

**ECONOMICS AND INDUSTRY
STANDING COMMITTEE**

**INQUIRY INTO SAFETY-RELATED MATTERS
RELATING TO FLNG PROJECTS IN AUSTRALIAN WATERS
OFF THE WESTERN AUSTRALIAN COAST**

**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
MONDAY, 10 NOVEMBER 2014**

SESSION ONE

Members

**Mr I.C. Blayney(Chair)
Mr F.M. Logan (Deputy Chair)
Mr P.C. Tinley
Mr J. Norberger
Mr R.S. Love**

Hearing commenced at 1.13 pm**Mr MARK LEIGH****Team Leader, Asset Integrity and Process Safety, ConocoPhillips, examined:**

The CHAIR: On behalf of the Economics and Industry Standing Committee, I would like to thank you for your appearance before us today. The purpose of this hearing is to assist the committee in gathering evidence for its inquiry into safety-related matters concerning FLNG projects in Australian waters off the Western Australian coast. You have been provided with a copy of the committee's specific terms of reference. At this stage, I would like to introduce myself and the other members of the committee present today. I am the Chair, Ian Blayney. With me is Hon Fran Logan, who is the Deputy Chair, and the other members are Peter Tinley and Shane Love. The Economics and Industry Standing Committee is a committee of the Legislative Assembly of the Parliament of Western Australia. This hearing is a formal procedure of the Parliament and therefore commands the same respect given to proceedings in the house itself. Even though the committee is not asking witnesses to provide evidence on oath or affirmation, it is important that you understand that any deliberate misleading of the committee may be regarded as a contempt of the Parliament. This is a public hearing and Hansard is making a transcript of the proceedings for the public record. If you refer to any documents during your evidence, it would assist Hansard if you would provide the full title for the record. Before we proceed to the inquiry-specific questions we have for you today, I need to ask you the following: have you completed the "Details of Witness" form?

Mr Leigh: Yes.

The CHAIR: Do you understand the notes at the bottom of the form about giving evidence to a parliamentary committee?

Mr Leigh: Yes.

The CHAIR: Did you receive and read the information for witnesses sheet provided with the "Details of Witness" form today?

Mr Leigh: Yes.

The CHAIR: Do you have any questions in relation to being a witness at today's hearing?

Mr Leigh: No, sir.

The CHAIR: Do you have an opening statement to make today?

Mr Leigh: As it happens, I do. Thank you very much. I would just like to make a brief opening statement before taking your questions to our written submission that we provided to you in August.

Firstly, on behalf of ConocoPhillips I would like to thank the committee for the opportunity to be part of its deliberations on this important matter. We always welcome the opportunity to be part of discussions on safety within our industry and to share our expertise and experience on those. Secondly, it is important to note that I will be giving evidence in my capacity as team leader of asset integrity and process safety, within the context of our operatorship of the Bayu-Undan field and associated offshore processing facilities within the joint petroleum development area in the Timor Sea. With regard to questions you may have relating to the specifics of floating LNG technology, this area of safety risk and management is in the province of our LNG technology company which is based in Houston, a representative of which was unable to be present today. While I will seek today to provide as much information and clarity as possible, if there are any

questions outside of my area of expertise I will be equally pleased to take these on notice and provide subsequent written answers to the committee after consulting with my colleagues.

Mr P.C. TINLEY: That was a short statement!

The CHAIR: We are not used to that. It has been known for witnesses to try to take up the whole hearing with their opening statement, but not very often.

Mr P.C. TINLEY: Just focusing on the Bayu-Undan field, which is the principal area of this committee's interest with ConocoPhillips because of its learned experience, how would you say you manage the risk associated with operating that field infrastructure, and has that changed over time? Can you make a statement or commentary about how you thought it would go and lessons learnt?

Mr Leigh: That is a pretty big question.

Mr P.C. TINLEY: Feel free to range around.

Mr Leigh: Okay. I am also conscious that some of you may not be familiar with some of the detail issues, so if I start going into jargon, then please ask a question.

With any development we have a safety case that we put together. That is pretty much the best practice across industry and it is something we do here mostly in the Australian area. The JPDA, of course, is not within Australian jurisdiction, but we as a company adopt the safety case regime because it is the best practice anyway. Even in areas where we do not have to do the safety case, that is what we do. In essence, that is what we think is the best practice. The safety case matures over time, so we will come to a regulator or our own project teams very early in the design concept, so you have a concept safety case, and you do some coarse analysis around what you might need to do. That would throw up things like floating or fixed to the seabed, one platform or two platforms, or three platforms. You would get that level of detail, and you share those thinkings with the regulators at the time. As the project matures in thinking, eventually you would come to the operational safety case. That is where you get into the real details of how you manage safety. Dealing with how you manage safety, you have got a number of issues to deal with. You have got, if you like, the design piece. I think we mentioned in our written submission the inherent safety, and that relates to things like equipment spacing and maybe the materials you select, and lots of engineering details. That is one aspect. My passion and interest is actually more around the people issues around that. It is one thing to build it properly and design it correctly, but then you have got to make sure that we operate it as well. We think that the occupational safety issues are actually a strong link to my job title of process safety issues. There is a strong interconnection there. The safety case does require a strong consultation with the workforce, because they are the guys who have got the experience of actually operating kit.

