds, that went to Taronga for rehabilitation, de-oiling, et cetera.

Mr McLOUGHLIN: Yes.

The Hon. J. H. JOBLING: And they all died. Now, you having made that statement, is it not reasonable that a member of the Committee would say to you how many birds are we talking about? And all you can tell me is 100 per cent died. I think it is fair to repeat the question to you: Is it five birds, is it 10 birds, is it 100 birds? How many birds died, or do you not know?

Mr McLOUGHLIN: With respect to the member, can I have my chance to answer?

The Hon. J. H. JOBLING: I suggest you do not be cheeky.

Mr McLOUGHLIN: The member misreported the statement. I said that the parks service reported 300 oiled birds being reported to them by members of the public. Then I made inferences which we believe, and I as a zoology graduate believe, are reasonable, and then raised that reasonable question and implication for consideration of the Committee by reference to an expert, an undoubted expert, in marine ecology who is in the room. I did not assert at all that all those 300 died, but I believe it is very likely.

The Hon. J. H. JOBLING: I accept what you are saying to us now, it is your personal belief. That is what you are saying to us?

Mr McLOUGHLIN: It is my belief as a witness, yes.

The Hon. J. H. JOBLING: Can I come back to the question of the birds at Taronga where, if I understood you correctly, unless you want to say it is purely anecdotal or your personal inference, you said to this Committee that 100 per cent of the birds that were there for assistance, treatment, rehabilitation, died.

Mr McLOUGHLIN: Keeping in mind that penguins are birds as well.

The Hon. J. H. JOBLING: I am aware of that, thank you. How many birds? I repeat the question, do you know how many the total number of birds was?

Mr McLOUGHLIN: The submission does quantify the exact amount.

The Hon. J. H. JOBLING: No, do you know?

The Hon. JAN BURNSWOODS: Could I just interrupt for a minute. I am sorry, I am very conscious of the time. The question we have been asked by Tom to ask Professor Underwood this afternoon includes a question about 300 birds. I am just wondering if maybe we should take it as an allegation, if you like, and address it this afternoon.

CHAIR: I think so. We are running out of time.

The Hon. J. H. JOBLING: I am happy to do that. I am just trying to press the point that we have a blanket statement of a 100 per cent kill rate at Taronga but we do not know how many animals are concerned. The witness has made a statement of 100 per cent. To make that statement the witness should be able to say 50 birds went in and 50 birds died.

Mr McLOUGHLIN: It was about four.

The Hon. J. H. JOBLING: So you do know?

Mr McLOUGHLIN: It was a small sample from my recollection, but I wrote this report over a year ago. It was four.

The Hon. J. H. JOBLING: What was so hard to draw that out? That is all I was looking for. Unbelievable!

CHAIR: Anyway, I think we have the numbers.

The Hon. R. H. COLLESS: I have the answer I needed.

(Evidence continued in camera)

(Public hearing resumed)

TIM ANDERSON, Representative, National Parks Association of New South Wales and Nature Conservation Council, of 9/27 Leichhardt Street, Glebe, affirmed and examined, and

CRAIG BOHM, New South Wales Co-ordinator, Marine and Coastal Community Network, 3 Weeroona Avenue, Elanora Heights, sworn and examined:

CHAIR: Mr Anderson, what is your occupation?

Mr ANDERSON: Lecturer.

CHAIR: In my capacity are you appearing before the Committee?

Mr ANDERSON: As a representative of the National Parks Association of New South Wales and of the Nature Conservation Council.

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr ANDERSON: I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Mr ANDERSON: I am.

CHAIR: Mr Bohm, what is your occupation?

Mr BOHM: I am the New South Wales Co-ordinator of the Marine and Coastal Community Network.

CHAIR: In my capacity are you appearing before the Committee?

Mr BOHM: As New South Wales Co-ordinator of the Marine and Coastal Community Network.

CHAIR: Did you receive the summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr BOHM: I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Mr BOHM: Yes, I.

CHAIR: If either of you should consider at any stage during your evidence that, in the public interest, certain evidence or documents you may wish to present should be heard or seen only by the Committee, the Committee will be willing to accede to your request. Does either or both of you wish to elaborate upon your submission or make a short opening statement?

Mr BOHM: Yes, we would like to, Mr Chair.

Mr ANDERSON: Mr Chair, I will speak briefly to the letter of 16 February, which I believe you have, from Andrew Cox, Executive Officer of the National Parks Association [NPA], and the letter from Kathy Ridge of the Nature Conservation Council [NCC]. Our input to this inquiry is a very general one. It is concerned with the identification of areas of significant marine biodiversity. It is the

policy of the NPA and the NCC to promote the development of protected areas in New South Wales waters.

Our policy is the development of between 15 and 20 per cent of the State's waters to be fully protected. We want to extend that to Sydney. We have had extensive debates within conservation groups over particular problems of doing that. The problems are, of course, on the one hand, that the harbour in a marine sense is affected substantially, in a way that nowhere else in the State is, by land outfalls. On the other hand, there is significant community support for a clean and healthy marine environment in the Sydney area. I think it is important that we tap into that.

In the letter of 16 February from Andrew Cox we remind you of the value of preserving marine biodiversity, long neglected, particularly in comparison with the land environment. The letter lists some of the benefits of protecting that marine biodiversity. I would like to draw the attention of the Committee to a principle under which we operate in proposing marine protected areas. That is the precautionary principle which, regarding marine conservation, runs along these lines: That uncertainty, or lack of scientific knowledge, should not be a reason to not protect the marine environment or declare marine reserves. That principle has been developed over many years by many conservation groups. It was developed in the ESD discussions with the Federal Government in the early 1990s. It is something that we are promoting with Fisheries, the National Parks and Wildlife Service and the Marine Parks Authority.

Yesterday, on the site inspection, we attempted to show some of the significant areas of marine biodiversity in the harbour, mainly in the outer harbour, some of the cleaner areas of the harbour. There is a list of those in the letter from the National Parks Association. The Nature Conservation Council and the Marine And Coastal Community Network have identified a number of those areas. I believe Craig will speak in a little bit more details on some of the support for identifying those areas. I have a copy of the video that we showed on the boat during the site inspection yesterday. I would like to tender that. It is a video of three or four minutes of each of three areas, the Quarantine Point area, the South Head area and the Camp Cove area.

Video received.

Finally, regarding oil spills, in the letter the National Parks Association draws your attention to a process that was defined, I think, fairly well in the latest issue of *MPA News*. I am not sure that the Committee is aware of this publication, which has a leading article on the oil spill in the Galapagos Islands and reference to United States techniques for dealing with oil spills. We draw your attention to the need to prevent such spills and to plan for such spills, which includes mapping out the sensitive areas that may be affected by such spills. It deals with also the need to divert chemical spills or outfalls from such areas where possible. If you like, Mr Chair, I am happy to leave a copy of this newsletter for the Committee's benefit. Other than that, I am happy to answer any questions.

Newsletter received.

Mr BOHM: The Marine and Coastal Community Network has affiliation with a wide range of community groups, not just those with conservation interests, including other users, such as fishers, tourism operators, passive onlookers, people who do not actually go to the coast but think it should be available in good condition, as well as State, local and Commonwealth agencies. So we come with a slightly different view. However, on the issue of marine protected areas, we find ourselves somewhat united with the views of the conservation movement on the need to declare marine protected areas as a way of addressing community interest and scientific research in the Sydney region and other regions around Australia.

The Marine and Coastal Community Network is a national, non-government organisation. We use a range of tools to promote a more co-operative and co-ordinated approach to coastal and marine resource management. One of our key roles in this is to promote a greater understanding of Australia's marine environment, which we do, for example, through tours such as we had yesterday, and also to promote a greater need and urgency to establish marine protected areas for a range of reasons. We find with an increase in education of people's understanding of marine environment there is a great increase in expectation that areas around Australia be conserved for altruistic reasons and for

scientific research and conservation reasons. We believe there is an opportunity here to progress the establishment of marine protected areas in the Sydney region as an outcome of this inquiry.

There are a couple of points I would like to make. One is that, as I alluded to yesterday on our tour, Sydney Harbour is part of Australia's unique south. It is a part of our temperate marine environment. It is an area with very high endemism, or a high number of creatures that are found only in southern cool waters, and mostly in Australian waters. Some species probably are not found far from the harbour itself. So they are Sydney locals in effect.

We have had a long history of education about the benefits and beauty of the Great Barrier Reef, and most of the information that most Australians have grown up with on the coastal zone has come from the tropical region and from organisations such as the Great Barrier Reef Marine Park Authority. So visions about what the marine environment should be like and look like come very much from a tropical perspective. We believe that our temperate marine environments are as special as areas in the tropics and that the high level of endemism in our marine environments, the high-level of what we consider to be unique Australian marine species—species that people have to come here to see and cannot, like the Great Barrier Reef, go to other areas of the South Pacific region to see—means that people will have to come here to see many of our marine species. Therefore we have an extra duty of care for our temperate marine environments, species and habitats on which those species rely, and we should be doing all we can, using the precautionary principle, to protect and adequately manage those habitats so that they survive into the future.

Yesterday I alluded to the bioregional process going on to assess the Sydney-Hawkesbury bioregion in the next couple of years, to look more generically at candidate areas for marine protected areas. This is the process that the Marine and Coastal Community Network is intensely involved with. It is intensely involved in talking with the community about the benefits of that process. However, I would like to emphasise that this is a long-term process. It is a very convoluted and complex process, with a lot of agendas being run by various stakeholders involved in the process.

I am strongly of the belief, from the perspective of the New South Wales office of the Marine and Coastal Community Network, that this process and the outcomes on the ground in the Sydney region in terms of conserving biodiversity as part of the marine park process may come at the cost of some of our biodiversity if we are not careful. It is a personal assumption that perhaps there will be a cost to the biodiversity, but, taking this precautionary approach, I would like to see action far earlier than perhaps six or seven years down the track when the actual on-ground outcome zoning plans that are part of the marine park process see the light of day on the ground in the Sydney region. That is why I urge the Committee not to revert to the bioregional process to look at ways of implementing marine protected areas in this region, and that we could really get in here before the process comes along, because it is long and it is slow. I do not think, from the history to date of this process, that we will necessarily see strong conservation outcomes from that process.

I would like to tender some extra information relating to the harbour. I have a background report that was part of a consultancy in the late 1980s for the Department of Environment and Planning, the Maritime Services Board and the Public Works Department from Mitchell McCotter and Associates. This report talks about the values of Sydney Harbour and Middle Harbour. Virtually all areas mentioned in the Marine and Coastal Community Network submission to this inquiry are highlighted by those consultants as being areas of high conservation value and requiring careful consideration.

Attached to the back of that report, interestingly, is a document from the late 1970s that I came across that was buried in our files. The New South Wales branch of the Australian Literal Society, now the Australian Marine Conservation Society, has been a very scientifically focused organisation. It has contributed significantly, in the Sydney region particularly, towards conserving coastal wetlands and helping establish the aquatic reserve system in this area. That organisation has put a submission to New South Wales Fisheries recommending the Middle Harbour area, Bantry Bay, for inclusion in some sort protected area scheme.

Further, I would like to say that Mitchell McCotter and Associates highlighted in their report the value of Middle Harbour. Further, New South Wales Fisheries regarded the area at the back of Middle Harbour, from say Sugarloaf Bay and Bantry Bay, under Roseville Bridge and back up into

the catchment, as areas of high conservation value, with strong connectivity between the land and the sea environments. Back in the 1980s New South Wales Fisheries was considering that area as an aquatic reserve. Unfortunately, that proposal has not seen the light of day.

Document received.

Further, I have a report currently in the process of publication by the eminent marine biologist Dr David Pollard from New South Wales Fisheries. This has helped me compile a list of 30 species that he considers—and I support him—that are threatened or potentially threatened species. Those are species that are found in Sydney Harbour, or have been visitors to Sydney Harbour or we suspect have been occasional visitors to Sydney Harbour.

Document received.

Further, as you would aware, there is an aquatic reserve in north harbour which has a mixed history of management and establishment. I would like attend a report by Dr Pollard that highlights the reasons why that aquatic reserve was established in the first place, namely, to provide an area of no take which would be of benefit to scientists and scuba divers for non-destructive uses. It was highlighted in the report that north harbour is a special area in terms of its invertebrate fauna and is home to a wide range of marine life, which was considered to be representative of the Sydney region. Also, seasonal visitors from the tropical north inhabit north harbour. As we saw from the footage and as was highlighted by Tim Anderson yesterday, some occur here all year round in some areas. We share a mixture of temperate and marine species in the harbour, which add to the diversity around the harbour. There are some special high-profile species such as seahorses, as we talked about yesterday, sea dragons and other marine species that the public has an expectation to see conserved. These have also been highlighted by the scientist as worth conserving. I tender that summary as well.

The Hon. J. H. JOBLING: If it is an extract we should have the whole report.

Mr BOHM: I tender that report to the Committee on request. After our discussions yesterday I was also able to locate a report done by Malecological Society of New South Wales on the bivalve fauna. In that report they commented that they thought there had been a loss of mollusc diversity in the upper harbour and they were concerned about the future of the diversity of molluscs in the harbour. They did find areas that were robust and had a diverse mollusc diversity. However, in an article they wrote for the New South Wales component of our networks newsletter *Waves* they expressed some strong concerns about the future diversity of invertebrates in the harbour. I tender that also for consideration by the Committee.

Another significant paper I was able to locate, which was sent to me late last year from the United States of America, was a paper by 17 marine biologists and ecologists from universities across America. They put together a paper about no take reserves and their value for protecting fish populations and marine ecosystems. They sourced a range of information in this paper to explain the value and why it is a very smart precautionary approach to establish no take marine reserves. They referred to the wide range of economic, social and environmental benefits that the reserves can produce or offer to a certain area. This paper is full of citations of the benefits and gives an extensive reference list of scientific work that has been done in marine protected areas around the world which show the benefits that can accrue from no take marine protected areas. I tender that as well.

The Hon. JAN BURNSWOODS: Is that different to the one attached to your submission?

Mr BOHM: Yes, it is. I would also like to submit the Cabbage Tree Bay plan of management. Cabbage Tree Bay, as many members would know, is at the south end of the Manly Beach-Shelley Beach area. After a long process, taking 12 years, led by council with support from various State agencies, research institutions and Commonwealth grant money, recently the council, on behalf of that process, proposed a no take marine sanctuary for that southern end of Manly Beach. I submit the final reports from that process. My personal communication with Dr Pollard is that species we know are potentially threatened or could become threatened in the harbour are also noted in these reports as being found in that area. So there is a lot of con-activity or synergy between the area just outside Sydney Harbour at Cabbage Tree Bay which we think should also be considered as part of this inquiry in terms of marine protected areas. This process is currently somewhat stalled and we are

awaiting advice from the Minister for Fisheries whether his office will support this no take reserve. However, we think because of the close proximity to the harbour and the identical species being found that it has some relevance to this inquiry. I would like to submit that for your consideration.

Finally I have put on disk—because of our non-government resource base we do not have sophisticated enough printing facilities to print 100 page documents—for your consideration, if you so desire, a guide produced by Callan Roberts and Julie Hawkins for marine managers and conservation and other community interests. The guide talks about no take marine reserves and cites a very wide range of benefits and situations where marine protected areas have been established. It also cites the type of research that has been undertaken and gives a very large reference list of an increasing amount of information which says that, at the very least as a precautionary approach, we need a whole system of no take marine protected areas around the world as one way of preventing the demise of coastal ecosystems, particularly near high urban centres. I submit that on disk.

The Hon. JAN BURNSWOODS: We seem to be getting increasingly away from the terms of reference. No take marine protected reserves are important. However, does the receipt of this information oblige us in any way to deal with it in an inquiry into oil spills on Sydney Harbour?

CHAIR: The terms of reference cover the environmental values of the harbour.

The Hon. JAN BURNSWOODS: And the level of threat posed to them by future oil spills. I am worried about receiving material about sites outside the harbour and around the world. I am happy to receive the documentation and look at it, but I feel that we are straying a long way from our terms of reference.

The Hon. J. H. JOBLING: In my view, it is treated as purely background material which may or may not have an effect on the Committee's deliberations.

Mr BOHM: If the Committee wishes to refer to it, I provide on request an annotated bibliography of a lot of work done in Australia, some in Sydney, and around the world about the benefits of marine protected areas to assist regional and local governments with planning and managing marine resources in their local areas. Some of that work may be relevant to your investigations. I tender that as my final comment.

CHAIR: Yesterday you talked about the capacity of the species in the harbour to cope with catastrophes such as oil spills and ongoing pollution. I presume that you are saying that if we were to boost the number of species in the harbour and the capacity of the harbour to cope with these species, it would be enhanced by the no take zones. Is that the point of your exercise?

Mr ANDERSON: That question goes to the concept of marine reserves as an insurance policy in the marine environment such that, for example, if you maintain a healthy ecosystem in one part and another part collapses, there is a capacity to regenerate that part. In other words, if you have a collapse of biodiversity in one area down the coast or in the harbour but have healthy systems in another part of the coast, the capacity to regenerate is sustained to some extent. If there is a collapse in a whole range of connected areas, that capacity to regenerate is diminished. This is an issue that has been discussed by, for example, New Zealand scientist Bill Ballantyne in developing the New Zealand network of protected areas.

CHAIR: Do you have any evidence either from here or overseas as to the capacity of ecosystems to survive oil spills and ongoing pollution and the effect of that on the species and how these species survive in areas where there are no take zones or marine parks, for example?

Mr ANDERSON: We do not have any specific studies on the direct link between a marine reserve and an oil spill. Although, apparently, studies are being done in Alaska and possibly the Galapagos now as a result of the recent oil spill, as referred to in the document that was tendered.

The Hon. JAN BURNSWOODS: Mr Bohm, can you tell us who the Marine and Coastal Community Network is?

Mr BOHM: The Marine and Coastal Community Network is a non-government network as opposed to a lobby group. We are funded by the Commonwealth but we are administered by the Australian Marine Conservation Society. We have our own strategic plan and mission statements, which talk about our role as being broad in facilitating and engaging community involvement and understanding of coastal marine processes and policy initiatives.

The Hon. JAN BURNSWOODS: When you say a network, do you mean a network of other organisations?

Mr BOHM: Yes, we have an office in each State. I am in the New South Wales office. From our office we have a participants list which in New South Wales has about 2,200 organisations and individuals across a range of coastal interests. They maintain contact with us either directly as specific issues become apparent in their area or, in particular, they receive our publication *Waves* and all contribute to it, which is the forum for them to articulate their perspectives on coastal and marine issues and initiatives.

The Hon. JAN BURNSWOODS: You are a network manager or clearing house and you have a paid role?

Mr BOHM: Yes, I have a paid role full-time.

The Hon. J. H. JOBLING: This question is directed to both witnesses. Referring to yesterday's on-site examinations, paragraph 1(d) of the terms of reference, states:

> The appropriateness of the port operator also being a key environmental regulator.

Do you consider the Sydney Ports Corporation as the appropriate body to be the lead agency on many occasions for the environmental regulation of Sydney Harbour? Having asked that question, if you choose to answer in the negative, would you explain why and who, therefore, should be the key regulator?

Mr BOHM: Not being an expert on port operations, however I have some understanding of the role of ports corporations. I believe within the context of their operations they have a responsibility as a regulator and they have a responsibility to ensure that activities under their operations are not going to have any impact on the values of the harbour environment for a whole range of other uses and for the marine environment itself. There is value in relating once again back to the notion of protected areas in the harbour as a way of focusing interest and the public eye on the value of the harbour. The port authority, for example, can use these areas to raise the standard or the conscious awareness that when people are operating in or visiting the harbour have an extra duty of care in the way they perform their operations to ensure that they are not impacting or have a less likely chance of impacting on the marine environment of the harbour. I am not sure that directly answers your question but it is as close as I can get.

The Hon. J. H. JOBLING: I respond by saying no, it does not. Simply put—and you might answer yes or no—should the Sydney Ports Corporation be the lead organisation in undertaking environmental regulation on the harbour?

Mr BOHM: I will have to give a personal answer because the network does not have a position on such issues. We like to seek co-operative, collaborative, partnership and streamlined management. We are not fussed on who it is as long as they are doing a good job.

The Hon. J. H. JOBLING: You still have not answered the question. Is it yes or no?

Mr BOHM: I reserve my judgment because I do not think the I am qualified to say.

The Hon. Dr A. CHESTERFIELD-EVANS: Would you say that the ports corporations are good at running ports in terms of shipping movements but they may not have an interest in marine ecology such as you do? Perhaps you would like an overseeing body or a balance in that situation?

Mr BOHM: If the Ports Corporation were to import the expertise necessary to give it a holistic view of the harbour and the variety of activities that occur on the harbour in relation to its own

operations and the value of the harbour for its intrinsic value and had a legislative framework to be able to address the range of management issues that face the harbour, they, like any other similar organisation, would have the expertise necessary to do it so, yes, in that regard.

The Hon. Dr A. CHESTERFIELD-EVANS: That is like saying, "If something were something it would be okay". If government were perfect we would not have any problem. That is not the same thing as saying, "How are you going to structure the situation in practice"?

Mr BOHM: I do not think the Ports Corporation at the moment or any one particular agency or authority have the authority needed to do the best job we can expect.

The Hon. J. H. JOBLING: I will take that as no. Tim, would you like to offer your views?

Mr ANDERSON: Yes, but once again it will be a personal view because to my knowledge neither the NPA nor the NCC has a position on that, and I have never heard anyone suggest the Sydney Ports Authority as a lead environmental manager. Before I come to my obfuscating answer, I will reinforce what Craig said that because of the complexity of Sydney Harbour and the number of agencies involved one would hope there will be a whole-of-government approach but in terms of environmental management there is the Environment Protection Authority and the issue of biodiversity management. Our position has been that the National Parks and Wildlife Service should be the lead biodiversity manager but there is the traditional split between Fisheries and the service over biota, which was badly resolved in the Marine Parks Act in my view, sustaining the status quo and having some sort of compromise there. However, I would revert to the fudgy answer that Craig gave that given the lack of clarity in this area, we would expect a whole-of-government approach in relation to the environmental issue in the harbour.

CHAIR: We talked yesterday about scuba diving and underwater tourism. Are you aware of any effects from the oil spill or continuing pollution on the biodiversity of the harbour that would damage underwater tourism?

Mr ANDERSON: Not in a scientific sense except that the extensive smell of oil pollution apart from anything else would deter people from going anywhere near the harbour, so in that simple way people prefer not to dive where there are oil slicks and bad smells.

Mr BOHM: The harbour remains an important training area for some diving operations and I am no expert to know the extent of that use. Also, it is an important area for night diving in particular and people can shade their eyes from the view of the broader harbour by putting on their night glasses and looking closely at the wonderful green environment they can see in harbour at night and not consider the things they see during the day such as murky water, oil slicks or some other form of human impact. I am not sure that that answers the question either but I relate back to what Tim said about the use of the harbour. It is an important area, however, people are not generally attracted to the harbour during the day or do not at first thought consider the harbour as being a nice place to swim. When we take people diving in harbour they are amazed at what they see, however, they have to get over their first perception that there are oil slicks or that there has been an oil spill incident that might threaten them before we can get them in the water, so there is that perception.

CHAIR: You say there are literally thousands of people who go diving?

Mr ANDERSON: It is an important training area. One sees at Camp Cove and Vaucluse sometimes three or four dive flags during good weekends because people learn to dive there. On a number of occasions I have taken people on training dives at Vaucluse. On the other side, Fairlight and around North Head and South Head are popular diving sites and beginners go there quite regularly. There would be many thousands that go there. Of course, it is no coincidence that they go to the more flushed, cleaner areas of the harbour to dive.

CHAIR: Apparently there would be some opposition from recreational fisher to a number of no take zones within the harbour or marine protected areas. Is that opposition justified?

Mr ANDERSON: The current stance by and large is that people can fish pretty much where they like in the ocean. Conservation groups took the position some six years back that we need a

figure, even if it seems somewhat arbitrary, to adapt to the political environment and the inexact nature of marine science, which is a poor cousin to land science in this regard, to set out a claim for certain areas that should be fully protected, and that includes protected from fishing. With the culture we have had in the past recreational fishers in particular and commercial fishers also need to learn that there are some areas that should be set aside that will be in the longer term of benefit to them as well as to the marine environment. Some extreme recreational fishers lobbyists said that we want to close down massive areas of the coast to fishing. We want substantial areas set aside and fully protected from the effects of fishing. Fishing has as substantial an impact on the environment, as much as land outfalls, acid sulphate soils, stormwater and so on, on marine environment.

CHAIR: From the evidence the Committee has received it appears that where there are no take zones the fishing population has actually increased quite substantially so presumably there would be more fish available?

Mr ANDERSON: There is evidence in New Zealand of that. There is significant support from commercial fishers of some of the older marine reserves in New Zealand and the marine science that Craig has tendered to you today backs this up, that if marine areas are well chosen, large enough and are in a network they can substantially increase the spawning biomass of fish and have spill-over effects in surrounding areas. It is the hope that we would have that sort of the effect in marine parks, the Solitary Islands and Jervis Bay if the fully protected areas are large enough and well based in a network.

CHAIR: So an increase in biomass within the harbour would protect the harbour from oil spills, would it not?

The Hon. JAN BURNSWOODS: Point of order: Mr Chair, this is your third question related to the controversy, if there is one, between no take marine protected areas and fishing. The Fire Brigades people have been here since well before 12 o'clock, which is when they were due to give evidence, and we are now far removed from our terms of reference. Please prevent yourself asking questions that are totally outside the terms of reference of this inquiry.

CHAIR: It is within the terms of reference of the inquiry because the honourable member did not allow me to finish my question, which was if we were to increase the biomass of fish within the harbour with marine protected areas, would that then not make the harbour more resilient to oil spills?

Mr BOHM: Yes, that would be the result if the biomass was increased.

The Hon. R. H. COLLESS: You would be aware of Professor Underwood's findings and discussion about pulse disturbances in relation to oil spills. What threat are oil spills to the harbour, given that Professor Underwood sees them as a pulse disturbance?

Mr ANDERSON: He has studied this far more than I have and I have read some of what he has written about it. The danger in marginalising the effect of a one-off effect is that it may have very little effect on certain creatures that live under the water; it may have a large effect on some creatures that swim around on the surface of the water like penguins, so in some respects we need to be aware of that differential. By and large my attitude is that the marine environment would be more healthy if we did not dump large volumes of chemicals in there. Certainly those studies shed some light in terms of clean-ups and addressing those sorts of problems. Maybe we have less impact than we think we have and we might be doing more damage than we think we are preventing. That would be my attitude.

Mr BOHM: We need to be considering possible cumulative impacts. It is not just the pulse act of the oil spill but other background noise or background impacts that are very subtle, things that we would not even think of studying, that may be having impacts that raise the importance of a pulse impact or cumulatively with repetition over time may gradually erode some values of biodiversity in the harbour that are very hard for us to detect but which may be very significant to them, like the assimilation capacity of the harbour to break down oil spills and other such pesticides or chemicals in the future.

Mr ANDERSON: An example of that is that there are recorded very high levels of heavy metals even in the outer harbour area and despite that there are significant areas of marine biodiversity growing on top of that but if you stirred those heavy metals up you might have a very different situation.

The Hon. R. H. COLLESS: Do you think that the different types of crude oil that are imported or unloaded in the harbour at different times have a different effect on the marine biodiversity? What impacts will the different types of crude have on the marine life in terms of clean-up?

Mr ANDERSON: I am not qualified to answer that.

Mr BOHM: I am not qualified except to say that heavy crudes will have an additional smothering effect. One should also consider the community perception of the harbour and if the community thinks there are regular incidents of pollution going into the harbour, it will consider the harbour to be of lesser value than perhaps it is and this inquiry needs to consider that. Community perception of the harbour should always be improved so that we value it more and are far more rigorous in our preventative measures.

(The witnesses withdrew)

JAMES STUART HAMILTON, Manager, Operational Readings, New South Wales Fire Brigades, State Operations, 189 Wyndham Street, Alexandria, and

GLENN SHEEDY, Manager, State Operations, New South Wales Fire Brigades, 189 Wyndham Street, Alexandria, sworn and examined:

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr HAMILTON: Yes.

Mr SHEEDY: I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Mr HAMILTON: Yes.

Mr SHEEDY: I am.

CHAIR: If you should consider at any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be seen or heard only by the Committee, the Committee would be willing to accede to your request. Do you wish to briefly elaborate on your submission or make a short statement?

Mr SHEEDY: We have not made a submission on the basis that we were requested only to attend to answer questions but we can give you an overview of our role in the subject at hand. New South Wales Fire Brigades, depending on the location of the incident, are mainly a support agency to the lead agency for oil spills, hazardous materials, contamination chemical spills, and the like that occur. On State waters we are a support agency to the lead agency which tends to be either the Australian Maritime Safety Authority or, for the most part, the relevant New South Wales port authority, as was the case in the *Laura D'Amato* incident. For other waterways in New South Wales I am afraid it is a bit of a jurisdictional mirror maze.

New South Wales Fire Brigades is more or less accepted as the combat arm of the Environment Protection Authority. We have clean-up facilities and monitoring facilities in the interests of public health and public safety. We provide foreshore clean-up facilities and had hazardous materials units based around the State and along the coastal areas. Our role is mainly as a logistic and resource support agency to various lead agencies.

CHAIR: What is your view of the fire risk from the booms around vessels? Shell said that when the booms are close to the vessel, the oil spill builds up next to the vessel—and that is highly flammable. Do you have any view on that?

Mr HAMILTON: Regarding flammability, the fire brigade has analytical detectors which we use to determine flammability range, lower explosive limits and oxygen deficiency. Depending on the circumstances, whether the concentrations are in sufficient range, we would use the detectors to determine that and refer back to the material safety data sheets which are supplied by the manufacturers. We can cross-reference that and give a clearance one way or another to determine whether it is safe or not. We can put in procedures to minimise it. For instance if it is a petrol spillage we might need to cover that with a foam blanket. If it is heavy crude oil, we take readings and if there is no significant value from that there is no issue.

CHAIR: If the oil spill had ignited would there have been a possibility of it spreading to the entire complex? Or would it have been contained within the area?

Mr HAMILTON: To go back to a specific event, we took readings of the murban crude.

Mr SHEEDY: Murban was the type of crude from the *Laura D'Amato*, it is a common crude in the harbour.

Mr HAMILTON: We took analytical readings there and there were not within the flammability range or the explosive range. For that incident we did not see that there was a risk of fire. We treat everything as dangerous until proven otherwise.

The Hon. R. H. COLLESS: We heard earlier in the inquiry that there was a strong smell of fumes at Shell Park. The person who gave that information said that he was fearful that there was a chance of ignition which could affect a lot of people in the area. If there were a lot of fumes from the spill moving into residential areas, was there any chance that it could have ignited?

Mr SHEEDY: It depends on the concentration. The fumes that were detected by the public on that night work, for the most part, were reasonably harmless. They were more of an irritant. The fumes associated with murban crude are known as methyl mercaptan. That is a stenching agent that is put into natural gas and LP gas because they have no natural odour. Methyl mercaptan occurs naturally in murban crude, so that explains why on the evening of the *Laura D'Amato* incident we receive 600 calls in our communications centre, the majority of which indicated that there was a major gas leak in the area. Methyl mercaptan smells like the old town gas, it has that horrible smell.

Whether there was a flammability risk associated with the odour, the answer is most likely no, given that the flammability tests we took at the water were registering 20 parts per million. WorkCover will allow welding in an atmosphere of 100,000 parts per million, so the flammability risk was particularly low. Some time ago, in the 1960s, there was a major oil storage refinery fire at Pulpit Point, which destroyed the entire facility. The oil that burnt was stored, or bunded. Again, it depends on the circumstances. The fumes tend to dissipate when released from confinement so the proportional rate of hazard flammability drops as the oil dissipates.

The Hon. Dr A. CHESTERFIELD-EVANS: Did you take readings of the flammability at the ship in this case?

Mr HAMILTON: Yes.

The Hon. Dr A. CHESTERFIELD-EVANS: Was it relatively low because there was no boom? In other words, the stuff was widely dispersed. If it was widely dispersed, presumably the concentration would have been lower, would it not?

Mr SHEEDY: Yes, that is the case, depending on the concentrations if it is in a confined area. But we took readings around the whole area, including that confined to the ship and further out. It was generic across the whole spillage; we were getting about five parts per million at the water level.

The Hon. Dr A. CHESTERFIELD-EVANS: You were getting five parts per million of what?

Mr SHEEDY: A flammable range of hydrogen sulphide, about five parts per million.

The Hon. Dr A. CHESTERFIELD-EVANS: Hydrogen sulphide is not flammable, is it?

Mr SHEEDY: No, but when you talk about crude oil it is the components of the crude oil that give the flammable range. You have to break it down to what was coming off it.

Mr HAMILTON: It would include benzene, which is a constituent of crude.

The Hon. Dr A. CHESTERFIELD-EVANS: Hydrogen sulphide is not flammable, so its level of five parts per million is irrelevant to flammability, is it not?

Mr HAMILTON: That was coming back to the public health aspect of the smell being given off, and the people were concerned about whether it would ignite. That is part of what they could actually smell there. The flammability range comes back to other areas, about which you are correct.

The Hon. Dr A. CHESTERFIELD-EVANS: The reason for the non-booming, and Shell saying that booming is not standard practice except in Japan, was the flammability risk. One submission suggested that there was a high flammability risk with this type of crude. Is that true?

Mr HAMILTON: The material safety data sheet states that it has a flashpoint of minus 50 degrees Celsius to 100 degrees Celsius. If you put an ignition source to it, the flammability range is 0.6 per cent to 8 per cent. In our lower explosive ranges, we were not getting those. When we were taking our reading on those occasions, it was not within the explosive range.

The Hon. Dr A. CHESTERFIELD-EVANS: If it were within the flammability range it would have to hit 50 degrees and it would flash. Is that the bottom line?

Mr HAMILTON: No, anywhere between minus 50 degrees and 100 degrees it could flash if you put an ignition source to it within those explosive ranges.

Mr SHEEDY: In the ideal situations such as in a tank or a confined space it is considered to be highly flammable.

Mr HAMILTON: But we were not getting those readings on the known.

The Hon. Dr A. CHESTERFIELD-EVANS: In the case of an oil slick could find by a boom immediately above it, presumably you have a degree of flammability, do not, which you measure. Someone throwing a match overboard or a hot engine could trigger it?

Mr HAMILTON: We could not discard that, but each case is different depending on the type of fuel, the concentrations and the conditions.

The Hon. Dr A. CHESTERFIELD-EVANS: So do you have a material safety data sheet for each species of crude or is there a range? When considering whether you put in a boom or not, and the safety of it, presumably you would want to measure the flammability of the most flammable crude you are likely to get and then make a decision proportional to that, would you not?

Mr HAMILTON: That is exactly right. If you had the material safety data sheet and it indicated that range, you may or may not boom it, but it depends on the different materials. There are different sheets for petrol, kerosene, and crude oils.

The Hon. Dr A. CHESTERFIELD-EVANS: To make a decision as to whether there should be booms around boats, you would not telephone the captain and ask for the data sheet for the particular oil so you could decided whether to boom the harbour or not. My understanding is that crude is not very flammable, as a generic statement. Is that correct? In other words, it is not much impediment to booming the harbour?

Mr HAMILTON: No. I would go along with that.

The Hon. Dr A. CHESTERFIELD-EVANS: On the toxicity information, you may have noticed the figure for benzene in the state of the environment report. Our level is up to double the European standard. Is there are high concentration of benzene in what comes off the crude? What is the concentration of being seen in that odour?

Mr HAMILTON: I could not answer that significant scientific question. Obviously there is benzene confined within the crude oil. All we have is the exposure limits which would tell us what we should be wary of when taking readings.

The Hon. Dr A. CHESTERFIELD-EVANS: If you are talking about public health hazards, benzene is a major component of it, and it is one of the worst carcinogens known?

Mr HAMILTON: That is correct. I can tell you that the time-weighted value for an eight-hour day, the exposure rate is 0.5 parts per million.

The Hon. Dr A. CHESTERFIELD-EVANS: That is the safety level, not what was in that spill on the harbour.

Mr HAMILTON: We were not getting any readings of benzene, so it was underneath that level.

The Hon. Dr A. CHESTERFIELD-EVANS: Were you measuring benzene?

Mr HAMILTON: Yes.

The Hon. Dr A. CHESTERFIELD-EVANS: And it was below that level?

Mr SHEEDY: We measured less than 5 parts per million on the water line.

Mr HAMILTON: But that was not benzene, that was hydrogen sulphide.

Mr SHEEDY: Yes it was, and we measured less than five parts per million for benzene that night.

CHAIR: Are you reading from a public document?

Mr HAMILTON: No, sir, just notes that I have taken. Obviously the material safety data sheet is a public document.

CHAIR: Are your readings publicly available?

Mr HAMILTON: Yes. We need to establish that in circumstances with oil spills on the harbour there is no hard and fast rule, no textbook to refer to. In any open space the readings differ with variable factors such as a wind velocity, or the presence of wind, and the rate of spread, and the like. If we talk about crude inside tanks, we would be able to definitely take a reading and probably establish a benchmark for firefighting operational guidelines right across the industry. But in the case of benzene spill onto large areas the readings differ according to the points you take them. As previously nominated, the readings we took for lower explosive limits of hydrocarbons on that incident seemed to be fairly uniform.

The Hon. Dr A. CHESTERFIELD-EVANS: Is it not true that the industrial hygienists who measure those types of things tend to look in a pragmatic sense. They measure total hydrocarbons or flammable indices rather than benzene as opposed to other things?

Mr SHEEDY: Yes, that is right, they take a more generic measurement.

The Hon. Dr A. CHESTERFIELD-EVANS: The benzene may not have been measured carefully. Usually these things are measured at the maximum, which is the point presumably just above water level?

Mr SHEEDY: Yes.

The Hon. Dr A. CHESTERFIELD-EVANS: And the plumes are extrapolated as doses based on wind velocity and so on, and the calculations are made?

Mr SHEEDY: Yes, that is right.

The Hon. Dr A. CHESTERFIELD-EVANS: Is data routinely collected for benzene in those types of spills? If so, is it extrapolated in terms of the public health index? Is that beyond your responsibility? Are you the only ones who measured these, or did the public health people or the EPA do it? How is a calculated?

Mr SHEEDY: The EPA also measure. We do not specifically measure for benzene on any particular oil. I am talking about the response phase rather than the recovery operations. At the time our operations were largely confined to response phase which lasted over that evening. Basically we

did not know what we had. You must remember that we were called to a gas leak. In the dark of night, until we could get information, we assumed what we were actually dealing with. Due to the smell we were quite aware it was some sort of crude but we were not sure of what grade of crude it was. Our role in that incident was to test for flammability limits, to test for respiratory irritants that were in the air and, as a result of that and in consultation with the Department of Health, we issued public warnings on the evening, particularly in relation to asthmatics. We advised the people of Sydney on Sydney radio to close all windows, and anybody who suffers respiratory problems, particularly those in the community who are asthmatics, that they may wish to move out of the area.

The Hon. Dr A. CHESTERFIELD-EVANS: The bottom line of that is, you are not really the people I should ask about benzene?

Mr SHEEDY: No, I think you should refer it to the EPA. Our testing, as you can appreciate with the Fire Brigade, it is very much—

Mr HAMILTON: Basically it is first response to ascertain whether there was any risk of fire or explosion, as we do, and then we broke it back down and looked at the other components to see if any evacuations were needed. Indications were we were not having those. We could then say to the people of Gore Bay that they could stay in their residences. In conjunction with the ambulance and the Health Department, they put their heads together and came up with a health warning which was then forwarded to the Fire Brigade media officer who then released it on their behalf.

CHAIR: Exactly when were you told it was an oil spill?

Mr HAMILTON: We were told that when we got to Gore Bay.

CHAIR: How long was that from the actual oil spill?

Mr HAMILTON: It was approximately 30 minutes.

The Hon. Dr A. CHESTERFIELD-EVANS: I think it was 8.36 that it was diagnosed, was it not, according to court transcripts?

Mr HAMILTON: I am not really sure about that particular timeframe.

The Hon. J. H. JOBLING: I would like to take the members of the Fire Brigade back to the particular day of the incident of the *Laura D'Amato*. I am interested in the exact type of process that would be followed. I would be interested to know how you were called, who actually called you, what you were told, the reaction in delay time of that, what you then proceeded to do, what action you would have taken and what officer you would have sent to the site. Can we start with an overview of how that happened?

Mr SHEEDY: Yes. As I stated before, on that evening we received more than 600 triple-0 calls. As the community tends to do when these things happen, they called the Fire Brigade, first, probably because they know our number and, second, because they know will we will be there fairly quickly. The majority of those calls came from an area bounded in the north by Chatswood, and Redfern in the south of Sydney. They were indicating the smell, of course, and that it was a gas leak associated with the methyl mercaptan having a very close resemblance to the odour of town gas or LP gas. This was a bit of a conundrum for us, because we had to narrow down where the source of this smell was coming from, and from the information received from the triple-0 callers, who were very adamant that it was down on the water in Sydney Harbour somewhere—and we received information also from the Opera House and I think the Opera was interrupted temporarily. We finally discovered it was at the Gore Bay terminal.

CHAIR: Did you say it was a half an hour timeframe?

Mr HAMILTON: Yes, about half an hour

CHAIR: How come it got as far as Chatswood within that half an hour?

Mr HAMILTON: The smell was evident through that area.

CHAIR: Within half an hour?

Mr HAMILTON: Yes.

The Hon. J. H. JOBLING: Can I inquire then, in that period you received a huge number of triple-0 calls. When did Sydney Ports, I understand one of the lead authorities dealing with this sort of situation, make contact with you, or do they?

Mr HAMILTON: We have no record of a phone call from the Marine Ports to us. Shell actually reported it to the marine tower, which is their standard procedure.

Mr SHEEDY: The harbour master.

Mr HAMILTON: The harbour master. The process is that Marine Ports would notify us by direct line. Obviously with the magnitude of the spill and activating their resources they did not do that.

Mr SHEEDY: It might be worth pointing out, just to clarify a point there, that when the Fire Brigade arrived at Gore Bay, thereabouts or immediately after Sydney Ports was on the scene as well. That may have been the fact there was no formal notification to the Fire Brigade.

The Hon. Dr A. CHESTERFIELD-EVANS: You made your own deduction, came to a conclusion, arrived at the site and bumped into them? Is that what it boils down to?

Mr HAMILTON: As we were going on site Ports Corporation was activating—I got on site around 2100 hours and there were already booms and everything in place from the Ports Corporation, so they had actually activated and done their response on the harbour.

The Hon. Dr A. CHESTERFIELD-EVANS: But their response had not included ringing you?

Mr HAMILTON: Not at that time, no. But they did make contact and ask for a liaison officer to be sent to Towns Place and that was facilitated by the Fire Brigade.

Mr SHEEDY: Their emergency centre is at Towns Place at The Rocks.

The Hon. J. H. JOBLING: It seems to me there is potentially a glaring flaw in the system if you find out by default, as you did in this case, rather than being called in early. Would it not have been reasonable in the event that you have an oil spill of potentially unknown magnitude which may or may not have a flammability problem that you would want the Fire Brigade to know fairly soon and, in that event, you may want to bring up men or equipment to the site? Would that not be a reasonable premise?

Mr SHEEDY: It is, but in a current sense there have been a lot of contingency plans since that night. Certain matters that you refer to, in the view of the Fire Brigade, have been to a large extent redressed. That is the notification process. I think it is fair to say, and I point out again, any plan cannot regulate what Mr and Mrs Citizen do, and that is they ring the Fire Brigade.

The Hon. J. H. JOBLING: That is another question in another incident, which is outside the control of this matter. How many officers would have attended, and, when you eventually did find out it was an oil spill and that it was in the harbour, how many officers attended?

Mr HAMILTON: We had on site three to four fire appliances which have a station commander and three personnel. We had the hazardous materials unit from Greenacre. We had two vehicles there which have four personnel, plus we have a rigid inflatable boat which we call the Otter, and we put that on the harbour, and we had a management team of two operational commanders or inspector rank personnel. I was one of those.

Mr SHEEDY: It was around about 40.

Mr HAMILTON: At the time I was the officer in charge of the HAZMAT unit.

CHAIR: What did they actually do?

Mr HAMILTON: As Sydney Ports is the leading combat agency, we provided support to them. We assisted if there was any avenue for assistance in deploying the booms which were water based so we were on the shoreline assisting as required. We did most of the analytical work with our detectors, going through the areas to determine if there were any concentrations, any confined spaces and those sorts of things, and just liaised to make sure the leak had been stopped, and if there was any shore-based leak we would be involved in that, but there was none.

The Hon. J. H. JOBLING: Can I just look at the role you then played, and we have noted the huge delay on this occasion, but can I look more specifically at the role you played subsequently in cleaning up of the spill. I thought I understood from comment yesterday that you played a role in dispersing certain oils near seawalls?

Mr HAMILTON: Yes.

Mr SHEEDY: Can I interrupt you. I think it is important that the first thing we did was to wait till the light of day to get a perspective on this thing. You must remember we are talking about in the dark of night that these operations were taking place. Crude on water is not very easy to detect. I am happy to say that the lessons we learned from the Sydney hail storm operations were to get into the air and see the extent of what you have. The next day it seemed to us that the extent of the contamination was far further down the harbour than first thought. It was certainly at that stage past Rose Bay, or appeared to be from the air.

Because of that, we were able to enter into an incident management team at Towns Place with the other relevant agencies and we were able to offer our services for foreshore clean-up by using high-pressure or medium to high-pressure fire hoses to take the skim or the sheen off the rocks in the foreshore areas and push it back out into the water where Waterways and Sydney Ports craft could scoop up the bulk of residue. But we did not use dispersers as such.

Mr HAMILTON: Any of those activities were done under the guidance of either the EPA or Sydney Ports because we were a support agency to them. We put our resources at their disposal and were allocated tasks accordingly under an incident control system. So, we had people in that area over at Towns Place, as Mr Sheedy has indicated, to work in the incident management team. We also had our environmental officer being part of the assessment team in the foreshore clean-up. So she was out using the clean-up materials to document any oil spills for records so that could come back and be put into the planning process. But we were just a support agency.

The Hon. J. H. JOBLING: Were you the only authority who went up into the air and took an overview, or did other people go with you or did you all do your own thing separately?

Mr HAMILTON: No, it was all done in consultation with the incident control team, the management team, which was under Sydney Ports, and we had an observer with them go up.

The Hon. J. H. JOBLING: You said you did not use any dispersing agents. Was this a foam mixing device you used? What did you use to get the oil off?

Mr HAMILTON: Just water.

The Hon. J. H. JOBLING: High, medium and low pressure water?

Mr HAMILTON: That is right.

The Hon. JAN BURNSWOODS: Freshwater or saltwater?

Mr SHEEDY: It was freshwater. If can I correct that. It was mostly freshwater. In some cases where we could not reach a hydrant—the streets in some of the foreshore areas are very inaccessible—we did carry portable pumps and take off seawater and use that to take the residue off the rocks and the buildings and the built environment around the foreshore.

The Hon. J. H. JOBLING: We have heard that things have changed a little and joint emergency training exercises now occur. Can you tell me how often you would meet to train for such emergencies and with which other authorities do you work? This is on the assumption it is happening.

Mr HAMILTON: A committee is established now which is the State National Plan Executive, the national plan being the oil plan, and we have a representative on that, one of our directors. We have a technical working group, which is another group that works, and within that group you have the Ports Corporation organisation, the EPA and the Fire Brigade.

Mr SHEEDY: Probably the major area where we do cross-training is between New South Wales Fire Brigades and Sydney Ports, with their fire boats, which were also used in this incident. That is a regular training exercise. It is undertaken numerous times per year. Particularly, we utilise Sydney Ports' craft the *Shirley Smith*, one of Sydney's five fire floats. So, that is done on a regular basis.

The Hon. J. H. JOBLING: So what you are saying to me, similar to an SES operation, where you have police, ambulance and yourself, SES, VRA and council, and there is an actual plan and you go in and rehearse different things every six or 12 months, is this happening in the event of a massive tanker leak or a tanker blows up which requires sending injured to hospital? Do you actually do it on site or is it on paper?

Mr SHEEDY: Not on Sydney Harbour, no.

Mr HAMILTON: Parts of it are chunked down and are co-ordinated. We have exercises with the EPA, et cetera, but the full-scale exercise you are talking about, no.

The Hon. J. R. JOHNSON: Gentlemen, either of you, post-incident appraisal meetings, were they held as to the effectiveness or otherwise of your endeavours on that night?

Mr SHEEDY: They were. As far as I am led to believe, and certainly in the case of the Fire Brigade, agency debrief sessions were held. Then the committee members of the National Plan Executive Committee of New South Wales, which has agencies such as New South Wales Fire Brigade, Port Authority, Waterways, Department of Transport, AMSA, which is the Australian Maritime Safety Authority, the Australian Navy and EPA, held the post incident debrief, receiving various agency reports and the lessons learned. I think you will find that most of the lessons learned during that debrief process are reflected in the draft State plan for oil and chemical spillages which is now before Minister Scully, I believe.

The Hon. J. R. JOHNSON: As a result of this incident, would any of the undertakings by the New South Wales Fire Brigades be done differently now?

Mr SHEEDY: We may review our operations, certainly. But you must remember that our jurisdiction, our role, is restricted and the nature of our organisation is that it is a very good support agency to the various lead agencies, because we are very resourced or logistically rich and we are suited to this type of incident. We are a response agency. We are a little bit monolithic, as we have been told from time to time, but that is the way we have to be unfortunately.

The Hon. J. R. JOHNSON: If there are such things as handbooks for these sorts of incidents, have they been updated or reviewed since the *Laura D'Amato* incident?

Mr SHEEDY: Yes, they have. We have standard operational guidelines, as every fire department around the world does. We certainly review those. They were essentially land based. Now they reflect more in relation to water environments.

The Hon. J. R. JOHNSON: Who has the carriage of the fire floats?

Mr SHEEDY: Sydney Ports Corporation.

Mr HAMILTON: We have crews trained to go onto those vessels and they are actually predetermined. It is normally Pyrmont or The Rocks fire station and they do joint training exercises with them and they have a set pick up point. So if it is required they will go down and help to staff those vessels.

Mr SHEEDY: They will also assist our operations if we request them to do so if we have a foreshore fire, for instance, at the interface. For instance, if we had a fire in one of the finger wharves around Walsh Bay they know that part of the contingency plan is that they will assist us, where available.

The Hon. J. R. JOHNSON: I take it there are joint exercises between Sydney Ports Corporation personnel and your own?

Mr HAMILTON: With regard to the fire floats, yes.

Mr SHEEDY: Yes, there are. It is reasonably limited in that respect but certainly it is a regular occurrence specifically between the two organisations.

(**The witnesses withdrew**)

(**Luncheon adjournment**)

CHRISTOPHER WILLIAM FILOR, Deputy Director, Surface Safety, Australian Transport Safety Authority, 47 Nullagine Street, Fisher, Australian Capital Territory, affirmed and examined:

CHAIR: In what capacity are you appearing before the Committee?

Mr FILOR: I am also the Inspector of Marine Accidents. The Australian Transport Safety Bureau conducted a safety investigation into the oil spill from the Italian flagship *Laura D'Amato*.

CHAIR: Did you receive a summons issued under my name in accordance with the provisions of the Parliamentary Evidence Act 1901?

Mr FILOR: I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Mr FILOR: I am.

CHAIR: If you should at any stage during your evidence consider that in the public interest certain evidence or documents you may wish to present should be seen or heard only by the Committee, the Committee would be willing to accede to your request, but I warn you that the Parliament may override that confidentiality. Do you wish to briefly elaborate upon your submission or make a short statement?

Mr FILOR: I will make a short statement if I may. I was not sure how I could help this Committee, so I thought I would start by outlining the role of the Commonwealth in the investigation into the oil spill from the *Laura D'Amato*. The marine incident investigation unit conducted the investigation under Commonwealth legislation, the Navigation Act 1912, and the Navigation (Marine Casualty) Regulations made pursuant to the Act. The purpose of the investigation is solely to identify the circumstances and causes of the accident. It is not a role of the ATSB to attribute blame or liability. So it was really just a safety investigation to try to determine how it happened and why it happened.

The methodology we use to do that is a well-accepted model in terms of world's best practice, and it is a model which is used by the international maritime organisation and the international civil aviation organisation for accident investigation. Basically, the idea is that we identify the various layers of problem, the policy and planning issues, the line management issues, the conditions at the time, both environmental and psychological, the unsafe act which led to the accident, and those defences that were defeated, if you like, in allowing the accident to happen. That is the way we look at the accident or any incident such as the *Laura D'Amato* incident.

The Commonwealth involvement is because of the foreign flag nature of the ship and also that the ship comes under Commonwealth jurisdiction for various aspects. There is a shared or overlapping jurisdiction with the States, but our role is purely safety investigation and not, as I said, to apportion liability or blame. That was our role in this case, and if there is anything I can help the Committee with I would be only too happy to do so.

CHAIR: From your investigations, were you satisfied that the ship-to-shore checklist required by the international safety guide for oil tankers in terminals was utilised and adhere to?

Mr FILOR: It was utilised, certainly, and it was adhered to in the interpretation given to it quite extensively in Australia and around the world. In our report we point out the ambiguous nature of the ship-to-shore checklist, in that people check their own things rather than crosscheck their own safety areas such as valves. That was commented on in the report as an ambiguity which ought to be looked at.

CHAIR: How can you be sure that the seachest valves were open sometime after leaving Zhenjiang and before arriving at Jebel Dhanna?

Mr FILOR: To use the word "sure" is probably a bit categorically. The method of discharge in this ship was to use the sea crossover line, for which the only protection was the two sea valves as part of the oil pipeline system on that ship for discharging. That was a regular feature, and we did establish that, so we were satisfied that it was a normal procedure. We checked with New Zealand, and we checked with contacts in China, with their authorities. There was no oil spill on either of those discharges—they are absolutely adamant about that. The next occasion on which that crossover line was used was here in Sydney.

CHAIR: Do you think that Shell itself should have a responsibility to physically check whether these valves are open or closed?

Mr FILOR: Under the interpretation here of the ISGOTT(International Safety Guide for Oil Tankers and Terminals) guidelines, all the terminals, as I understand it, treat that as a ship responsibility.

CHAIR: So Shell itself should not have to be involved in that, do you think?

Mr FILOR: Personally, I think it would not be a bad idea that key valves like that are double checked by somebody else. The problem you have is that the shore supervisors who do the checking probably have no real knowledge of a tanker pump room, and they tend to vary. Although they work on the same principles, there would probably not be two that are identical. So you really need somebody who knows what they are looking at to do these checks. Probably the present people who do that check do not have that experience on ships. They are very good in the tank farm but not on the ship itself.

CHAIR: Have you heard of any other similar incidents, of other sea valves being left open?

Mr FILOR: It is a vulnerable area. Yes, in the past, certainly in the sixties and when I was at sea on tankers, that did happen from time to time on some ships. In the report that we did, we did contact the insurance companies to see whether we could establish how common this was, because in our view the pipeline design was extremely vulnerable to human error of that sort and we were trying to get some handle on how frequent it was.

If I may refresh my memory, we did two protection and indemnity clubs. They are third party self-insurance type insurance arrangements for third party accidents. In an area called international statistics, the Japan Protection Indemnity Club indicated that of 126 oil pollution incidents during the cargo operation, 12 per cent, or 15, were due to operational error, of which two related to sea chest valves being open. So that is something under 2 per cent of accidents when they happen, and they do not happen all that often.

CHAIR: Do you think we have a reasonable hope that this type of incident will not happen again in Sydney Harbour?

Mr FILOR: That is a difficult question. Human nature being what it is, it is difficult to be categorical here. While this is fresh in everybody's mind, I am sure that it would stand as a good prompt to stop it happening again. Further down the track, people will need reminding, and we need perhaps better systems in place to check the basic valves. As a tanker man myself, sea valves were the holy of holies and only one person ever checked them or was responsible for them.

CHAIR: Do you believe those checks are now in place?

Mr FILOR: I cannot talk for every ship that comes in. The requirement of the international ship management code is that they guard against all foreseeable accidents. That is part of the quality assurance, if you like, of the ship management code. Those procedures should guard against such accidents. But procedures are probably the weakest form of defence or protection that you can put in, because people are human and they tend to forget procedures, or do something because they think they can do it in a better way, and they violate the procedures. So there is always a vulnerability there which you can never totally discount. But the likelihood is reduced by proper procedures and proper checking.

The Hon. R. D. DYER: Captain Filor, I take it that during your prior professional experience you have encountered oil spills before.

Mr FILOR: No, thankfully. Let us go back one step. As a ship's officer, no. We were pretty good, I think. I was involved as an investigator in accidents like that involving the *Kirki*. But that was very much atypical; it is not the sort of thing that will happen. Most oil spills seem to occur from bunkering ships, rather than from this sort of accident.

The Hon. R. D. DYER: You do not, I take it, have prior experience in a regulatory capacity of investigating oil spills..

Mr FILOR: I think this is only the second one we have actually done. So, again, they are not that common that we would get involved.

The Hon. R. D. DYER: The reason I asked you those questions is that I was going to invite you to assess, on a scale of 1 to 10, if that is appropriate, how serious or otherwise the spill from the *Laura D'Amato* might have been.

Mr FILOR: I honestly think that is a case of perspective. I really do. If you are a businessman, obviously this is very serious. Crude oil in itself is probably easier to clean up than say heavy bunker oil. There are different perspectives on all of this, and I would not like to give an opinion on that.

The Hon. R. D. DYER: Are you in a position to authoritatively or conclusively state to the Committee what the overriding factor was in connection with this particular oil spill?

Mr FILOR: The overriding factor was the failure to follow normal procedures, accepted procedures in the industry, to check those sea valves, and to check them properly. As we believe the seals were in place at that time, or apparently in place, only a cursory examination probably would have satisfied them that they were closed, when in fact they were back-seated open.

The Hon. R. D. DYER: Are you reasonably assured and confident now, in the wake of this oil spill, that appropriate measures are in place, one would hope, to prevent it recurring?

Mr FILOR: I know that certainly in Sydney locally Shell has put in steps to protect against this. On the Commonwealth front, we have gone to the International Maritime Organisation. They are in the process of reviewing the MARPOL convention—that is, the prevention of oil pollution from ships. The MARPOL convention in fact deals mostly with segregating ballast and possible pollution through ballast water and the cargo system. We have pointed out to them that this particular construction of pipeline system, which is not that uncommon, does seem to go against the principles of MARPOL. I do not know quite how far that will get, but it is being discussed and looked at in the International Maritime Organisation.

The Hon. R. D. DYER: I assume that you have heard of the various measures that have been installed at the Shell terminal—underwater lighting, with the boom being placed around a large vessel as it discharges crude and so on. If so, are you satisfied that appropriate measures are being employed to inhibit this type of accident?

Mr FILOR: I think that everything that can be done in that manner is being done. These things themselves can have a downside as well. If you want to get into a ship in a hurry, there are all those problems. But that is a risk management issue and you have to weigh one against the other and come down on one side or the other. But I think things are being done to the maximum extent that they can.

The Hon. R. D. DYER: An example of the downside to which you were referring would be the problem that might ensue if fire broke out when a boom is in place.

Mr FILOR: That is a possibility. But, again, looking at it on a risk factor basis, probably to have the boom there is the better option.

The Hon. R. H. COLLESS: Mr Filor, going back to the issue of the valves and so on, the procedure as I understand it prior to this incident was that the shore officer and the ship's officer would sit down and basically tick off a checklist, without physically inspecting each item that they were checking off. Is there an area there where there is some negligence, do you feel, in that regard, particularly as we heard from the manager of the complex this morning that they have now change their practices so that they actually go and inspect each item together? Should they have been doing that before, and were they negligent in that regard?

Mr FILOR: As I said at the beginning, we do not make those sorts of judgments about negligence and blame. Is the present system a better system? I would categorically say yes, without a doubt. The shore side, the Shell people, in their interpretation or in the Australian interpretation of the ISGOTT guide, which is the terminal guide, followed that procedure as they had been taught at various courses. I am satisfied of that. So, from their point of view, that was done properly. What was not done properly was for the mate on a ship to tick the box saying that the sea valves were in place. There were two checks for that sea valves, not only a visual one at the time of ticking that box, but also in the company standing orders and procedures there was an air pressure test. Had that been done, again, that would have shown that those valves were open. That was not done. So, in those terms, those are the two critical issues.

CHAIR: You say in your report that the AMSA surveyor, the vetting inspector, the Shell Shaw officer and the Sydney Port Corporation inspector had no responsibility for the open sea chest valves, and that it is something of an irony that, with the two inspections and the ISGOTT check list being signed by two shore personnel, such a fundamental factor as open sea valves should have gone unnoticed. Do you think the Sydney Port Corporation should have responsibility to check sea chest valves?

Mr FILOR: I would suggest that it would be a very good idea that there is a second check by somebody, so that somebody from the ship and somebody else check the sea valves. Whether or not it is Sydney Port or the terminal I do not think matters. It is just that there is a double check on the valve.

The Hon. Dr A. CHESTERFIELD-EVANS: You said that the valve was back-seated open. Can you explain that expression?

Mr FILOR: Jammed open.

The Hon. Dr A. CHESTERFIELD-EVANS: So that when you tried it would appear to be shut?

Mr FILOR: It would appear to be shut. We are fairly confident. We did talk to the surveyor in Abu Dhabi, from memory—or wherever it was , I cannot remember, but in the Gulf anyway—who did do that. We are as satisfied as we can be that he did sort of try the valves, but we are pretty confident, given all the rest of the evidence, that in fact they were open and that they were jammed open.

The Hon. Dr A. CHESTERFIELD-EVANS: But he had certified them as shut.

Mr FILOR: What he had done was place a seal across them to show that they were shut, yes.

The Hon. Dr A. CHESTERFIELD-EVANS: Having tested them and having them back-seeded open?

Mr FILOR: Yes, we think so. We are fairly confident of that.

The Hon. Dr A. CHESTERFIELD-EVANS: Would the mate have checked himself, or would that task have been delegated down the line somewhere?

Mr FILOR: I do not know what the mate delegated, but—

The Hon. Dr A. CHESTERFIELD-EVANS: Is their delegation in both? That is what I am asking.

Mr FILOR: There is nothing to stop him delegating but, with my background in tankers, the sea valves were something that the mate always checked himself—or herself, but in my day himself. It was the holy of holies. I mean, that and two other valves were the most critical valves on the ship.

The Hon. Dr A. CHESTERFIELD-EVANS: I have worked in sewage myself. In the new system they have flow diagrams that come up on television monitors. Is this not common in ships, even in Japanese ones, made in the early 1990s?

Mr FILOR: No. In fact, I think we have commented in the report that it is not, that there are such things around. But even the control panel in the control station was a system whereby, if you went out on deck and opened or closed a valve, you came in and then pressed a light to show that you had done it. It was not interconnected in any way. One of the points we make in the report is that it would have been very easy to have a remote indication on the sea valves. It would have been quite easy to do. In fact the D'Amato company, when we wrote to them about this, undertook to do just that, or certainly to examine it seriously.

The Hon. Dr A. CHESTERFIELD-EVANS: You would think that they would have a diagram that would show or oil going to sea and that bells would ring. Surely they could have indicators to show whether it was water or oil in that particular pipe.

Mr FILOR: They would have known whether it was oil or not. That is all you can get there because of the segregated ballast system.

The Hon. Dr A. CHESTERFIELD-EVANS: But don't you use that pipe also for putting water from the sea into ballast tanks?

Mr FILOR: Only in an emergency or in very heavy weather, and that ship had not used that for that purpose as far back as we could trace. So it had not certainly in the year, and probably a lot longer.

The Hon. Dr A. CHESTERFIELD-EVANS: When the incident happened the Fire Brigade said they got.600 calls, none of which were from the port authorities, dealing with spills. They had actually met the port authority people on the dock. Did you think that the chain of notifications and interconnection of the agencies was deficient?

Mr FILOR: We did concentrate our efforts on establishing why the spill took place. We did not go beyond that because other competent people were doing that.

The Hon. Dr A. CHESTERFIELD-EVANS: That is not your particular—

Mr FILOR: And that is not our particular bailiwick.

The Hon. Dr A. CHESTERFIELD-EVANS: Do you think that the booms are safe? The fire risk was a factor put to us by Shell. My understanding is that crude oil is not very flammable. I do not know whether that is the fact, but that is the notion springing from my head. Obviously, if the boom is far enough away, and presumably with water-level detectors of oil—which must be technologically possible—it would be possible to have a boom that protected the environment without putting ships at great risk.

Mr FILOR: Crude oil is very volatile, especially the crude oil that was on that ship. It was very light and very volatile indeed. It has a very low flashpoint.

The Hon. Dr A. CHESTERFIELD-EVANS: So there would be the danger of a large fire?

Mr FILOR: If there was a major spill of oil and it was contained by the boom and caught alight, yes, the ship would be put at risk. The example is the *Cellana*—at least I think it was the *Cellana,* the Australian tanker which actually did have a fire on board in Gore Bay, if I remember

correctly. So there are downsides. It is like all defences: nothing is perfect and one has to take a calculated risk assessment with these things.

The Hon. R. D. DYER: Captain Filor, a short time ago, when responding to a question from the Chair, you appear to be agreeing that it might be desirable to have a second check to ascertain that a sea valve has been closed. In saying that, did you have in mind a second check being by some external authority, or are you simply saying that two persons from the ship or from the oil installation perhaps would do it?

Mr FILOR: The check should be from two different organisations or bodies, say the ship and the shore. It should not be two people from the ship, in my view. That would be too risky.

CHAIR: You suggest in your report that they have an automatic indicator in the control room.

Mr FILOR: I would like to see both done. I do not think one trusts automation totally, but that would be another defence.

The Hon. R. H. COLLESS: You said the *Laura D'Amato* had not used its sea chest valves for 12 months.

Mr FILOR: If I could take a step back. There was a segregated ballast system with which they could load—I cannot remember exactly but it is in the report—about 40 per cent of its dead weight in ballast. Under almost all normal operating circumstances that is sufficient ballast for the ship to take. That is done totally independent of the cargo pipeline system. This other pipeline which would allow them to do that through the cargo system was for typhoons, cyclones and so on.

The Hon. R. H. COLLESS: Are they the valves that the oil went through?

Mr FILOR: They are the pipelines that the oil went through. They had not been used for a year or 18 months at least.

The Hon. R. H. COLLESS: How long would that have been at risk? I am trying to establish whether it is possible that those valves had been open for an extended period and the oil had not got into that pipeline.

Mr FILOR: Yes, it is possible.

The Hon. R. H. COLLESS: For a long period of time?

Mr FILOR: Yes.

The Hon. R. H. COLLESS: So those valves could have been open for a long time?

Mr FILOR: That is right, we think about six weeks.

The Hon. J. R. JOHNSON: Captain Filor, you seem to indicate that according to the operators at the terminal, according to their lights, they followed the procedures. Is there another interpretation or do I take it that the procedural manual may be ambiguous?

Mr FILOR: Yes, I actually use that term in the report. The ISGOTT guide, which is the bible for terminal operation, seems to suggest in one portion that everything should be checked by the two people. There is another portion in one of the annexes where it can be interpreted to mean that providing you sit down together and agree on the checklist and then sign it that is okay. That last interpretation has been used not only in Australia but in other places. That, I think, is the less safer of the two interpretations.

The Hon. J. R. JOHNSON: Do I take it that the international body that sets the standards would be made aware of the concerns that were expressed in your report or the findings that you concluded and would now update its manual?

Mr FILOR: I am not sure. That is done by the oil companies and Shell is a major player. I am sure this message has got through on that side.

The Hon. J. R. JOHNSON: Who do you report to?

Mr FILOR: This is a public report. It goes internationally to the Tanker Owners Association—

The Hon. J. R. JOHNSON: Is the report merely to read or is it for action?

Mr FILOR: Obviously we cannot require anyone outside our jurisdiction to do anything. On the basis of this report we made submissions to the International Maritime Organisation to try to change international practice in pipeline design, for instance.

The Hon. J. R. JOHNSON: That would be meritorious if they did.

Mr FILOR: I hope they will, but it will be looked at very seriously.

The Hon. J. R. JOHNSON: Do I take it that you will monitor their journals, et cetera, as they come forward?

Mr FILOR: Australia is represented at the International Maritime Organisation on various committees and subcommittees. The Australian Maritime Safety Authority keeps me up to speed on what is happening.

The Hon. J. R. JOHNSON: Will they be raising it?

Mr FILOR: Oh yes.

(**The witness withdrew**)

DONNA THERESE RYGATE, Public Servant, New South Wales Environment Protection Authority, Goulburn Street, Sydney, sworn and examined:

PETER RAYMOND SCANES, Marine Scientist, New South Wales Environment Protection Authority, 21 Northmead Avenue, Northmead, affirmed and examined:

CHAIR: In what capacity are you appearing before the Committee?

Ms RYGATE: As a representative of the New South Wales Environment Protection Authority.

Dr SCANES: As a representative of the New South Wales Environment Protection Authority.

CHAIR: Did you receive a summons issued under my hand in accordance with the Parliamentary Evidence Act 1901?

Ms RYGATE: I did.

Dr SCANES: I did.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Ms RYGATE: Yes.

Dr SCANES: I am.

CHAIR: If you should consider at any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be heard or seen only by the Committee, the Committee would be willing to accede to your request. However, I warn you that the Parliament may override that confidentiality. Do you wish to briefly elaborate on your submission or make a short statement?

Ms RYGATE: I would like to address the following areas in my opening statement this afternoon: the role of the New South Wales Environment Protection Authority [EPA]; some recent initiatives to improve Sydney Harbour; the regulation of industrial sites around the harbour; the oil spill emergency management framework in New South Wales and nationally; the EPA's role in the oil spill emergency management framework; the sorts of things the EPA did in relation to be *Laura D'Amato* oil spill; why Sydney Ports led legal action in response to the spill; and continuous improvement.

The EPA is the primary New South Wales public sector organisation responsible for protecting the environment. Established in 1992 the EPA works in partnership with the community, business, industry and government organisations. The EPA's main objectives are, firstly, 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, secondly, to reduce risks to human health and prevent degradation of the environment.

The EPA's philosophy is to prevent pollution before it occurs and to avoid the creation of waste, recognising that strong and credible pollution control and waste regulatory programs are needed to help solve existing problems. The EPA has adopted a range of tools to achieve the best environmental outcomes at least cost. These tools include regulation, education, economics, monitoring and reporting.

In terms of recent initiatives, the good news on Sydney Harbour is that it is essentially cleaner today than it has been for 50 or 100 years. Yesterday's site inspection confirmed that. We saw some excellent videos that George Evatt had prepared which showed an amazing array of biodiversity in our harbour. It was wonderful to see. Of course, it is essential that improvements continue. A

number of the initiatives are in place to this end. Those initiatives include a stormwater management program.

In September 1997 the Government announced an innovative three-year $60 million urban stormwater program. The EPA administers the program under the guidance of the Stormwater Trust. In 1998 the EPA issued directions to councils to prepare urban stormwater management plans for all centres of more than 1,000 people. Over 80 plans to monitor and improve stormwater quality have been prepared since that time. The EPA has worked with councils on stormwater management planning by providing information and workshops. Notices requiring the preparation of stormwater environmental improvement plans were also issued to the Sydney Water Corporation, the Hunter Water Corporation and the Roads and Traffic Authority. The stormwater program also provides grants for on-the-ground stormwater improvement projects. Since 1998 the Trust has awarded over $50 million in grants to local government and other organisations for 252 projects. $13 million in grants were announced in February 1998, $18.7 million in February 1999 and a further $18.7 million in February 2000. More than 2,000 tonnes of rubbish has been stopped from reaching New South Wales waterways by installation of trapping devices funded through the stormwater program, including approximately 850 tonnes within the catchment of Sydney Harbour.

The Government has also approved a community education program as an integral part of the urban stormwater program. Funding of $4 million has been allocated through the Stormwater Trust for this program. The EPA is implementing an integrated education and communication program that includes a mass media campaign "The Drain Is Just for Rain". The education program also includes vocational training courses for several industry sectors and a community development project with the Ethnic Communities Council. To help local councils conduct local community education campaigns, an Internet-based education kit has been compiled by the EPA and is available to councils.

Beachwatch and Harbourwatch provide the public with information about pollution levels at main swimming areas. Longer-term trends point to huge improvements in faecal coliform levels for all Sydney beaches. A decade ago almost half of the beaches monitored failed health guidelines. That is not the case today.

Lastly, in terms of initiatives, the interim water quality and river flow objectives are important. They were released in 1999 for Sydney Harbour and the Parramatta and Lane Cove rivers. We provided some material on that with our submission. The objectives are targets for improvement of water quality and flows so that aquatic ecosystems are as healthy as possible and in the lower part of the harbour people can swim, boat, fish and safely eat their catch after cooking, except in the three to four days after rain or at the heads of bays that receive stormwater or during pollution incidents. Further, in the upper estuaries of the harbour—noting that this may take five to 10 years—we would like water quality to be good enough for safe swimming and fishing. Also, in waters that are affected by urban development we want safe swimming. I again note that this may not be possible for 10 years or more. The objectives guide plans and actions to achieve healthy waterways. The Government has appointed a Sydney Harbour Manager to provide leadership in developing a strategic vision for the harbour and its foreshores, advise the Government on emerging issues—including land use and urban design—co-ordinate the activities of agencies, and provide a first point of contact for the public in relation to harbour issues. The Harbour Manager is ideally placed to ensure the interim environmental objectives for Sydney Harbour provide a focus for future strategic planning.

Regulation of industrial sites around the harbour is one of the direct means the EPA has to influence environmental outcomes. Schedule 1 of the Protection of the Environment (Operations) Act 1997 details the sort of activities that are controlled by the EPA through environment protection licences. In simple terms, the EPA regulates large or high-risk activities and those conducted by public authorities. Land-based aspects of chemical storage facilities, such as oil terminals, are scheduled. Licence conditions are designed to ensure that premises are operated in a manner that will achieve environmental objectives. By way of example, Shell at Gore Cove must have a stormwater detention system that allows any contaminated surface run-off to be collected before it goes into the harbour and have it cleaned. The EPA has a range of regulatory tools at its disposal to deal with issues of concern, including fines, audits, prosecutions and the negotiation of pollution reduction programs to mandate necessary changes. Licences must be reviewed every three years and public notice of reviews must be given.

CHAIR: You may incorporate that in the record.

Ms RYGATE: The part I need to refer to is on the next page. I will not tell you how many prosecutions we completed last year; you can read it in the annual report.

The institutional structure established to co-ordinate and oversee emergency response, including oil and chemical spills, has three key institutional components: the State Emergency Management Committee; the New South Wales National Oil Spill Contingency Plan Executive Committee and the New South Wales Marine Oil Spill Contingency Plan Technical Working Group. The State Emergency Management Committee oversees the New South Wales State Disaster Plan, which is required under the State Emergency Rescue Management Act and co-ordinates all emergency response across the State. The New South Wales National Oil Spill Contingency Plan Executive Committee was created in June 1999 and is composed of senior representatives of the major State and Commonwealth agencies and companies involved in response to oil spills. Its function is to oversee the co-ordination of oil spill responses, to ensure that policy issues are resolved quickly and to activate resources from participating organisations over the long term if that is required..

The technical working group is made up of operational representatives of the combat and supporting agencies. Its role is to develop response strategies to issues that may arise during a spill. This group is notified and convened to co-ordinate the spill response. The EPA has three people on that working group who provide technical assistance in developing and implementing the New South Wales Marine Oil and Chemical Spill Contingency Plan. I will speak more about that later. They also participate in training and provide environmental advice during an oil or chemical spill.

Since 1973 Australia has had in place a national strategy to respond to marine oil spills known as the National Plan to Combat Pollution of the Sea by Oil. The National Plan is an integrated government and industry network enabling an effective response to the problem of marine pollution in Australian waters. Originally restricted to oil spills this was extended to chemical spills in 1998 and it is now known as the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances. The National Plan requires each State and Territory to develop contingency plans to cover their respective areas of coastline. In New South Wales this is the New South Wales Marine Oil and Chemical Spill Contingency Plan, which is a supplement to the Australian Maritime Chemical Spill Contingency Plan. In addition, because a major spill could require a co-ordinated response under the New South Wales emergency management arrangements, the plan is endorsed as a sub-plan to the New South Wales State Disaster Plan.

The coastal resource atlas to which the EPA has contributed a lot of scientific expertise, as you know, is a key document that complements the oil spills plan. In the event of any oil spill on water in New South Wales the lead response agency, known as the combat agency, is either the New South Wales Fire Brigades or one of the Ports Corporations, Sydney, Newcastle or Wollongong. The delineation of responsibilities is on a geographical basis with the Ports Corporations responsible for any spills that occur either within State waters up to a distance of three nautical miles or in designated ports. New South Wales Fire Brigades is responsible for any spills in any other location, including inland waters.

If a spill is relatively minor, the appropriate combat agency will respond using its normal operational capabilities and will obtain advice from other agencies as necessary. If this spill is large and threatens to overwhelm the resources of the combat agency, an appropriate emergency management plan is activated. The Ports Corporations activate the oil spills plan and the Fire Brigades activates the Hazmat plan, which are both sub-plans of Displan. If these plans are activated formal statutory arrangements for advice and assistance are initiated and an emergency operations centre is set up. The overall control of the response becomes a responsibility of an emergency operations controller under the Hazmat plan or the oil spill commander under the oil spills plan.

Assistance is provided to the combat agency through the emergency operations controller or the oil spill commander via a network of relevant government agencies. The agencies are organised into functional areas such as health services, engineering services, environmental services and so on. These functional areas develop their own supporting plans to address delineation of responsibilities and the co-ordination of any necessary response. They are co-ordinated by a nominated lead agency. If requested, each functional area must provide a liaison officer to the emergency operations centre.

The liaison officer is responsible for communicating with the emergency operations controller or oil spill commander, advising the emergency operations controller or oil spill commander on any issues relating to the functional area, and communicating with and co-ordinating all participating agencies within the functional area to address any relevant issues or problems that may arise.

As to the EPA's specific responsibilities, in the event of a minor spill the EPA provides advice on issues relevant to its sphere of responsibilities to the combat agency. If the combat agency is the Fire Brigades, that advice is provided in accordance with the memorandum of understanding that exists between the two agencies. In a major spill where an emergency plan has been activated the EPA assumes the role of the lead agency for the environmental services functional area, which is responsible for addressing and responding to any environmental issues that may arise as a result of the incident. The roles and responsibilities are set out in Enviroplan. Other participating agencies include the National Parks and Wildlife Service, New South Wales Fisheries and the list goes on. If requested by the emergency operations controller or oil spill commander the environmental services functional area must provide a liaison officer to the emergency operations centre. Under the oil spills plan additional officers from the EPA's Environmental Science Branch are seconded to the emergency operations centre to fill the role of environmental co-ordinators. During the response phase these officers remain at the emergency operations centre and report to the oil spills commander.

CHAIR: Could I interrupt you. We have only about 12 minutes left for questions. I ask you to incorporate the rest of your submission into *Hansard*.

Leave granted.

Environment Protection Authority and the Laura D'Amato spill

In the 2 weeks after the Laura D'Amato spill on 3 August 1999, approximately 500 people from 32 organisations were involved in the response to the spill.

Because the incident occurred in Sydney Harbour, the primary combat agency for the response was the Sydney Ports Corporation. The Government also appointed Matt Taylor as Oil Spill Commander.

The EPA played a significant role, providing expert advice to the combat and supporting agencies at a number of levels. The EPA also responded in its own right under its environment protection legislation. Areas involved included:

Environment and Science Coordinators—in accordance with the National Plan, two officers joined the Emergency Operations Centre full time for 12 days to provide scientific advice to the Oil Spill Commander and liaison between the Emergency Operations Centre and the scientific community.
Ecotoxicology—field and laboratory assessments of the ecotoxicity of the oil and changes in toxicity over time.
Water Science—ecological impact assessment of the spill, co-ordination of short- and medium-term monitoring of those impacts and assessment of clean-up activities.
In addition to advising on environmental and ecotoxicological impacts during the immediate crisis, the Environment Protection Authority's Water Science Section participated on the Foreshores Assessment Team and developed criteria for the clean-up, defining the meaning of 'clean' depending on the environmental, public health and community sensitivity of any area under consideration. Once combat and supporting agencies completed cleaning an area of the harbour, the EPA, on behalf of the Team, convened a group of stakeholders representing industry, local community and government sectors to inspect the cleaned areas and 'sign-off' on the completion of the task.
Analytical Chemistry—chemical analysis of the oil, including "finger-printing" for forensic purposes.
Air Science—specialist advice on odour and air toxics supplemented by monitoring.
Sydney Region—Coordination/On-scene advice/Investigations/Inspections/After hours incident response
Hazardous Materials Advice Unit—Specialist advice, coordination and incident response
Policy advice on environmental impact and clean-up
Legal investigation
Public relations and media liaison
Receipt of incident reports
Waste management advice

The response operation to the spill was an overall success. Ninety per cent of the recoverable oil was collected for recycling (when 20% is usually considered good by world standards). The success of the operation was due, in part, to the type of oil involved and advantageous environmental conditions. Weather and tidal conditions assisted in keeping the spill contained and the oil was a type that could be cleaned off the shore comparatively easily. The location of the spill in Sydney Harbour, near Sydney Ports Corporation's operations, was also advantageous.

Sydney Ports' legal action

I understand that the Committee is interested in why the Ports Authority played the key regulatory—or, perhaps more accurately, enforcement—role in relation to the Laura D'Amato spill.

The key is the Marine Pollution Act 1987, the purpose of which is to implement the International Convention for the Prevention of Pollution from Ships in NSW. For spills from foreign-owned ships, there will be may players—the owners, the company that provides the ship's crew, the master/captain, the various crew members, the owner's insurance company and the organisation chartering the ship. Obviously many of these people are based outside of NSW, that is, beyond the State jurisdiction. The Marine Pollution Act contains several legal tools that are extremely useful when dealing with oil spills from foreign ships, and these tools are not duplicated in the EPA's legislation. These tools include the following:

- The Marine Pollution Act deems, subject to some exceptions, that the owners of the boat and the master of the boat are liable for any oil spill from a ship. Hence, there is no need to find out who actually caused the spill—it is deemed to be the owners and the master, as well as any other person who actually did cause it.
- The offences that are created are strict liability, so there is no need to prove wilfulness or negligence, and the maximum penalty for companies is in the order of $1,100,000.
- The Act can require any person who is not in the jurisdiction to nominate a person in NSW as the agent for that person such that subpoenas and court documents can be served on the agent and they are deemed to be served on the actual person. This is useful when dealing with boat owners etc who live outside the jurisdiction.
- The Act can require that a relevant person put up a bond to cover any costs that might arise from a spill.
- Finally, to encourage people to nominate agents and post a bond, the Act allows the relevant Minister to order that a ship remain in NSW until such time as all relevant investigations and other steps have been taken. Given the high cost of keeping a ship idle in Sydney, the threat is usually enough to ensure co-operation.

In more general terms, Sydney Ports has the staff and equipment needed to carry out an oil spill cleanup.

The EPA provided any assistance it could to Sydney Ports in its investigation of the Laura D'Amato incident, which resulted in a successful prosecution.

Lastly, in undertaking its port operation activities, Sydney Ports Corporation must comply with relevant environmental legislation administered by the EPA.

Continuous improvement

I would like to conclude with a few brief comments on lessons learnt from the Laura D'Amato spill and improvements made subsequently. These include:

- The importance of accurate public communication. The State Emergency Management Committee has ratified a Public Information Supporting Plan that should ensure that the community gets more accurate information in relation to future emergencies.
- The EPA has also put together information on metropolitan and country waste facilities capable of receiving large volumes of oily wastes.
- In terms of boat cleaning, the EPA has developed a protocol for advising the public on techniques and cleaning agents to be used to clean recreation craft affected by an oil spill. The techniques recommended in the protocol range from hand scrubbing of small quantities of contaminants, to the "slipping" of a boat and carrying out a comprehensive cleaning operation while collecting the contaminated water for proper disposal. The protocol recommends the use of biodegradable cleaning agents and avoiding ammonia or hydrocarbon based agents. Because the correct protocol for cleaning boats is dependent on number of factors, such as the properties of the oil and the extent of contamination, EPA officers will use the protocol to advise on appropriate techniques on a case by case basis.
- Training sessions have also been held for relevant personnel to take advantage of lessons from the spill
- The collaboration with internationally recognised scientific experts such as Professor Underwood and Dr Chapman from Sydney University is very important to provide clear analysis of the environmental qualities of the Harbour and the impacts of spills.

There is no doubt that the response to the spill was very good, but there are nonetheless lessons we can learn and improvements we can put in place to do an even better job in future.

CHAIR: Dr Scanes, do you want to make a statement?

Dr SCANES: No.

CHAIR: How did the EPA treat this particular oil spill? How is it different from treating previous oil spills in other countries or other parts of Australia? What lessons did you learn from this oil spill?

Ms RYGATE: I was just about to get to that but I shall give the answer off the cuff. With the *Laura D'Amato* oil spill we seconded our scientific officers off to the emergency operations centre and they provided a great deal of scientific advice, including on clean-up. We worked on clean-up of boats, waste disposal in relation to the spill and a number of other bits of the EPA did things like that. In terms of lessons learnt, I guess there were a few. We have developed a protocol for boat clean-up which outlines appropriate methods that can be used depending on the type of oil, where it is, the sorts of boats and so on. One of the really important lessons was how important it is for us to continue our

collaboration with scientific experts such as Professor Underwood and Dr Chapman of Sydney University. The information they provide is invaluable, so that was an important lesson.

Lessons were learnt in relation to public communications. There was a lot of scare-mongering type reporting of the *Laura D'Amato* oil spill and since that time the State Emergency Management Committee has ratified a public information supporting plan so in future arrangements to get information out to the community about the real situation should work a little better. We have had debriefing sessions and training sessions to follow up on the nuts and bolts of what occurred. In spite of the fact that the spill clean-up went very well, we would like to build on that in the future and make sure we do it even better next time.

CHAIR: It is understood that the EPA provided advice about clean-up standards used after the *Laura D'Amato* spill. Are you satisfied that the methods used were the most appropriate available in terms of environmental protection? Following the *Laura D'Amato* spill did you face pressure from local councils, public opinion and so on, to use clean-up methods which may have been environmentally harmful?

Ms RYGATE: I will let Peter Scanes answer the detail of that question because he was directly involved in the clean-up.

Dr SCANES: There was certainly widespread general pressure to clean up the oil spill. I would not say that we were under intense pressure at any particular time from any particular individual. We were well aware that the oil needed to be cleaned up and the strategy of Sydney Ports, in close consultation with the environment advisers, was to keep as much as possible of it off the shore and to clean it up on the water where it could be recycled. We avoided using absorbent materials because they represent items which then have to be disposed of in land ill and that is a poor solution, so we stayed with skimming and collecting it directly off the water.

As far as cleaning it off the foreshore there were two definite strategies that we took. The first was to establish uses or values for shores and then some the definitions of what constituted "clean" under those uses or values. "Clean" has a number of definitions. For example, if it is where a penguin slides up and down over the rocks it has to be very clean otherwise the oil is transferred from the rocks to the penguin causing mortality. If it is an area of rock, particularly of hard foreshore, that exists mainly as an environment for intertidal organisms that are common it is well recognised probably the best thing to do is to leave it alone and let the natural processes deal with it. In between that continuum there are a number of choices, which were identified and summarised in this table that forms part of the review and I submit that to the Committee.

The second point is that we actually did some trials of possible ways of cleaning the foreshore are to determine the possible implications of cleaning shores in various ways with high pressure, low pressure, et cetera. Those methods were done, the results were assessed and using that we made a series of recommendations about cleaning to various standards as defined in that table. If you wished to clean it to a standard where you have no oil we recommend a method for that. If you wished to clean it to a standard for habitat, which was basically almost equivalent to leaving it alone, other methods were defined and these are included in that table that I will also submit to the Committee.

CHAIR: You would tend to concur with the findings of Professor Underwood's team that the areas that were not treated were very similar to the areas that had been treated in a careful way some months after the actual event?

Ms RYGATE: Yes, we would.

Dr SCANES: Yes, I would. That was only anecdotal evidence but for the scientific justification for that I relied primarily on the data collected by the special research centre.

The Hon. R. D. DYER: Have you had access to Professor Underwood's submission to this Committee?

Dr SCANES: I have.

The Hon. R. D. DYER: You will be aware then that he expressed the view that in the case of the *Laura D'Amato* spill the issues he raised in his submission and much of the clean-up was done sensibly and well. You recall reading that?

Dr SCANES: Yes.

The Hon. R. D. DYER: In considering whether to clean or not Professor Underwood said, "Attempts to clean up can cause more environmental damage than done by the oil itself. So, after *Exxon Valdez*, sites that were oiled and cleaned showed little recovery 3-5 years after the spill. Sites left alone recovered rapidly". Is that quite consistent with the answer you gave a short time ago. In other words you would agree with the views he expresses?

Dr SCANES: I agree with Professor Underwood's views. The *Exxon Valdez* example did not occur in this harbour because the methods of cleaning were far less severe and so the biological communities in those areas cleaned were virtually indistinguishable from areas which were not cleaned in our case so that the cleaning did not cause any environmental damage. I should qualify that by saying except in areas which were predefined as areas which were used by humans and cleaned to a much greater standard in order to protect public safety rather than to protect ecological communities and that decision was clearly made before, which were restricted to a very small percentage of the shore.

CHAIR: Different areas receive different treatment depending on the social and ecological aspects?

Dr SCANES: That is correct.

The Hon. R. D. DYER: Are you saying that comparing Gore Cove Sydney Harbour and Alaska is not comparing like with like?

Dr SCANES: Yes. It is more about the vigour with which you attack the cleaning and they were very different in the two examples.

Ms RYGATE: I think he is saying we did a more sensitive job here in New South Wales and achieved a better outcome for the environment.

CHAIR: You would say that.

Ms RYGATE: It is true.

The Hon. J. R. JOHNSON: You are on oath.

Ms RYGATE: I am very happy to be.

The Hon. R. D. DYER: Professor Underwood said that much of the clean-up was done sensibly and well so he appears to agree with you in that respect. He also said "It is not just detergents and dispersants that cause problems during clean-up. Simply disturbing the areas can have very deleterious effects." He goes on to say that "This particularly true in soft sediment habitats (beaches, mudflats, mangroves)". It may be that those conditions are not particularly appropriate to the scene of this oil leak but could you state to the Committee what risk was involved in disturbing the natural habitat by people trampling over it, machinery being moved onto it and so on?

Dr SCANES: During the spill response, all efforts were made to keep people and machinery off habitats. Virtually all of the oil recovery was from water, the exception was the beach in Balls Head Bay. Shell primarily led that recovery. For that recovery, walkways were put in place and lots of precautions were taken so that over the areas where people moved there was very little possibility that oil was going to be trampled into the soft sediments. Against that, it was an area of beach that was cleaned quite vigorously. There is some indication that it may have removed some of the sand and that is one of the lessons to be learned from this oil spill.

The Hon. J. H. JOBLING: On the beach you are referring to would it be fair to say that there are now boulders where previously there was sand?

Dr SCANES: Dr Chapman said that yesterday. I do not have the data upon which to judge. I am not familiar with that shore before the oil spill.

The Hon. J. H. JOBLING: I assure you that yesterday it appeared to be so. In relation to the EPA and the Fire Brigade, did you request them to undertake the cleaning? When they were dealing with the shore clean-up did you instruct them on the use or non-use of dispersants or detergents?

Dr SCANES: The instructions would come from the incident commander who at that time was Chris Allsop. All decisions made with regard to that were made as part of a team that was in charge of the or spill operation. I was part of that team and we considered all aspects of the use of the Fire Brigades and the methods they were using. We tended to encourage them to work areas we thought the greatest benefit could be derived from the washing down of the rocks with fire hoses.

The Hon. J. H. JOBLING: To your knowledge were any dispersing agents or detergents used in the clean-up?

Dr SCANES: Not to my knowledge, and it was a conscious decision the very beginning of the oil spill response.

The Hon. J. H. JOBLING: I need to ask this: To what effect and how did the EPA and other authorities the act to the fairly strong public pressure through the media and the observing of the visual pollution to have the it removed? What effect did that have on you in your clean-up?

Ms RYGATE: Are you asking whether we modified our approach to clean-up is a result of public pressure?

The Hon. J. H. JOBLING: That was my next question.

Ms RYGATE: In my view the answer to that is no. The approach we took to the clean-up was based on the best scientific knowledge that we had and the most responsible approach we could come up with. Privately, I share some of Dr Underwood's frustration about the reporting of the incident and the unnecessary scaremongering that went on.

The Hon. J. H. JOBLING: Is this then simply a result of, perhaps, the lack of skill or the inability of the lead authority and other authorities to convey the correct information and the reasons why it you were doing things to the public?

Ms RYGATE: I cannot tell you why particular things appear in the media and others do not. I can tell you, as I mentioned previously, that since the oil spill happened the State emergency Management Committee has ratified a public information support plan so that at least from the point of view of the emergency response agencies we have a plan to make sure that the best information is out there to be picked up. No doubt the media will behave responsibly.

CHAIR: If this happened again would your response be different? What lessons have you learnt that would make it different next time?

Ms RYGATE: We know all about what we can do with oily wastes. We know a lot more about clean-up techniques due to the testing that was done during the oil spill about different options. We have a better approach to boat cleaning and are able to provide more refined and specific advice on that if it comes up. We have more experience in working together with all of the other agencies that were involved in the response. Having had more experience, no doubt it will go even more smoothly in future. Again, I highlight the importance of the scientific work of people such as Professor Underwood and Dr Chapman.

CHAIR: What do you think has been a long-term impact of that oil spill?

Ms RYGATE: Do you mean scientifically?

CHAIR: Yes.

Dr SCANES: Virtually nil.

The Hon. Dr A. CHESTERFIELD-EVANS: Were you measuring the benzene levels? It seems the firemen were not. I am interested in the public health aspect of the pollutants

Ms RYGATE: On the night of the oil spill we were operating our monitoring station at Rozelle which is 3.75 kilometres south-west of where the spill took place. We detected no raised levels of volatile organic compounds, of which benzene is one. In the following two days there were no raised levels at Rozelle, which was good news. There was some monitoring done at Gore Cove between 5 and 11 August, and again no raised levels of benzene were detected.

The Hon. Dr A. CHESTERFIELD-EVANS: When did the spill occur?

Ms RYGATE: On 3 August.

The Hon. Dr A. CHESTERFIELD-EVANS: So, 48 hours later it was okay? There was no monitoring of Gore Cove on the night of the spill, even when 600 people were phoning in.

Ms RYGATE: We did not set up a monitoring station. The spill occurred at 6 o'clock at night and we were trying to deal with the spill and already had a monitoring station operating at Rozelle, which should pick up things—and it was.

The Hon. Dr A. CHESTERFIELD-EVANS: It depends on which way the wind blows, surely?

Ms RYGATE: That is right.

The Hon. Dr A. CHESTERFIELD-EVANS: It is a bit silly to say that you are monitoring the benzene level at Rozelle when the oil spill is a Gore Cove and you are not monitoring the wind velocity.

Ms RYGATE: I told you that the wind was from the south. We monitor at Rozelle on a regular basis.

The Hon. Dr A. CHESTERFIELD-EVANS: But Rozelle is south of the port.

Ms RYGATE: I know. It takes a bit of time to set up the air toxics monitoring station that is needed.

The Hon. Dr A. CHESTERFIELD-EVANS: Presumably there was a person there. Is this material not transportable? There was a huge pall of smell over half of Sydney.

Ms RYGATE: I know. The people we had on the scene immediately following the spill were our operational experts who are trained in emergency response procedures. They were looking at the oil on the water and the implications for the waterway and, in conjunction with other agencies, any public health issues that might arise given the strong odour.

The Hon. Dr A. CHESTERFIELD-EVANS: Benzene is a public health issue.

Ms RYGATE: Yes, I know that. We also had immediate response from our scientific experts such as Dr Scanes. Our air science people provided specialist advice on odour and air toxics. That advice was provided well in advance of any equipment being set up. It was more a case of what could be done about whatever was out there. The monitoring equipment came on 5 August.

The Hon. Dr A. CHESTERFIELD-EVANS: If you have a large body of oil and a large amount of bad smell all over town, I suggest it is suboptimal to not monitor that at the time and to get air quality experts to advise what to do 48 hours later. I take your point that there was not much you

could do about it except shut the windows. I do not suppose there is much you can do about benzene levels in the air but it would be workmanlike to monitor them.

Ms RYGATE: I guess I am drawing the distinction between setting up elaborate scientific monitoring regimes and equipment and applying the precautionary principle, which is part of what the EPA does as a matter of course given its charter to operate within the principles of ecologically sustainable development. The precautionary principle tells us that even if we do not have perfect scientific knowledge, if we are aware that something could be a problem we do something about it. The EPA air scientific experts were available to provide specialist advice to those on the scene on the night of the spill.

The Hon. Dr A. CHESTERFIELD-EVANS: Did they measure levels of major pollutants at the site at the time? Surely that would have been a commonsense thing to do. Do they have the capacity to do that? If not, why not? If they do have it, why did they not use it?

Ms RYGATE: It is a question of exactly where it happens, what is around at the time, what equipment is already installed somewhere else that needs to be moved, all of those kinds of questions.

The Hon. Dr A. CHESTERFIELD-EVANS: Is the material not transportable?

Ms RYGATE: It would be nice to have a monitoring station on every corner, but we do not have the funds to do that.

The Hon. Dr A. CHESTERFIELD-EVANS: You need transportable equipment. Let us not go to the ridiculous. If you have experts who are travelling to sites, why not have the equipment? Is the equipment difficult to transport?

Ms RYGATE: Some of it is, but I am not an air science expert. When the spill occurred it was our view that we should put the priority resources into dealing with the spill rather than scientific monitoring of air. We felt that applying the precautionary principle would ensure the best outcome for the community and the environment.

The Hon. J. R. JOHNSON: Did all of the authorities or instrumentalities involved in any way with the clean-up get together to produce a report?

Ms RYGATE: Yes.

The Hon. J. R. JOHNSON: Were they are all co-ordinated so that each authority saw each report?

Ms RYGATE: Yes, to my understanding.

Dr SCANES: Yes, there was a review which was co-ordinated by the National Plan Executive Committee which took the reports from each agency and made a co-ordinated response and series of recommendations leading from each agency's self-assessment and an independent assessment by the Maritime Safety Authority of the operation.

The Hon. J. R. JOHNSON: Captain Filor indicated a report was done but he was not certain whether the report had been given to the international agencies. I am sure I heard him right. He said there was a report to people who were representatives to that body. If the information is available surely the international regulators dealing with those types of operations should also be informed?

Dr SCANES: There are two parts to that question. The International Tanker Owners Federation sent two representatives to participate and assist in this oil spill clean up. They were actually represented during the entire affair. That was from an environmental side, the clean-up side. I should draw some slight distinction. The captain' s report was more along the lines of ascertaining what went wrong. I was talking about reporting on the clean-up operation, which is a slightly different thing.

(The witnesses withdrew)

MATTHEW JOHN TAYLOR, Chief Executive Officer, Waterways Authority and Chairman of the State Marine Oil Spill Pollution Response Committee, 169 Sutherland Street, Paddington,

GREGORY JOSEPH MARTIN, Chief Executive Officer, Sydney Ports Corporation, Level 8, 207 Kent Street, Sydney,

BARBARA ANN FILIPOWSKI, Secretary and General Counsel, Sydney Ports Corporation, Level 8, 207 Kent Street, Sydney, and

SHANE DON HOBDAY, General Manager, Ports Services, Sydney Ports Corporation, Level 8, 207 Kent Street, Sydney, sworn and examined:

CHAIR: Did you receive a summons issued under my hand in accordance with the Parliamentary Evidence Act 1901?

Ms FILIPOWSKI: I did.

Mr MARTIN: I have.

Mr HOBDAY: Yes, I have.

Mr TAYLOR: Yes.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Ms FILIPOWSKI: Yes.

Mr MARTIN: Yes, I am.

Mr HOBDAY: Yes.

Mr TAYLOR: Yes.

CHAIR: If you should consider any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be heard or seen only by the Committee, the Committee will be willing to accede to your request, but Parliament may override that confidentiality. Do you wish to briefly to elaborate on your submissions or make a short statement?

Mr MARTIN: Yes, I do. As oil spill response is the primary role of Sydney Ports Corporation, I will lead off with a statement, and Matthew Taylor may wish to add some comments after I have finished. As stated in the submissions from Sydney Ports Corporation and Waterways Authority, Sydney Ports is a state-owned corporation established on 1 July 1995 following the dissolution of the Maritime Services Board, which left Sydney Ports with the responsibility for the commercial port operations in Port Botany and Sydney Harbour. Sydney Ports' objectives are to establish, manage and operate port facilities and certain services within the boundaries of its two ports and to exercise the port safety functions in accordance with its port safety operating licence [PSOL].

Sydney Ports Corporation has just had its PSOL renewed by the Governor of New South Wales for five years until 31 December 2005. Part of the PSOL includes emergency response to port-related emergencies in the Sydney Harbour and Botany Bay and to a four-kilometre radius outside the heads of each port, and oil and chemical spills in response to emergencies elsewhere in the State of New South Wales and from Catherine Hill Bay in the north to Garie Beach in the south under the New South Wales Marine Oil Spill Contingency Plan. Consistent with the terms of reference of this inquiry, I will concentrate on the commercial shipping activities in Sydney Harbour and Sydney Ports' role in providing the emergency response, with particular reference to oil spills.

Sydney Harbour is a busy working Harbour which had 1,180 ship visits last financial year, compared to 1,257 visits to Port Botany. Furthermore, the Government has recently again publicly endorsed the concept of Sydney Harbour as a working harbour for commercial, recreational and transportation purposes. Sydney Harbour is regarded as one of and probably the most beautiful

harbour in the world and one of the favourite cruise shipping destinations. In 1998-99, Sydney attracted 82 passenger line visits with in excess of 100,000 passengers. It is estimated that every 18 international visitors create one full-time job in New South Wales.

As to the economic significance of the harbour, approximately one-third of the $40 billion worth of international trade through Port Botany and Port Sydney, that is some seven million tonnes of cargo worth around $13 billion, passes through Sydney Harbour each year. The main cargoes in Sydney Harbour include over 160,000 imported motor vehicles, around 100,000 containers and over 4.5 million tonnes of oil through Gore Bay, in addition to some minor bulk cargoes, compared to some eight million tonnes of oil and 900,000 containers through Botany Bay. In 1999 the Government endorsed the Glebe Island-White Bay area as a port and employment zone under SREP 26, which endorsed the use of the land for port purposes.

Sydney Ports Corporation's strategy for some years now has been to have twin port operations at Port Botany and Sydney Harbour, as there is clearly not enough capacity at Port Botany for all port operations. Newcastle and Port Kembla do not provide solutions to Sydney Ports' capacity issues as, among other things, the market for four million people is around the Sydney region, the infrastructure upgrading cost for road and rail augmentation to those two ports is prohibitive, and the additional freight costs from Newcastle—160 kilometres—and Port Kembla—100 kilometres—cannot be justified.

While oil spills are unwanted, one must expect accidents to happen in a working environment, and oil spills in a working harbour are inevitable. Hence, an effective oil spill response capability is essential. History from most harbours abutting residential areas show that the majority of oil spills and pollution generally come from land-based sources and run into the harbour through drains and pipe leakages, et cetera. Nevertheless, whether the spill emanates from land or from a vessel, our oil spill response arrangements must be well-planned and managed. Because of the value and usage of Sydney Harbour and Port Botany, Sydney Ports, under its ports safety operating licence, maintains the largest and best-equipped oil spill response group in the country.

Sydney Ports has a team of some 70 port officers, who work under Shane Hobday, who man both ports, 24 hours per day, 365 days a year. Under the port safety operating licence, Sydney Ports' emergency response activity, along with other marine navigation activities, are externally audited twice per year by Bureau Veritas Quality International to Australia-New Zealand ISO 9002 standard and have been for over five years, with no major non-conformances having been reported. Sydney was the first Australian port to be so accredited.

On the basis of Sydney Ports' record since corporatisation in oil spill response, I would contend that Sydney Ports' capacity in managing oil spill response is not only the largest in the country but also the best in the country in terms of effectiveness and efficiency. In the last quarter of 1999, Sydney Ports surveyed a range of international ports and benchmarked Sydney Ports' performance against them, namely Vancouver, Cape Town, Rotterdam, Long Beach, Bremen and Antwerp. The SPC and Sydney Harbour systems compared favourably with or better than all of these ports in terms of the nature of its safety and environmental measures.

In this regard, I would refer to the *Laura D'Amato* oil spill response in 1999 which was led by the SPC team, with the able assistance of other organisations as part of the national plan arrangements, and which has been labelled a textbook response. This is not to suggest that everything was perfect, but the overriding conclusion by external observers was that the response was a conclusive success. I would request permission to show a four-minute video at the end of this short submission on the *Laura D'Amato* clean up, which I think you will find very interesting.

However, as a consequence of the *Laura D'Amato* incident, an inquiry conducted by Matthew Taylor produced four recommendations to improve the operations of ship-to-shore transfers at Gore Bay. I will go through the four recommendations, but I draw your attention particularly to the first one, which might clear up some confusion I heard before about checking before the ship starts transfer operations. Matthew Taylor's first recommendation was that a full physical check of the ship's sea chest valves by a terminal representative in addition to the ship's officer must take place before pumping occurs. This is also in addition to the normal ship-to-shore checklist that the Sydney Ports Corporation verifies has been undertaken by both parties. So, in effect, the two people, the terminal

officer goes down below with the ship's officer and checks that the sea chest valves are closed. That has changed and has happened since the *Laura D'Amato* spill. The other three recommendations have all been implemented now. They are a containment boom around the vessel discharging oil at Gore Bay, which I think you talked about yesterday. Gas detection equipment has been installed at the Gore Bay wharf, and additional lighting has been installed at Gore Bay wharf.

Turning to the national plan, it is important at this point to explain briefly that Sydney Ports does not operate in a vacuum. You will have heard some of this previously from the National Parks people. There is a national plan, which is an administrative arrangement that started in 1973 between the Commonwealth and the States. It is administered by AMSA to provide a stockpile of equipment for urgent transportation to spill sites around the country, with expert operators from all over Australia prepared to travel at short notice to these spill sites. New South Wales supports this plan and has established the New South Wales Marine Oil Spill Contingency Plan for responses to oil and chemical spills. As stated earlier, Matthew Taylor is the chairman of the State committee. Under this plan, various ports in New South Wales are assigned areas of responsibility along the coast, with Sydney Ports being responsible for the area from Catherine Hill Bay to Garie Beach.

I turn now to oil spill occurrences. In regard to oil spill occurrences in Sydney Harbour since 1 July 1995 there have been 14 ship-based spills of various sizes from virtually negligible volume to the *Laura D'Amato*'s 250 tonnes, with only five of these 14 spills being of a volume greater than 100 litres. These 14 spills compare to over 300 call-outs per year on average that are attended to by Sydney Ports Corporation [SPC] staff to spills that come from other sources—such as drains, pipes or non commercial vessels or other sources.

I need now to touch on one important issue in the terms of reference about Sydney Ports Corporation being considered to be a regulator. The question has been asked in the terms of reference about the appropriateness of Sydney Ports Corporation's role as a port operator also being an environmental regulator. It is important to state for the record that Sydney Ports Corporation is not an environmental regulator. Policy decisions with respect to the Marine Pollution Act [MPA] for ship-related spills are the domain of the Minister for Transport on advice from the Department of Transport and/or Waterways—not Sydney Ports Corporation. In this respect I must correct page 24 of the SPC-Waterways submission to this inquiry, which stated in the second paragraph that policy decisions for the MPA are made by the Environment Protection Authority [EPA]. That is incorrect. Policy decisions with regard to the Marine Pollution Act come from the Minister for Transport on the advice of Waterways or the Department of Transport.

Policy decisions with respect to land-based spills are the responsibility of the EPA, pursuant to the Protection of the Environment and Operations Act [POEO]. There is a clear distinction there. In addition it could be argued that SPC is not an operator in that SPC does not physically move any cargo into or out of the port. SPC is the marine authority for the port and the emergency response and audit body for those ship owners, terminals and stevedores that actually conduct commercial operations in the port of Sydney and Port Botany. On that note I say thank you and ask you to bear with me and watch a short minute video. As I said earlier it is very useful.

(**Four-minute video depicting clean-up operations of the oil spill shown to the Committee.**)

Mr TAYLOR: The submission originally produced for this Committee was a joint effort between Sydney Ports Corporation and the Waterways Authority. In that regard I support what Mr Martin has said in relation to it. I would like to add to the record, if I might, an excerpt from an English magazine which came out a few months after the spill. It is a very short excerpt from a larger article and it states:

> While no-one is openly cocky, the management of the *Laura D'Amato* spill is being quietly judged in industry circles as copy book professionalism. Eight years of equipping, training and exercising under NAT plan delivered a clock work response. The oil, maritime and insurance sectors reacted with integrity and what could have been measured as a disaster at many levels has been something of a triumph.

The article goes on to say other things. We are not actually blowing our own trumpet but I felt that the Committee should know of the international judgement from a well respected magazine called "Clean Seas", which is obviously not totally an industry thing.

CHAIR: Going back to your report, why did you not in your report recommend the prosecution of Shell?

Mr TAYLOR: Why did we not?

CHAIR: Yes, did you feel that Shell had no responsibility for this?

Mr TAYLOR: Well, they did not cause the spill.

CHAIR: Do you not think they had a responsibility to check that the seachest valves were actually closed?

Mr TAYLOR: In their interpretation of what the guidance manual says, they did carry out the procedure. This is part of the problem. The guidance manual is anomalous. I pointed that out in my report. In one place it says that they should be inspected physically, and in another place it says, "Well, maybe it is okay if you just tick the boxes and compare notes." That is apparently the interpretation that is commonplace, not only in Australia but in other parts of the world.

CHAIR: Who was the shore officer who signed the ISGOTT checklist?

Mr TAYLOR: It was a Shell officer.

CHAIR: So a Shell person signed that and then the Sydney Ports Corporation inspector countersigned that?

Mr TAYLOR: Correct.

CHAIR: Do you not think that the Shell inspector had a responsibility to check that what he or she was in fact signing was correct?

Mr TAYLOR: The answer is yes. That is why I pointed out in my report that there was this anomaly. The guidance manual they use, and which is interpreted around the world the way they interpreted it, is anomalous. Their interpretation of it is that if the ship says that they have checked the seachest valves in this case and ticked the box, they accept that at face value. We now know that that is not quite good enough. The ship did check it but did not bother to check it properly.

CHAIR: Do you know whether this first pumpman, Sime Damjanic has been chased up since your report? Has he been found? Have there been any active attempts to try to find this person?

Mr TAYLOR: I do not know. I would like perhaps to ask Barbara Filipowski from Sydney Ports Corporation about that. She would know more about it than I do.

Ms FILIPOWSKI: We tracked him down to an address in Croatia. He was not accessible to us. When he left the vessel he went home to Croatia.

CHAIR: Did he go home from Singapore or from Australia?

Ms FILIPOWSKI: My understanding is that when he left the ship he left the ship from Singapore. I do not know what route he travelled, but he left the ship in Singapore.

CHAIR: He was dismissed, apparently.

Ms FILIPOWSKI: That is my recollection.

CHAIR: Do we have any evidence as to whether or not he actually did this through malice?

Ms FILIPOWSKI: No, we have no direct evidence. There were suggestions made that he was unhappy and he may have done it, but we do not know whether he did or did not do it. If I could just elaborate just a little, for the purpose whether or not the ship could have established whether the

seachest valves were open, they had ample opportunity from the time he left the vessel in Singapore until the time it arrived in Australia to establish that the seachest valves were open. The ship failed in its own procedures to do that.

CHAIR: Has anyone interviewed him in Croatia?

Ms FILIPOWSKI: Not as far as I am aware.

CHAIR: Has there been any attempt to ask him whether in fact he did so out of malice?

Ms FILIPOWSKI: Not so far as I am aware.

CHAIR: It would appear from the Taylor report that there was a deliberate attempt to mislead the inspectors because the seals were actually placed on. Were the seals in place when the vessel came into Sydney?

Ms FILIPOWSKI: The seals were in place, yes.

CHAIR: Which would indicate that they were closed.

Ms FILIPOWSKI: It is one indication.

CHAIR: So there is a very good chance that there was malicious damage rather than a purely accidental incident—or is that conjecture?

Ms FILIPOWSKI: That is speculation.

The Hon. Dr A. CHESTERFIELD-EVANS: If that were not so then the seals were put on when the valves were in the wrong position.

CHAIR: But he may have done that. Do you think that Sime Damjanic would have put the seals in place?

Mr HOBDAY: A marine surveyor comes on board and seals the seachest valves prior to them—in this case—taking on cargo. There were a number of seals on there left from previous ports.

The Hon. Dr A. CHESTERFIELD-EVANS: Are the seals unbreakable?

Mr HOBDAY: No. They are a twine seal. At first glance, people can actually pick up whether they have been broken or they are intact. But there are a number of other ways of checking those valves to see whether they are open or closed. There are indicators on the side of the valve which move up and down, which indicate whether they are open or closed. It is just a matter of tipping your head and looking underneath the valve stem, and you can see it straightaway. Otherwise you can do a more comprehensive test, an air pressure test, to check whether it is sealed completely.

The Hon. Dr A. CHESTERFIELD-EVANS: There is a tag, the distance it has travelled up the spindle, and there is the air pressure test. So there are three possible ways of checking?

Mr HOBDAY: Yes, correct.

Mr MARTIN: And there is even the lazy way that perhaps good seamen do it, that is, to just do a bit of a toggle. This one was actually jammed open very tightly, so you could not actually toggle it. But a lazy check might have—

The Hon. Dr A. CHESTERFIELD-EVANS: A lazy check might have been done and it was then determined that it was closed when it was open, if it was jammed like that?

Mr MARTIN: Possibly.

The Hon. J. H. JOBLING: Of the tests, the air pressure test is the one that would be the most likely and the most effective and efficient for picking up a mistake?

Mr TAYLOR: You are quite right,

that the only real test is the air test, because that would have gauged whether air was leaking out. You could go away and come back in a couple of hours time. If the pressure was still full on, then there is no leakage through the valves. The other test, with the thing going up and down the spindle, is a good indication of whether it is nearly closed or fully closed, but you would not be absolutely certain. I would suggest that the bit of twine and the plastic seal is really just gilding the lily; it is not terribly indicative of anything, other than the fact that someone has put a seal on a piece of string.

The Hon. Dr A. CHESTERFIELD-EVANS: It is a danger tag?

Mr TAYLOR: Yes. In a well-run and responsible ship where the surveyor did his job properly, you could say it is sealed and therefore it is shut, but in this case it was not, for whatever reason.

The Hon. J. R. JOHNSON: Yesterday it was indicated that the number of birds that were affected by the spill was 17, that two died and a couple more may have died later on. Can those figures be confirmed?

Mr MARTIN: I cannot confirm them. Barbara may have some information. It is an issue that the EPA would have had accurate numbers on.

Ms FILIPOWSKI: We took an affidavit from the National Parks and Wildlife Service, which we tendered in the proceedings. I will see whether I can find the figures in the judgment. If not, we can send you a copy of the information. I think the figures that were given to us yesterday were that 16 birds had been collected for rehabilitation. Of those, seven were penguins and two penguins had died. I cannot recall the figure in relation to any other bird deaths, but I think the figure was relatively small. I will see whether I can find the answer in the judgment.

The Hon. J. R. JOHNSON: Would the authority have learned a great deal from the spill that would be advantageous in its endeavours next time?

Mr TAYLOR: Yes. There were very comprehensive and drawn-out debriefing sessions and a long, drawn-out report from the Australian Maritime Safety Authority, which has a statutory duty to do this sort of investigation after a major spill. At the end of that report they made 18 major recommendations, virtually all of which, but not quite all of which have been implemented.

It is fair to say that they are the sort of managerial things that you would expect: tweak this up a bit, or you should have done this a little differently, and so on. But the most important of those recommendations related to the way in which the national plan and the state emergency plan are integrated together with some suggestions to make it work better. But at the end of the day, in my opinion none of those 18 recommendations were of such overriding importance that they should be seen to have detracted from the way the spill was conducted. The report that makes those 18 recommendations says in a number of places, notwithstanding what was just said about what should have been done, the spill was handled effectively and in accordance with more than normal standards. The answer is yes, there are a lot of lessons but we have been implementing them.

The Hon. J. R. JOHNSON: Do I take it that there was no shortage of what is now deemed to be necessary equipment or impedimenta either by yourself or the Shell company?

Mr TAYLOR: We had ample resources to do the job. Under the national plan, we could call stuff in from not only all around Australia but from Singapore or from Southampton, if it is such a spill that it is going to go on for a long, long time and we need lots more equipment. Comprehensive arrangements were totally using the equipment we had here in Sydney, which is, as Arthur said, the best lot of equipment in Australia, but all of the ports in New South Wales draw on the equipment in other States, and if necessary go international.

Ms FILIPOWSKI: May I answer Mr Johnson's question relating to the fauna. Paragraph 81 of the judgment states that 16 birds were received for treatment, one was already dead, a further nine died, while the remaining six were released after treatment.

The Hon. J. R. JOHNSON: That was the total?

Ms FILIPOWSKI: That was the total number of birds.

CHAIR: That was the total number of birds recovered?

Ms FILIPOWSKI: Yes.

CHAIR: Not necessarily the total number of birds that died?

The Hon. J. R. JOHNSON: Was there any monitoring to verify the statement of the Chairman?

CHAIR: Sixteen birds were recovered, and a number of those died. That does not necessarily indicate the total number of birds that died, because many may have died which were never recovered.

Mr MARTIN: I think just about everyone in Sydney was monitoring. I think anything that had any sort of oil on it was brought to the attention of the authorities.

Mr TAYLOR: The National Parks people practically know every one of those penguins by name. There were 48 or 58 of them. There was a drop in the numbers later on. I believe that in the last season they had lots of little penguins and the nesting season was a big success. It was bad news at the time for a few penguins, but I understand that it was not a big disaster.

CHAIR: Mr Martin, why did you not prosecute Shell as well as the shipowner?

Mr MARTIN: I think Mr Taylor answered that, to be honest. There was some ambiguity about the rules that they were interpreting, but basically they are saying that that was a ship officer's responsibility, not a shore-based officer's responsibility. From all the advice we got, there was nothing we could prosecute Shell for.

CHAIR: So no consideration was given to it? It is not because Shell is a near neighbour, or anything like that?

Mr MARTIN: Not at all. In any spill, we have to take a totally impartial position. But there was clearly nothing that you could pin on Shell that had any prospect of being successful in court.

The Hon. J. R. JOHNSON: And they co-operated fully?

Mr MARTIN: They did co-operate fully, absolutely.

CHAIR: Obviously, you got legal advice on whether Shell should be prosecuted?

Mr MARTIN: Absolutely.

CHAIR: Is that legal advice available?

Mr MARTIN: I might let Barbara Filipowski answer, because she received oral advice from at least one eminent QC on the issue.

Ms FILIPOWSKI: We took advice from our QC as to how the charges should be brought, in what form and against whom. The advice was that we should prosecute the vessel owner, the master and the chief operating officer, the mate. They were the parties we proceeded against.

CHAIR: Did you ask the QC also whether consideration should be given to prosecute Shell?

Ms FILIPOWSKI: I am sure we asked whether there was anyone else who should be brought to account. I do not know whether we actually said, "And should Shell be prosecuted?" But I am sure we asked, "Is there anyone else who could, under the terms of the legislation, be held responsible?"

CHAIR: That legal advice would be available?

Ms FILIPOWSKI: It was oral advice.

The Hon. R. D. DYER: Would I be correct in assuming that oil spills in Sydney Harbour are a rare event?

Mr MARTIN: Major oil spills are. As I indicated before, there have been 14 of these that we would not even call— All those major oil spills are from ship-based sources, but there are lots of little incidents. For example, any time it rains you get flushes down the drains which will cause some discolouration. I am sure there are people in small recreational vessels who may do things at times. As I said before, our people get around about 300 callouts per year to look at things that are possibly oil spills. Some are so small that you cannot prove anything, but there are a lot of different ways that oily-based material gets into the harbour. The ones we are concerned most about from our point of view in Sydney Ports on the commercial shipping are the issues of the ship-to-shore transfer, such as Gore Bay, where you have big volumes being pumped, or the bunkering, and there are many other sources.

The Hon. R. D. DYER: Perhaps I should rephrase my question. Are oil spills from commercial shipping in Sydney Harbour a rare event?

Mr MARTIN: In my opinion, I would consider they are, when you say there have been 14 now in the 5½ years since corporatisation, from ship-based sources.

CHAIR: Is it not a fact that there are some 300 events reported in the last year?

Mr MARTIN: Yes. On average, the people who work for Mr Hobday respond to public advice that there may be an oil spill, and they go and have a look. Sometimes it is oil and sometimes it is not. Sometimes they come from shore-based material such as a bowser on-shore leaks, or it washes down a drain, or someone tips it down a drain. Most often they are small and we can never identify where they came from.

CHAIR: What is the most frequent kind of oil spill?

Mr MARTIN: Stormwater.

Mr HOBDAY: Stormwater is the most frequent source of machines that you see on the harbour.

The Hon. R. D. DYER: You might have heard me question a previous witness on the basis of Professor Underwood's submission. Since the *Exxon Valdez* oil spill off the coast of Alaska, clean-up attempts can cause more environmental damage than damage done by the oil itself. Could I ask you in general, concise terms to indicate to the Committee what procedures were used to clean up the spill from the *Laura D'Amato*, and how did you ensure during that clean-up operation that the measures taken were sensitive to the marine environment of Sydney Harbour?

Mr MARTIN: I might hand that to Matthew in the first instance because he was the lead controller in that clean-up.

Mr TAYLOR: It is well known that if you leave an oil spill alone, over time it will fix itself up. You have only to look at the Second World War to know that that happened all over the world for five or six years. But, of course, you cannot do that with the spills in a place like Sydney Harbour that are just too close to home to ignore, so obviously we must have a fairly sophisticated clean-up regime and we do.

To get more into the thrust of your question, we were very alive to the need to protect the environment because we are very alive to the fact that clean-up can affect the flora and fauna in and around the harbour, not only on the water but also on the foreshore. So our primary aim was to make sure that, first, we did not use dispersants at all. Although, in a sense we were permitted to do so by the national planning rules which restrict us to water less than five metres. It is a lot deeper than that in Gore Bay, but we decided not to use a dispersant because by using a dispersant you put a lot of toxic gunk in the water column which would have affected fish and life on the seabed, so we chose not to do that for that particular reason.

We hoped to gently spray as much oil as possible on the rocks and foreshore back into the water. In some places we could not do that. You saw some places where it had actually gone onto sand. But the basic area around there is rock and sea wall and, with the exception of the experimental patches, which we left, with low-pressure hoses we washed as much of the oil as we could into the water and then recovered all the oil and the mousse that was forming from the water. The primary method of getting rid of the oil was the ecologically friendly way of just sucking it off the top of the water. We gently blew it into the water and then picked it up from the surface.

The Hon. R. D. DYER: Your submission at one point refers to the "economic significance of the working port". Could you explain what the use of that expression in your submission means in relation to Sydney Harbour?

Mr MARTIN: Our point in talking about the economic significance of the harbour is that, as you are aware, some people—I think it is a very small minority—suggest that the harbour should not be used for commercial shipping. Some suggest that all of the commercial shipping should be done at Botany Bay or somewhere else. There are a number reasons. Apart from all the wonderful heritage reasons of keeping shipping in the harbour, because it was our history to have navy ships and commercial ships in the harbour, just the economic significance of using the harbour is very important to all of us as residents of Sydney, because if you do not use Sydney Harbour you are going to have to bring that cargo from further afield, be it Melbourne or Brisbane, or possibly Newcastle and Port Kembla.

In all those cases you are transporting it by road or by rail very long distances on already congested highways. So clearly, apart from the congestion of infrastructure, there is the extra freight cost, and that gets passed on to all of us as users. So there is a very clear reason why you should use the best available port, and the closest port to the main market. With four million people living around this harbour, be it Botany or Sydney, and I talk about those synonymously, this is the place to service the market, from as close as possible. So, when we talk about the economic significance, yes, you are talking about all those commodities that I mentioned before, the cars and the containers, but even the oil. That can be done more cheaply through Sydney and Botany than it can from any other further-afield port.

The Hon. R. D. DYER: Would you agree with me that if Sydney Harbour continues to be a working port, that furnishes some validity and reality to it as a port, as opposed to a theme park or something of that nature?

Mr MARTIN: Absolutely. You may assume that we are biased, although we try to be a bit fair-minded about this. But, as I said before, our heritage started with navy ships and commercial ships. I think it would be a very sad thing to see the best natural harbour in the world, with naturally deep water and with no need for dredging, used only for ferries and 18-foot skiffs or whatever. It is a wonderful and safe harbour, and clearly it should be used for those commercial purposes. As we have shown, and as I think everyone has shown over a lot of years, it can work in conjunction with the recreational and ferry activities on the harbour.

The Hon. J. R. JOHNSON: Does disposal of commercial cooking oil present a problem for the harbour, and are they easily discernible?

Mr MARTIN: They should not be disposed of in the harbour. That is the short answer. They should be disposed of by garbage collection.

The Hon. J. R. JOHNSON: But are they?

Mr MARTIN: I may be speculating. We hope they are not. You spoke before about people reporting potential oil spills. Who knows what the sources of some of those are. But people know that there are very severe fines. We spoke about the accidents involving the *Laura D'Amato.* Someone found guilty of a deliberate act of tipping stuff over the side is running a very big risk. We would assume it is not happening or, if it is happening, it is a rare and unreasonable action.

The Hon. J. R. JOHNSON: If it is happening, is it discernible that these are cooking oils?

Mr MARTIN: I could not answer that, I am sorry.

Mr TAYLOR: You could analyse it to determine that.

Mr MARTIN: If you picked it up you could perform an analysis on it to work out what sort of oil it is and where it is from.

Mr TAYLOR: Every oil has a fingerprint like DNA, so that you can trace it back to the ship by comparing samples.

The Hon. J. H. JOBLING: I would like to touch briefly on the total volume of the spill. Much has been made of the statement that people were not told and that the spill turned out to be approximately 300,000 litres. I note from advice you have given the Committee your suggestion is that the total spill was 294,000 litres. I take it that that is approximately correct.

Mr MARTIN: Yes.

The Hon. J. H. JOBLING: In your submission you claim that about 40 per cent of that oil would have evaporated within the first 24 hours. Is that still the position?

Mr MARTIN: It is still the industry view, yes.

The Hon. J. H. JOBLING: You also suggest that about 40 to 42 per cent of the total spill was in fact recovered.

Mr TAYLOR: Yes.

The Hon. J. H. JOBLING: If 8 or 10 per cent dissolves in the water, the total volume of oil dealt with under the clean-up is about 30,000 litres of the 300,000 litres originally spilt. Would that be a fair conclusion?

Mr HOBDAY: Yes.

Mr MARTIN: If you are talking about shore-based clean-up, clearly part of the 42 per cent that we cleaned up was off the water with the skimmers. By far the majority of the clean-up was done off the water. The missing bit that you are talking about—

The Hon. J. H. JOBLING: The missing bit is about 8 to 10 per cent, given a variation of a few per cent, and it would be a maximum of about 30,000 litres.

Mr MARTIN: That sounds reasonable.

Mr TAYLOR: And that went into the water column, to be dissolved into the water column, or went out to sea. Some did go as far as the heads and disappeared—not much, but some. I would suggest the bulk of that 8 or 10 per cent that we could not recover was dissolved in the water column.

CHAIR: Since most ship-based oil spills come from bunkering, why aren't booms put around ships during bunkering?

Mr MARTIN: Bunkering is a fairly difficult operation. For one thing, it is normally for a short duration. Also, it is probably labour intensive to put out a boom for an operation that might take

only two or three hours. Further, the volume of spillage from bunkering is normally fairly small. I guess the view is in most ports of the world that it is not considered economically viable to put in a boom for bunkering. I am not saying it cannot be done, but it is not considered economically viable to do it for the many ships that bunker, the small amount of time they are bunkering for, and the slow rates they are pumping at. It is one of those commercial things that it has not become custom and practice.

CHAIR: What is the average spill from bunkering, when there is a spill?

Mr MARTIN: It would be in the order of 20 to 100 litres.

CHAIR: Isn't that worth considering?

Mr MARTIN: As I said before, any spill is best avoided, but given the amount of effort involved and the very small volume of spillage and the number of times that there is a spill—as I have said, we have had 14 spills in 5½ years, and some of those involving a very small volume—the economic burden of doing every ship every time is something that has not been custom and practice around the world and at this stage has not been considered necessary in Sydney Harbour.

Mr HOBDAY: In March last year we introduced a new checklist for our bunkering operations. The main reason for a spill in bunkering is that the two sides are not communicating the pressure and flow rates, with a resultant overtopping of tanks. You are filling too fast, the crew is not ready to shut down, and the oil goes over the top of the vent and over the side. So we have incorporated in the checklist, which is an IMO document, that the pressure and flow rates be communicated at the start of the operation so that the ship has the opportunity to say, "I am putting it into tanks that have 100-tonnes capacity, and I want to take out at 20, 30, 40 or 50 tonnes an hour," rather than the bunker barge opening the valve and delivering it at the normal maximum pressure and pumping rate. That is an initiative to try to address the bunker spills that we were having. In fact, we have not had a bunker spill since that time.

CHAIR: Has the Sydney Ports Corporation or its predecessor ever prosecuted Shell or any other refinery operators that you know of?

Mr HOBDAY: Yes, both.

Mr MARTIN: Both Shell and Caltex.

The Hon. JAN BURNSWOODS: Could we get some details about those prosecutions, Mr Chair?

Mr MARTIN: No problem. We can do that.

CHAIR: It has been put to the Committee that a number of areas of Sydney Harbour should be designated marine protected areas. Among those proposed are Manly Cove, North Head, Bantry Bay, Sugarloaf Bay, Middle Head to Bradleys Head, Balmoral Beach, South Head and Homebush Bay. Would marine protected areas conflict with the working port?

Mr MARTIN: I am not certain what a marine protection area involves.

CHAIR: Basically, no-take zones, or no-kill zones.

Mr MARTIN: It may not affect us as of working port as regards commercial shipping, because we are only talking about big ships. But the working port concept also includes a lot of other smaller ships that may go into some of those areas.

CHAIR: They can pass through those areas. They cannot kill marine life within those areas.

Mr TAYLOR: Other than fishers, I do not think there is anyone who goes around trying to kill. I think it is done by accident.

The Hon. Dr A. CHESTERFIELD-EVANS: The prosecution of Shell did not happen, I presume you are saying, because you did not get it in writing. You did not give a reason.

Mr MARTIN: We do have a reason.

Ms FILIPOWSKI: We can comment on that if you wish.

Mr MARTIN: My layman's view—Barbara is a solicitor, but I am not—is that there was doubt as to what the ISGOTT rules main, as to how you check, whether you have two people—

The Hon. Dr A. CHESTERFIELD-EVANS: They were ambiguous.

Mr MARTIN: They were ambiguous. Clearly, you could not say, because of custom and practice around the world, that Shell had to do it the way that we are now doing it. Since Matthew Taylor's new recommendations, it is now done the other way. The Shell person, for example, goes down below with the ship's officer and they check it together.

The Hon. Dr A. CHESTERFIELD-EVANS: Are the regulations getting fixed, or are they international regulations to which some Australian representative may in future make some representations?

Mr MARTIN: There are international guidelines. I understand that there is some talk about those being redrafted. But we are now taking a higher standard. We are now complying with the recommendation that came from Matthew Taylor's report. It now requires us and the operators here to adopt the better standard, that of having two people to check, both the ship and the shore people.

The Hon. Dr A. CHESTERFIELD-EVANS: So the reason that Shell has not been prosecuted is ambiguity in the addenda to the recommendation which suggested that two people ticked it off, rather than two people checked it. Is that an oversimplification?

Ms FILIPOWSKI: The Marine Pollution Act sets out the basis on which people should be charged. Basically, it is those who caused or contributed to the spill. It is a fairly high standard. There is some debate about whether it is strict or absolute liability, but it is a criminal standard of proof, basically proof beyond reasonable doubt. We did not have the evidence to proceed against Shell because there was nothing to show that Shell had caused or contributed to the spill. On the other hand, the evidence was clear as against the shipowner, the master and the chief mate, and they were the people that we prosecuted.

Mr HOBDAY: When the shore officer carried out that checklist he witnessed the document that had the signature of the chief officer on it to indicate that he had tested those valves. So he is not just ticking it. How quickly can you take 47 questions? He actually witnessed the document. It is clearly set out in the chief officer's procedures that "I have tested the integrity of those valves prior to this discharge commencing." I think it is worthwhile saying that these valves, although obviously critical, are very much integral to the ship's construction. To say, in layman's terms, that they should have checked that is like saying, "I should go ashore and check that they have capacity in the tank to receive this oil." It is intrinsic to the ship operation. That is why it is normally left to the ship's officer. Bear in mind that there are hundreds of valves on these ships. These are very critical ones, and obviously we are now recognising that it is worthwhile testing and checking them. But it is very intrinsic to the ship operation, and it really is the principal responsibility of the ship to make sure that they are closed at all times.

The Hon. Dr A. CHESTERFIELD-EVANS: The principle that I think Matthew Taylor alluded to is that if you countersign something you take responsibility for it. It is a bit of a joke if somebody countersigns, you have all the signatures, but the person does not take any responsibility in the sense of being prosecutable.

Mr MARTIN: Again that is debatable if you countersign that you have received this from someone else who has signed that he has actually done it. It is debatable, as you are suggesting, that he takes responsibility automatically because he has received the document from someone else who said that he had done it.

Mr TAYLOR: You would not get away with it in a court of law is the bottom line.

The Hon. Dr A. CHESTERFIELD-EVANS: Representatives of the New South Wales Fire Brigades said they received 600 telephone calls from people all over Sydney saying that there was a bad smell, which they thought was a gas leak. They diagnosed it as coming from Gore Bay, went down there and met your people on the wharf. I gather that you did not contact them.

Mr TAYLOR: We did notify the Fire Brigades but not that early. We were still stumbling around trying to find out what was happening ourselves. The Fire Brigades were the first people to be alerted because of the smell and they got 600 calls between about six o'clock and 7 o'clock at night. They were racing around the place trying to find out where it was coming from. They were in that Gore Bay-Greenwich area. They located the smell coming from the ship at 13 minutes past 7. The Fire Brigades got to the scene of the spill, located the spill and said, "That is where the smell is coming from" at 13 minutes past 7. Three minutes before that the Sydney Ports Corporation was on the scene and had completely boomed off the ship. That gives you an idea of who was reacting more quickly to this problem. The Sydney Ports Corporation came across the harbour, laid a boom three minutes before the Fire Brigades detected where the smell was coming from. That does not go completely to your question though.

The Hon. Dr A. CHESTERFIELD-EVANS: Looking at it the other way around, you had sufficient time to boom the harbour but you did not have sufficient time to notify the Fire Brigades.

Mr TAYLOR: We could have notified a whole heap of people. The Fire Brigades are not the top of our list of people to notify.

The Hon. Dr A. CHESTERFIELD-EVANS: That was the message we got.

Mr TAYLOR: The Fire Brigades are very much a support agency. Sydney Ports Corporation is the combat agency for spill in prescribed waters of the port. Sydney Ports Corporation has all the skills, equipment and training. It responds. It then calls in the people it needs—the Environment Protection Authority, the National Parks and Wildlife Service, the New South Wales Fire Brigades and so on. As my recollection goes, the Fire Brigades were notified about an hour after Sydney Ports were notified of the spill. I think that is to be understood because at 6.30 at night there is a skeleton crew or duty staff at the oil spill headquarters in Walsh Bay of maybe half a dozen, 10 people. They all jump into a boat and off they go to Gore Cove to boom the blooming ship off. Maybe one bloke is left back at the ranch and he is frantically making phone calls to all sorts of people who know how to use the equipment to do something about it. Eventually they get around to telling the Fire Brigades, and they did that about an hour later.

The Hon. R. H. COLLESS: Mr Taylor, surely if there were 300,000 litres of a volatile substance discharged from a ship it would be absolutely critical to notify the Fire Brigades as early as possible.

Mr TAYLOR: I do not think it is critical but the important point to make is that at that time we thought there was about 10 tonnes, or about 1,000 litres.

Mr MARTIN: Could I tighten up the time frame? We have the record here. Our records indicate that we were first notified of a possible oil spill by phone at 6.40 to our office at Moores Wharf. We immediately set out to investigate. At 6.53 our people went across to Gore Cove. At the same time they were formally advised that there was an oil spill. Our people had the first boom, the outer boom, in place by 7.05. Within that very short space of time we had four people in that area reacting very quickly. We knew that on the news the word was going around about a smell and that something was going on. As the Fire Brigades representatives said, and everyone has since found out, they had 600 phone calls on the triple-0 number. There is no doubt they knew about it but we did not know, and neither did Shell, what size spill we were talking about.

Mr TAYLOR: The ship had said it was a 10 to 14 tonne spill.

Mr MARTIN: Bear in mind, it was pitch black at that time of night in winter.

The Hon. R. H. COLLESS: In the meantime, the Fire Brigades were driving around the streets trying to find out where the smell of gas was coming from. They did not know.

Mr HOBDAY: We did not know we were converging on the same location. They had information about a gas leak which they were investigating. We were going for a small spill. We did not know they were actually the same source.

Mr TAYLOR: Until they met on the wharf.

Mr HOBDAY: In hindsight it is easy to say that people should have been informed, but at the time we did not know that they were the same source.

The Hon. R. H. COLLESS: Is there a need for a protocol to be put in place so that the Fire Brigades or critical agencies are notified as a matter of course as soon as you are notified of a leak?

Mr HOBDAY: That is one of the recommendations.

Mr TAYLOR: We are talking about organisations with a duty roster. At 7 o'clock at night you make, say, five phone calls and you might be lucky to get the person you want on two or three of those phone calls. Then you have to go back and do it again. Lord knows how many times the poor chap at Sydney Ports headquarters had to try the Fire Brigades before he got the right person. I do not know. But he has to keep ringing and go through as many people as he can.

CHAIR: By then 600 people had got through, but not the Sydney Ports Corporation.

Mr TAYLOR: The triple-0 number is a bit different to the duty officer's phone line.

The Hon. Dr A. CHESTERFIELD-EVANS: One would think that the duty officer would have a hotline.

Mr HOBDAY: He has a hotline with our harbour control.

Mr TAYLOR: I am generalising. There is an awful lot for that bloke at Sydney Ports headquarters to do. The Fire Brigades are not the top priority. You may think it is but it is not.

Mr MARTIN: If we get any indication that it is a chemical spill—and that has happened from time to time—the Fire Brigades are the first people we call and we do not go near it until they have checked it out. This was something quite different. It is easy in hindsight to sit back and say that it might have been different. But, in reality, in the short space of time we are talking about for us to respond to a possible oil spill, not knowing what it was or how big it was, and the Fire Brigades were running around the North Shore responding to a gas smell, within about 15 to 20 minutes we were laying a boom and they were at the same place and we all realised we had the one issue to deal with.

The Hon. Dr A. CHESTERFIELD-EVANS: Apparently the Fire Brigades do not measure benzene levels and the EPA only measures them at Rozelle and then informs us 48 hours later that they were fine. Do you measure benzene levels? The exposure of 2 million people to benzene is more significant than the exposure of 17 penguins to oil. Are the benzene levels measured and whose job is it to measure the levels in this sort of spill?

Mr MARTIN: I declare myself out of depth on the issue of chemicals.

Mr HOBDAY: We do not measure benzene levels. We are interested in whether we have an explosive atmosphere—which we checked before we went in there. That was the only check we were making.

The Hon. Dr A. CHESTERFIELD-EVANS: Did you make that independent of the Fire Brigades?

Mr HOBDAY: Because we were on the scene before the Fire Brigades had arrived.

The Hon. Dr A. CHESTERFIELD-EVANS: You have one of those gauges?

Mr HOBDAY: We have a gas detector but the light ends off the crude evaporate—as I think you heard yesterday—very quickly, in minutes, into the atmosphere.

The Hon. Dr A. CHESTERFIELD-EVANS: Which people then breathe and who then complain about the smell. It evaporates quickly from your fire.

Mr HOBDAY: That is why there was such a wide coverage.

The Hon. Dr A. CHESTERFIELD-EVANS: It is all over the Sydney basin and presumably in the air at high levels.

Mr HOBDAY: We are not health experts. We were checking whether we had an explosive situation.

The Hon. Dr A. CHESTERFIELD-EVANS: Were health experts notified? The Fire Brigades, the Sydney Ports Corporation and the EPA were not measuring this in any real sense.

Mr HOBDAY: I think you will find that on that night through the Fire Brigades the Health Department made a statement—I think the Fire Brigade's representative mentioned earlier—that people with asthma stay indoors and anyone feeling discomfort to close the windows. That recommendation was made through contact with the Department of Health.

The Hon. Dr A. CHESTERFIELD-EVANS: It is a commonsense recommendation but it would not be unreasonable to do some quantification. I understand you were protecting the penguins but there are a lot of people who could be affected.

Mr HOBDAY: I understand.

The Hon. J. H. JOBLING: I ask this question of the Sydney Ports Corporation representatives. Another major user on Sydney Harbour whom I would presume has considerable bunkering capacity is the Navy. What happens in its case? Am I correct in assuming, firstly, that it has very large bunkering capacity facilities? What is the protocol in the event it has a spill? Does it call you in or clean it up and perhaps you find out about it later? What working relationship do you have with the Navy and what spillage do you know about in its case?

Mr TAYLOR: The Navy has extensive oil fuel installations. It used to have them under the Domain and on Garden Island but it is primarily now at Chowder Bay. It occasionally has spills, like everybody does, but they are fairly few and far between. It will normally clean up its own small spills. I can say this from personal experience. It is a member of the national plan committee and the Navy comes to our meetings and we exercise together. Were the Navy to have a major spill—and to my knowledge it has never had one—it would let us know and we would go help it. Touch wood, we have never had to call on that arrangement. But the Navy is part of our organisation and we liaise with it on a very regular basis. We train with the Navy and we send its people off to do training in some of the training centres around the country.

(**The witnesses withdrew**)

ANTONY JAMES UNDERWOOD, Professor, Marine Ecology Laboratories, A11, University of Sydney, affirmed and examined:

CHAIR: In what capacity are you appearing before the Committee?

Professor UNDERWOOD: I was originally appearing as a private person but now I am appearing as a bemused bystander, having heard this morning's evidence.

CHAIR: Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

Professor UNDERWOOD: Yes. I was issued two. The other was for a police inquiry in Cabramatta.

The Hon. JAN BURNSWOODS: Is that why you are bemused?

Professor UNDERWOOD: No, some of the witnesses this morning bemused me.

CHAIR: Are you conversant with the terms of reference of this inquiry?

Professor UNDERWOOD: Absolutely.

CHAIR: If you consider at any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be heard or seen only by the Committee, we would be willing to accede to your request. I warn you that the Parliament may override that confidentiality.

Professor UNDERWOOD: Thank you.

CHAIR: Do you wish to briefly elaborate on your submission or make a short statement?

Professor UNDERWOOD: I would like to make a short statement to clarify a couple of things. First and foremost, I would like to thank the Committee for the opportunity for me and my colleague who was with you yesterday to have some input into your deliberations. It is unusual for ecologists to be represented in ecological matters in this State. We are grateful for the chance. It is important to us. Secondly, I correct one typographical error in my submission. On the top of the second page, the sentence starting "This commentary reorganises" should read "This commentary recognises". The tyranny of Mr Gates' spellcheck has not been overcome in our outfit yet.

As a statement about what is happening, I must tell you a couple of biases because it is important. I am a professional scientist but some things here are spilling over into opinion. It is very important for me to try to keep the two separate. However, I have one strong bias that does matter. I am passionately in favour of this notion of a working harbour for Sydney, which was alluded to by your previous witnesses. I would like to temper it a little with the idea that I think it should be a working harbour that works, which means it should maintain ecological functions. One of the difficulties we face with this is that we are rather ignorant about some of these functions and yet they are important in deliberations about ecological sustainable development. Therefore, one bias I have is that I want the harbour to be working but I am concerned personally about how that will happen. That tends to tinge some of my opinions. I will try to separate opinion from scientific objectivity as much as I can but that it is a bias.

Just to comment on what has happened so far—which is the most useful thing I can do to having heard the evidence—in order to add a little to my submission, I believe one of the outcomes that is quite clear from a marine ecology point of view about this spill is that we were very fortunate collectively as a society in having very highly professional people in a number of agencies come together and communicate very objectively and also with the outside world.

You have heard from the EPA. From our point of view as professional scientists there was a lot of external communication and call on the scientific community for updates and commentary of opinions. That is important because science moves on quite quickly at a pace which people with other occupations are not going to be able to keep up with. That has made the response here very different from the sort of thing I alluded to in my submission about such things as *Exxon Valdez*. What happened there was quite different. We have managed collectively as a scientific community to learn from *Exxon Valdez* and predecessor cases going back as far as the 1970s to *Torrey Canyon* in Britain and there has been a lot of accreted useful information from that, a lot of which was brought to bear this time.

In my submission I was trying to point out some of the dangers because of your first term of reference about future problems. I was also trying to make the point that we did not have a lot of those problems because there were good, prompt, timely and well-understood responses. I do fear, though, that the scale of this spill was also favourable. Had it been much larger and of a different type of oil I am not sure that the results would have been quite so good. I am not sure that people were in a position to make different decisions. I do not want to say they did the wrong thing but I think the environmental outcomes were partly favourable because there was not such a toxic threat from this size and this type of oil. Therefore, I do think your Committee investigation is important because complacency would be disastrous even if this was a success, which I believe it was.

Secondly, you need to be aware of something that is quite important in that south-east Australia, in an arc from Brisbane to Adelaide, has made enormous good investments in science, particularly the science of coastal environments. There is a very strong worldwide recognised leadership by Australia in this area. Therefore, it comes as a shock to listen to one after another of your witnesses not be aware of any of this and not bother to talk to people. I find that pretty retrograde and I wish to make that comment publicly. I am sick and tired of hearing so-called experts who cannot even be bothered to get on the phone and find out what is known.

I will give a few examples from this morning because it is quite wrong for the public to be paying through taxation systems in universities and other places for excellent research, which it gets, and for this to be of no relevance apparently to the people who are called routinely as stakeholders in these matters. Examples from this morning include someone who was unaware of any information relating to oil in sediments and what happens to it. There is substantial scientific literature on this, including studies published in this part of the world by a number of scientists. It is not inaccessible; it is readily available. The National Parks Association newsletter was cited as a source of science. It is not. It is the National Parks Association newsletter. The New South Wales Littoral Society was identified as a science-based organisation when it existed. It was not. Reputable scientists would not join it.

Marine reserves was peripheral to your investigation but it occupied a fair amount of time this morning so I would like to say something about that. A lot is said about marine reserves. It is not as clear to the people who say it that first there are many different types of them so if you ask someone whether it will matter to declare one for a boating operations the answer is that it depends on what sort you declare because they are very different. There are many different sorts of marine reserves. In Sydney Harbour there is an intertidal protected area. There are aquatic reserves, marine parks and a whole range of these things. In fact, the taxonomy on naming of marine reserves is an occupation for bureaucrats in Canberra who produce reports on how to name them, so it is quite difficult to say what will happen if you declare one. You have to be very in tune with what sorts, what they will do and what the legislation will do.

The discussion of marine reserves begs a number of ecological questions and it is not fair to leave it on record that these are inevitably good. The 15 per cent figure used this morning as a desirable outcome included the notion in answer to one question that this would probably increase the number of fish and potentially have spillover effects for restocking fish elsewhere. As far as I am aware—and I do read as much of the literature as I have time for—the only studies of these have been in South Africa, which has managed until recent years a much more draconian form of coastal management than we would ever be able to implement. You simply shot anyone who disobeyed the rules. I am not being facetious. If you want to protect a coastline this is probably what you have to do.

Only two countries have done this successfully: South Africa until 1993 and Chile, both because they were able to impose such laws that people could not transgress them twice.

One must realise that the studies that have been done, particularly in South Africa, demonstrate you will get this fish spillover effect probably if you preserve 40 per cent of the coastline. Talking about it in response to 15 per cent is ignorant to the known science. It does not follow that science will relate to New South Wales but it is all we have got and it probably does. We have to be careful about what he said.

A statement was made that there is no information available on the effects of oil on marine reserves. The Smithsonian Tropical Research Institute in Panama had a major oil spill in a place called Goleta Bay, which is a coral reef marine reserve. If you want an oil spill that does damage you would put that sort of crude into one of the world's leading research organisation marine reserves. It has been studied to death. There are hundreds of papers on the effects of oil spills on that reserve. To say there is no information demonstrates ignorance.

The capacity to cope was mentioned as an important thing by Mr Bohm and I am sympathetic to that but it does confuse you if you take much notice of it because it is a complete misunderstanding of some quite important ecological principles. The three that are particularly intertwined within it are concepts of inertia; the system will not actually respond to the disturbance you create; you spill a chemical but nothing happens. If the system is inert, that is no outcome. That is important because contamination is not the same as pollution. Pollution is a response to contamination by the biological system. That is from a United Nations definition by a group that I worked for and it is important to understand that many systems are inert to certain disturbances so the fact that we have done something we can see does not mean that there is an environmental impact.

The second thing that is confused in terms of the discussion on capacity is what is called the system's resilience, its capacity to recover. Resilient systems do get disturbed but they bounce back in various ways and management of them is therefore different from ones that cannot. There is a third concept called stability, the details of which I will not bore you. These three concepts are fundamentally different, their investigation is different, their use in management is different and somehow they all got wrapped up in words called "capacity to cope" this morning, which is very misleading. I was then ask questions by someone which rather surprised me because except for three periods since this oil spill when I was teaching, when I was involved in discussions with the government in Peru and a third time, every day since that date except for weekends I have actually been in my office from eight to six so they could have phoned me and asked me those questions and I would have tried to answer them. I do not understand why people choose to not use information when it is available.

I raise all this because it is quite frustrating to realise that you are charged with investigating responses to a major problem. The responses were made by people who were probably doing their best with limited information. To keep up with available information takes most professional scientists somewhere around 15 to 20 hours a week, which they usually have to do outside their work hours. Some of us have simply become so overloaded with information that we cannot even do it anymore because we are also charged with commenting on policy documents and reports. It is really galling to realise that particularly young scientists are being trained well at the moment and wish to respond to the sorts of things that you are investigating but they do not have the capacity to do so. What happens is that groups such as yours, any management group, any discussion by government about any of these issues, brings together what are called stakeholders who are largely the people you heard this morning. I strongly to urge you, whatever else you do, to stop doing that. Please try to get scientific information from scientists where it is verifiable and checkable and you can actually ask them to account, not for what they claim to know but how do they claim to know it, which is much more important. I say that passionately because I am sick to death of having misuse of information as the main way of manipulating government activity.

I want to make two points about things that will really be a problem for the future. The first is that there are two major issues in Sydney Harbour which mattered enormously to the terms of reference. One is that biodiversity issues matter a lot. It is currently impossible to be very clear about what is the biodiversity of the harbour and how it varies from place to place. There has been no sustained, systematic inventory. Organisations such as the Australian Museum are repeatedly

frustrated because of lack of funds to do so. If we are going to be serious about conservation and biodiversity somebody is going to have to invest in an investigation of it and that will not only involve people such as biologists at the museum; it will involve competent ecologists who are concerned to sample and quantify it, otherwise we cannot measure its change.

The second one that is of major importance is that management of biodiversity issues and ecological sustainability in areas such as Sydney Harbour depends on understanding habitat fragmentation. Development of an area like the harbour changes habitats in many ways and one of the crucial questions that we cannot currently answer is how do these changes breaking up natural habitats influence the very things you are trying to manage and conserve. That needs also a systematic investigation which at the moment is hobbling along with limited resources in centres such as ours.

Without those two issues actually getting addressed properly, neither of which will take an inordinate amount of time and would not be fantastically expensive, it is not going to be possible to answer questions under your term of reference one: what are the threats and risks for future oil spills? All we can do is our best, given the lack of information. I make one point about this. It was not actually possible for us to find anywhere, from any of the 11 or so agencies responsible for aspects of management of the harbour, anybody who could tell us that if you went round it at the waterline what habitat you would actually be looking at. We had to map that ourselves.

Finally, as the last point, we cheerfully and willingly involved ourselves as much as we could. I run a centre of 55 people who are busy doing other things but because we had two ongoing studies that were relevant we had the opportunity to join in with the EPA in an attempt to actually investigate some aspects of the spill. That was at our expense. We do not think that is a problem but I do point out that money does not grow on trees and we cannot routinely keep doing this just because it happens to be needed. If you want to understand these things somewhere this Government will have to make an investment in how to find out rather than just hoping that it will fall off the tree because it will not.

We have one potential problem looming in the future despite our good plans and good interagency co-operations and agreements. I am concerned about the EPA's and its predecessor the SPCC's oil spill response atlases, which are one of the useful sets of documents about what to do in the event of an emergency. I am not criticising them but they are limited because their task was limited. They purport to try to work out the values of different components of an area. Is this bit of the harbour of importance for biodiversity? Is this important for something else? The trouble is that we do not actually know scientifically if the way that has been mapped is actually mapping the thing we want to know. For example, we can look at a patch of mangrove forest and say it looks pretty good so perhaps it is good for biodiversity. It does not necessarily follow that that is true.

One of the problems we do face at the moment is that there will need to be another layer of investigation before questions can be answered about which are the really sensitive bits of the harbour ecologically, not anything else. Before that can be answered there will need to be further investigation. At the moment that is going on in a very patchy, piecemeal way by all sorts of people. It needs to be systematic because then it can also become much more efficient and cheap. I think I have stopped preaching to you now. I would now like to try and help you.

CHAIR: The ecological impacts of coastal cities is funded as a Commonwealth special research centre?

Professor UNDERWOOD: It is.

CHAIR: Who funds that?

Professor UNDERWOOD: Originally it was funded by a competitive grant through the Australian Research Council, the premier science funding body in this country. The procedure is that every five years they establish six or seven such centres by competitive bid. There were 93 submissions on the occasion that we got ours; seven were funded. The process is long, torturous and extremely difficult. The university had to back us enormously to be able to sustain the 18 months of application. The process is trying to back excellence in research and I have no doubt that we are excellent in research and that can be demonstrated by a number of criteria, but so are lots of other

people so to win one of these grants is, in fact, quite difficult. It is particularly difficult in the natural sciences. Most of those are in engineering or in areas of fisheries, and that sort of thing. We are the only centre which is concerned with basic and strategic research in relation to ecological or environmental issues of this sort. We have a particular responsibility. They fund us by a grant which runs for a total of nine years.

CHAIR: Is your total funding from the Government?

Professor UNDERWOOD: No. We can use that as infrastructure resources. Our current budget is three times the size of the grant, and much of it comes from industry, from contracts.

CHAIR: From the Sydney Ports Corporation?

Professor UNDERWOOD: Not at the moment.

CHAIR: Are you hoping to receive funding from the Sydney Ports Corporation?

Professor UNDERWOOD: No, but we have not approached them for any.

The Hon. JAN BURNSWOODS: The Friends of the Earth have been talking to them about giving lots of money.

CHAIR: How about the Environment Protection Authority?

Professor UNDERWOOD: The EPA, yes, we have some funding interactions with EPA. Sometimes we are able to collaborate with them at our funding and they provide us with resources of another sort. Sometimes they have helped fund us, sometimes they have been involved in joint projects.

CHAIR: Could you provide a list of those who fund you? It would be public knowledge would it not?

Professor UNDERWOOD: The ones who fund us at the moment include the Caltex oil refineries. *(Professor Underwood, when proof-reading the uncorrected transcript wrote: This is wrong. I was asked about funding by Caltex – I did not raise it myself)*

CHAIR: Caltex fund you?

Professor UNDERWOOD: Yes. They fund us for a project in one of their outfall areas at Yena Gap, which is particularly interesting ecologically because there is some environmental impact work that they want done. But that is not research, there is an interesting question about how you design a study to identify the sort of impact that that outfall may cause in a very variable environment. We are concerned with the research to design the study, so they funded that project which, we hope, will give a guideline for future such projects.

The Hon. R. H. COLLESS: That is funding for an individual project?

Professor UNDERWOOD: Yes, most of our funding is individual project funding except for the Australian Research Council grant which is $700,000 a year, that is $6.3 million. It is one of the largest grants they hand out for that sort of funding. At the moment we are funded by Wyong council for projects on how to improve, or not to improve, stormwater drain wetlands. That is a big issue for Wyong. We are involved with Leichhardt council, not with funding but with access to advice, help and some engineering works. We are involved with North Sydney council, Waverley council and other councils for various seawall projects. We are trying to use seawall repairs and engineering to enhance biodiversity features by changing the structures a little. They are rather biology unfriendly at the moment; they are vertical and everyone fills in the holes. We are trying to work out how to make them more useful for local biota. We are funded by the Peruvian government.

CHAIR: Tell us about local funding, from within Australia.

Professor UNDERWOOD: That cuts out a lot of our funding. We are funded by—

The Hon. JAN BURNSWOODS: Mr Chairman, we could save some time if Professor Underwood can provide a list.

Professor UNDERWOOD: Yes, I can do that.

CHAIR: I am interested to know whether any other oil companies support you.

Professor UNDERWOOD: No.

CHAIR: Not yet?

Professor UNDERWOOD: The question is: Is there a research issue which we would like to be involved in. Frankly, and perhaps I should not say this, because it is on the record, but we do not think that Shell were getting particularly up-to-date advice, according to some of the comments they made during the spill. They rather put themselves on the back foot, to use a cricket analogy, with some of the things they said they responded to. We would like to be more involved with them, but the issue is whether there is a research question that they need answering. We are not a for-hire environmental company, we are research scientists.

CHAIR: Who approached you to make a submission to this inquiry?

Professor UNDERWOOD: Me.

CHAIR: It was entirely voluntary?

Professor UNDERWOOD: Yes.

CHAIR: Did anyone phone you and ask for your help?

Professor UNDERWOOD: No, someone phoned me and asked whether I would be interested in commenting on the terms of reference, which I thought was an interesting question.

CHAIR: Who phoned you?

Professor UNDERWOOD: A person from one of the State agencies. I am not aware of what may happen to him, if I name him, so I am not going to. I do not know whether there is a problem for him doing it.

CHAIR: A State agency phoned you and asked you to comment?

Professor UNDERWOOD: Yes, and I said yes I would comment. I thought doing that was silly, I should comment to the Committee, not to him. So I am commenting to you. I think three days later Mr Blunt rang me and asked me whether I would like to make a submission. I replied that I already had, which was the most efficient piece of communication I have ever done. I was minus three days. I do not know why David Blunt contacted me, whether it was because he knew I had already made a submission, I do not know. Let us save the person in the other agency; David Blunt contacted me three days after I had made a submission.

CHAIR: The reason I asked that question is because your report states that oil spills really do not have any major impact.

Professor UNDERWOOD: This oil spill.

CHAIR: If you are receiving funding from Caltex, one may say "Well, you would say that, wouldn't you?"

Professor UNDERWOOD: This is the Mandy Rice-Davies solution, is it? I am sorry, that is quite insulting, Mr Jones.

CHAIR: Of course.

Professor UNDERWOOD: I do have professional integrity.

The Hon. JAN BURNSWOODS: He has tried very hard to insult you.

CHAIR: No, I have not. Every other group has been insulted to this point.

Professor UNDERWOOD: Mr Jones, that was probably unintentional insulting. If we are going to get into insults, it was also amateurish, and I am a professional. But the fact is, I am an academic and I have to live with this all the time. It is quite difficult to work in science without getting funding from someone. Therefore, how am I do maintain integrity? And the answer is that everything I do is, in fact, publicly accountable. I do not do work which remains unpublished. I send it out to the scientific community for independent peer review. It is published in journals. My reputation is based on the veracity and continued track record of being able to achieve that.

Therefore, if I am doing something which is shonky with respect to the purchasers of the information—and I assure you my scientific colleagues are particularly on the lookout for that—my colleagues will blow the whistle. This has not happened. Therefore, I do not believe that you can sustain the argument that I would say that. Caltex and we have a fairly uneasy relationship because of the fact that we tell them when they are not right about things.

The Hon. R. H. COLLESS: That was the reason I asked my question a few minutes ago about whether the funding they were getting from Caltex was project-type funding rather than general funding. If it is project funding they are given a discrete job to do and that is the end of the relationship. It is not an ongoing relationship.

CHAIR: Various corporations have to find various academics to work for them, but only certain ones will and they do it project by project.

Professor UNDERWOOD: Excuse me, there is one other thing worth explaining: The University of Sydney, apart from having various policies, which are worth only as much as anyone is willing to give them, policies on ethics on research and accountability, also have contractual agreements with Caltex and others. The Centre has a contractual arrangement through the university, we have a contract which is very careful about who owns information that is gathered during contracts. We will not enter into a contract with anyone, even if it costs us dearly financially and for the future of my staff, in which we do not own, absolutely, the right to publish the information in any way we choose.

Consequently, nobody, such as Caltex which has never tried to do this I hasten to point out, can control our use of information. If we were not using such contractual procedures, it is true that we could lose control of the projects and we would then be open to the sort of charge that you have inadvertently made of us. At the moment there are layers and layers of my bosses, as you would expect in any academic organisation. There are deans and PVCs and DVCs and layers, and God knows what everywhere.

The fact is, accountability for any income through that system is very close. Ultimately your Auditor-General does it. I do not think there is much problem with being able to sustain the argument that we are not particularly tainted by doing work that somebody pays for. If they do not pay for it we will not do it and it will not get done. It is as simple as that. I am the only person in the membership of our centre of 55 people who has a salary from the university. Everyone else has to get the money from somewhere.

The Hon. R. D. DYER: In your submission to the Committee you say that in the wake of the oil spill from the *Laura D'Amato* the EPA well understood the issues in your view. You said much of the clean-up was done sensibly and well. In summary, in what respects was the work done sensibly and well? If appropriate, were there any examples where the standard could have been improved?

Professor UNDERWOOD: The decision not to use dispersants, which was made very early, was a sensible and well-made decision. It was based on scientific understanding under the circumstances of this spill and obviously implemented. The decision not to use absorbent materials in many areas is precautionary. The science is not really there to say one way or the other, but most of us would be more nervous at using absorbents than not using them. That decision was clearly made for some parts of the clean-up. It is perfectly good on the water surface, but not so good with the habitats when the oil has hit the beaches.

The operation using skimmers and suckers on the water was obviously the right decision. The oil was collected that way. That was fortunate, and the weather conditions would not necessarily have allowed that. The decision not to use high-pressure hoses, but to use low-pressure, which Dr Scanes made, was bandied around and discussed fairly widely at the time. I think it was a very wise decision, because there is no doubt that high-pressure hoses can do serious potential environmental if for no other reason than they remove traces of animals, which subsequent animals need as cues to get back into the system.

The *Exxon Valdez* clean-up was pretty disastrous from that point of view. In those terms the decisions were made wisely and were implemented well. By coincidence, we were out and about a lot on the harbour for quite different reasons during that week. We chose it as a week to have a large international workshop on what lives on the floor of the harbour. We had a lot of people out and about when, to our dismay, there was an oil spill. We had the EPA boat at one stage, that was one of the collaborations we were talking about.

From what we saw of the operation people were conforming to the guidelines and the instructions. They were not mavericks running off in all directions doing other things. Where there could be improvement, and this is with the vision of hindsight and not making decisions on the run, I would not advise differently, had I been asked. You saw it in the video; I do not really think that shovelling oil off the beach is necessarily the best environmental way to proceed. That needs further thought and possibly some investigation about better ways to do that.

The Hon. R. D. DYER: When you say "making decisions on the run" I suppose there is a public scrutiny at the time and media outcry and the like?

Professor UNDERWOOD: Yes.

The Hon. R. D. DYER: Would it be understandable that public authorities have to act in what they believe is the correct methodology at the time?

Professor UNDERWOOD: Absolutely. As you have heard from various people and as is widely known—and the documents are readily available—there are contingency plans at various levels. There at national responses and local responses. But, of course, like all plans and guidelines what actually happens on the day at the time in a particular place has to be determined and a decision has to be made by someone who has been given that responsibility. Rightly or wrongly they must make a decision. It is quite easy to come along afterwards and say "You have made the wrong decision".

In this case I do not believe there would be too many people who could sustain such an argument. I think the plans were well thought out. There was wide discussion and we are fortunate, collectively as a society, that we have a number of people in the agencies who are in contact with current scientific thinking and stay in communication with scientists. Just as an aside, some of the agencies are moving out of research and that will seriously reduce their capacity to stay in tune with the research community. They will not be active scientists.

The Hon. J. R. JOHNSON: Are they outsourcing it?

Professor UNDERWOOD: To some extent. In some cases the assumption is being made that enough research has been done so get on and make decisions. While that may be true at some point it will not be true in 10 years time. The worst thing is that the capacity of the individual to know how to be in the scientific networks will erode. That is a potential danger, which I know some of my colleagues in the agencies are quite concerned about, not for the obvious reason that it is doing them

out of part of their job but just that we will finish up mining current capital in the agencies and will not have new ways of inputting. We will not have the automatic retraining that goes on by conferences and attendances at meetings and the daily business of science.

The Hon. J. R. JOHNSON: The corporate memory.

Professor UNDERWOOD: Yes, the corporate memory.

The Hon. Dr A. CHESTERFIELD-EVANS: It will be arrested and frozen at one point in time.

Professor UNDERWOOD: That is one of the least dangers in fact. In some cases it will actually be forgotten and that is not necessarily good. It is at toss up of whether 20-year-old understanding is better than modern understanding or whether no understanding is better than modern understanding. There is certainly no doubt that it will deteriorate.

The Hon. R. D. DYER: You say that one very disturbing outcome of the *Laura D'Amato* spill was the amount of misinformation and unchallenged opinion offered in the media. Did you make any efforts to approach the media organisations?

Professor UNDERWOOD: Yes.

The Hon. R. D. DYER: What sort of reception did you receive?

Professor UNDERWOOD: They were very polite and very interested. I had never been interviewed by the ABC more. I buzzed around town continually in response to their request. One of the reasons I was concerned about doing that was that I really do not give a damn about personal things in this. I really thought that the information coming out was bad. It was going to be counter-productive, because it ran the risk of derailing efforts that looked sensible in order to get involved in other things. I will give an example in a minute. I talked to various arms of the ABC radio and television several times. Not one of those interviews was broadcast because, clearly, I was not telling them what they wanted to hear. I kept saying, "No, this is not a disaster.

I believe that most scientists they spoke to said the same sorts of things. I was quite surprised to discover that they eventually did dig up a scientist who said that it was going to be a disaster. I was so incensed that I wrote to him and asked him to give me the basis for his information. And it turned out to be an unpublished laboratory study he had done, somewhere, once. I would not view that as a scientific opinion at all. There was media manipulation but, gentlemen, you are past masters of that, that is your business. I certainly feel an amateur there. Facetiousness aside, it is important because the public is not well served by being told frightening stories about something. It causes a reaction which is, in fact, not productive. It puts more pressure on the people who are trying under difficult circumstances to make decisions. It causes more inquiry into what is happening when what is happening is probably as good as we are going to get.

The worst people were some of the environmental groups, the so-called stakeholders. The Total Environment Centre managed to make several statements that this spill will cause the destruction of all food webs in the harbour. I will tell you why I cannot bring them here in a moment. Scientific opinion said this spill was extremely unlikely to do anything long term, and may not do anything short term. So, those two statements are not compatible, so why were not the media challenging them, because if that were true we were all incompetent as scientists and the people doing the operations on the water and on land were clearly incompetent because they were not taking any notice. That statement has stayed unchallenged. Why I cannot present it to you verbatim and why I am struggling to remember the words is that I tried, after I got the information about the inquiry, to get the clips off the various TV companies, and they will give them to me, but they are $60 a pop and I do not have the funds. So, I could not get the film clips to show you the specific things I am talking about, but I can assure you that at the time they were quite outrageous statements and I really do not believe it is responsible to allow them to stand unchallenged, which is one reason I am here. You heard some again this morning.

The Hon. J. R. JOHNSON: Do you have the dates? We have a monitoring service here at Parliament who may have them.

Professor UNDERWOOD: From 4 to 6 August would be the crucial dates. I do not have more specific dates and that.

The Hon. J. R. JOHNSON: Perhaps some of the agencies may have taken clips.

Professor UNDERWOOD: Indeed they may have.

The Hon. J. H. JOBLING: I am sure they have them.

Professor UNDERWOOD: I will say in self-defence here, I do not know if the Ports Corporation support this, but the EPA in its submission to you today indicated it also felt frustrated by some of the media comment. I have not actually met that lady before so it is not a cabal that we have got together to try to sway you. The fact is, we are not well served in many of these environmental issues by the sorts of comments that appear. In this case, it can be quite dangerous for environmental management and the wellbeing of the harbour.

The big problem is not a spill like this. One of our studies which was done at the time in response to the spill demonstrated that before the spill we had done experiments that showed that around the Gore Cove region there were problems of hydrocarbon contamination followed by deleterious responses from the organisms. There is ongoing chronic pollution. That should not be a surprise to anyone. After the spill we repeated that study with help from the EPA and found the same result. Had we not had the results from before we would have had to conclude that that was a response to the spill, but it is not. So, why are we not fixing the chronic problem—because we have all our attention focused on this short-term largely irrelevant oil spill.

CHAIR: There are small spills, apparently, every day?

Professor UNDERWOOD: Every outboard motor putt-putting around the harbour is leaking hydrocarbon every day. The amounts coming down from roads from people throwing their sump oil down the drains is decreasing, I understand from the optimists at the EPA, but I believe it is still ongoing and large. Every time there is a large rainfall, cadmium, metals, hydrocarbons and all sorts of toxins wash in off the roads.

CHAIR: The chronic problem would have more impact than one catastrophic one?

Professor UNDERWOOD: For many marine systems the chronic problem ultimately is the impact. It does not matter how well a system can respond to a catastrophe if every time they breed they come back to a polluted area.

CHAIR: That is the real problem, is it not?

Professor UNDERWOOD: That is absolutely the real problem.

The Hon. JAN BURNSWOODS: What you have just been saying is related to what I was going to ask you. By the accident, if you like, you had been studying that area before the oil spill and you had a lot of information to make the statements you are making. I am wondering whether we should be looking at encouraging, compelling, or whatever, a company like Shell to carry out or to have carried out that kind of study on an ongoing basis so that we are actually better equipped to measure the ongoing impacts you are talking about, so where there is a high risk we would be able to have a certain understanding at what a catastrophic event produces.

Professor UNDERWOOD: In an attempt to provide an honest answer to that, I do run the risk of lurching in the direction that Hon. R. S. L. Jones alluded to of my bias about funding overriding the day here. I personally do not believe you should ever compel an industry to be involved in these things. The regulations under which they operate will cause them to retreat to the minimum. You are better to try to create an environment in which they too can recognise the value of having good, responsive management.

The Hon. JAN BURNSWOODS: I did say encourage or compel.

Professor UNDERWOOD: Yes, but I am trying to stop the compel part. I have been in Eastern Europe since the Communist system changed. If you want to see bad environmental management, go to a place where government compels people to do it in certain ways. It is a toxic wasteland. You do not want that. What you need, I believe absolutely, is a partnership of the people who have ultimately to carry the responsibility, yourselves and ourselves for different reasons, with the people who have the resources willingly trying to see that that does affect them not just emotionally or in advertising terms but their bottom line.

We have not been in any discussions with Shell. I would welcome discussions with Shell. I think there are issues that we uniquely can help them with, in collaboration with some of our research partners in some of the other groups and agencies. I think that sort of thing is always ongoing. There have always been discussions at various levels about some of these issues with respect to Botany Bay rather than Sydney Harbour. I think in the end most responsible companies and industries and agencies will try to back this effort but they have to see it is going to be accountable and it is not a bunch of scientists running off doing arcane things, and that is a real danger. A process has to be set up to manage the control over the quality of the science. That is important. Frankly, it needs to be better informed about what the issues are and how the information can be used. One of the tragedies for much of the science that is going on at the moment is that it is not informing the process at all. Scientists are trying to stay alive and treading water in a funding environment that is not conducive to it.

So, I think the answer is yes, it would be extremely valuable to do this. It would be extremely valuable if organisations such as the office of the Harbour Manager, Jeremy Dawkins, were more actively involved in encouraging science. He does in various ways, I am not being too critical, but there are no active outcomes from those discussions. So, I think there are many reasons why that would be highly desirable. I also believe it is something that, frankly, society wants in various ways. The trouble is a lot of society's investment in it is going through such community and environmental groups as are funded by National Heritage Trusts and other large-scale derelictions of duty.

The Hon. J. H. JOBLING: One very brief question to Professor Underwood, and I thank you, sir, for your forthright comments, and for assisting the Committee in that regard and pointing out a number of things that were said that were of perhaps a doubtful—to be kind—nature. Would you ever give consideration to making available to the Committee perhaps a one or two-page submission on the way a recommendation might be able to come forth from the Committee in undertaking some of the matters you have spoken about in reviewing the harbour, the ecology, the animals, in reasonably simple terms for us so we can look at that?

Professor UNDERWOOD: Yes, I would be quite glad to do that but I would be reluctant to just go away and do it. If it were at all possible—and I know how busy you are—I would far rather if I could be involved in a discussion to get, as it were, the dot points and headings that would help most and then do it. Otherwise, I can do it from my prejudices but that is not necessarily the best way. I would rather do it in a way that is of maximum help to you and that really needs rather more dialogue than we are having here. If someone there would be prepared to put aside an hour I would try to match that—and if you want it urgently it will have to be before the end of next week because I have to go to Canada to advise on environmental matters for Fisheries in Canada. I think it would be important to do that. Frankly, you do not have access generally through your political processes to much independent science and it would be a good opportunity to explore it. It would also help us to know a little more about what you do not know, which is quite important. You are experts in what you do, but I will do my best to guess. If we could do that I could advance that much further than anything I could do on my own.

CHAIR: Is it possible for you to answer the four questions you were given earlier? Not now necessarily but maybe later in writing.

Professor UNDERWOOD: No, no, we don't know, who cares. I do not really understand the first question. I do not understand what we mean by that, but if it means is there pollution in the sea wall, in most places the answer would be no, there must be some places where the porosity of the

surface is such that there may be some contamination. I do not understand the word corrosion. I would have to ask what that means. If it means corrosion, I am not competent to answer it. It is an engineering or geological question. As for hydrocarbon saturate in the rocky substratum, that has not been recorded anywhere. It is very common in areas such as mangroves where the sediments are soft, beaches. It has not been recorded for rocky substrata. It is quite unlikely to be of any major importance because the animals that routinely roam over those surfaces feeding actually eat hydrocarbons, so it is not likely there would be any embedded. If so for how long? Years, decades? Decades in mangrove forests, but who knows, because I do not think there is any in rocky shores.

The slow poison effect being enhanced by the slow flushing regime of the harbour. This is actually somewhat confused. If we are talking about the effects of the spill directly, the answer is no. Recolonisation clearly has happened. Many animals were killed but they have come back. That is not really an issue. The issue here is this poisonous effect is my toxic, long-term, chronic one that I have been talking about. Where that is going on, every time animals come back some of them are going to be affected. The answer to this question as asked is this is not really an issue but in the wider terms of long-term problems, it is an issue.

I preface my remarks about the birds by saying that I know very little about birds. I am very proud of the fact that I know very little about birds because I do not find them terribly interesting. The literature on this tells us two things that matter. One is that however well-meaning you are and you try to clean up oiled birds, you are only prolonging their rather terrible end. Most of them are going to die. That is what the scientific studies show. Penguins are an exception. We believe, and I am not competent to be sure about this, that is because routinely they are consuming fish with oil content. They can handle oils in a way that is rather special. With some of the other birds that is clearly not the case. I think well-meaning people trying to save these animals are possibly being very unkind to them. A pragmatic and correct scientific answer would be to wring their necks as soon as you get them because it is actually kinder. I know I will be rung at three in the morning by hostile people, as I usually am when making public comments, but that is what the scientific information says.

When I heard about the 300 birds, I tried to make one contact with a contact at work to see if we could get hold of anyone who might know. Geoff Ross in National Parks and Wildlife would probably know. It is a simple matter to ask them. They would know how many reportings they had. In fact, the people who asked this question should have done their homework before they came here. If 300 birds were oiled, then it is likely that 300 were fatally poisoned, I agree. But, if 16 were oiled, perhaps 16 were fatally poisoned. But I really know very little about birds.

The Hon. Dr A. CHESTERFIELD-EVANS: Can I just ask about inert systems. When you were talking about inert systems, you said there were inert systems, resilient systems and stable systems. Does it mean a dead system for practical purposes, so it does not matter what you do, it is already dead?

Professor UNDERWOOD: No. It means a system that does not respond. If you disturb something but there is no measurable response, the system was inert to that response. For example, if you throw aluminium into the sea, you get contamination, it should not be there. But the system is quite inert to that. Nothing happens that you can measure biologically at all.

The Hon. Dr A. CHESTERFIELD-EVANS: Presumably if the oil is toxic—

Professor UNDERWOOD: In this case the system was not inert but the system was very resilient. It could recover, and it was reasonably stable and it could recover quickly. But it certainly was not inert.

(The witness withdrew)

(The Committee adjourned at 5.12 p.m.)