I think you asked whether things change over time. Yes they do. One aspect is that the fields decline over time—that is the business we are in; we are in the business of extracting fluids from the reservoir. As a field declines, things can change. You need to recognise what that change is and think: does that affect your technology that you have introduced? For example, if a field starts to sour—starts to get more H₂S development—does that increase the internal corrosion risk? Does that present a threat to your topsides? Did the engineering at day one say that we recognise that H₂S is a problem later, but we will build it this way first, and we will put in equipment later on to deal with that threat? That is an option. Another option might be that we know we are going to get souring later on in the field, so let us put in expensive metal now. That is an economic decision.

[1.20 pm]

That is one example where things can physically change in the chemistry. You could have a change in the understanding of the environment, and we have had that in Bayu-Undan since I came to Australia three years ago. The metocean teams came up with some new metocean data—different wave heights—than was designed for. Again, back at concept, they had assumed a certain wave

height and period and all that kind of stuff, built the platform accordingly, and then they were good to go, and then X years later someone comes in and says, “The wave height is a bit different now.”

Mr P.C. TINLEY: Just following that little rabbit down the hole, was the wave height higher?

Mr Leigh: The wave height was a little bit higher than the prognosis.

Mr P.C. TINLEY: Step me through the process of how that went through the system.

Mr Leigh: New data would come in—it is a good example; there could be other areas of change, but this is a good one—so that wave heights are different from what we thought. They may actually be different or our understanding of them may be different; it does not much matter. What you then do is go back to your model and say, “Did the design of that jacket”—the jacket is the bit that is fixed as seafloor—“is the jacket designed for that condition?” So that is exactly what we did. We went back to the model. We found a few gaps in the model, so we updated it in and we ran a fairly aggressive project to essentially determine: is the kit that we have got established still good for these different conditions? In fact, we did; we assured ourselves of that.

Mr P.C. TINLEY: Surely, in engineering terms, you have eaten into your tolerances, or your envelope of tolerance —

Mr Leigh: That is one option; that you may do that.

Mr P.C. TINLEY: — and therefore you just have a thinner tolerance.

Mr Leigh: I am getting into stress analysis here—I do not want to go too far out of my comfort zone, because that requires structural engineering—but, essentially, you have corrosion allowances and risk factors built in to give the stiffness or the performance that you need. With detailed analysis, you can actually qualify things and say, “Yes, this is still safe.” In that particular example, we validated that both our jacket design and our foundation structure was—you have to model the whole system. You have the structure itself that is moving. How is it attached to the seabed? Are piles still good for these different conditions and so on? That is an example of a pretty major potential change that you to get your head around and think, “Is this okay?” As I said, in our particular case, we determined that our facilities were absolutely still good—the 10 000 year case.

Mr F.M. LOGAN: Mark, on your facilities, whether it is the FPSOs or the platform itself, have you experienced cyclones close by or directly? What happens in the situation when you are faced with a cyclone alert? Do you de-man, and what is the process?

Mr Leigh: To your first point, have we ever experienced any? We would have to get back to you, because that is a detail—a fact. I do not believe that is the case in terms of a direct hit, but there may have been one that I am just not aware of. We can provide you with the details of that. In general, you have to have some kind of warning system; is the weather going to get bad? That is one issue. So sufficient lead time and then you have to have a plan that says, “Given these conditions, what are we going to do?” Our base case is, in the event of a direct hit, we would shut down the platform and evacuate the platform. The principle is that once everything has blown through, you would come back and assess if there has been any damage and restart production. I have to remind you that plants are supposed to run. They want to run. Machines are happier when they are spinning, levels are steady and temperatures have evened out; that is a safe place to be. So shutting things down for a day because you have had a warning might not be the safest option. The trick is to have a long enough lead time to balance that requirement to keep the plant in a safe condition, but also how long does it take to down-man the platform? If you have a few hundred workers offshore that may be doing projects and other things, how many of those are actually critical to the operation? It will not be all of them, so you start to proactively down-man early in the cyclone warning horizon. So the OIMs and the folks onshore talk about it and say, “Yes, we are going to start down-manning now.” You start sending helicopters in and out taking of all of your nonessentials. From my recollection, what normally happens, is that we down-man and then the cyclone goes whoop over somewhere else, and we go, “Okay, bring them all back again.” Now, one of the riskiest things in

our business is helicopter flying, so that is why we are very comfortable that although our platforms are built for a 10 000-year event, if we could not get our people off because maybe we did not get enough of a time horizon, we could not get helicopters up or whatever, we will just shut-in production and essentially sit the storm out. Then, obviously, at the end of the storm, you go out and see what damage there was and you figure it out. Both options are safe. Our base case is to down-man, but we could indeed stay in position if we wanted to.

Mr F.M. LOGAN: And is your FPSO there is permanently fixed?

Mr Leigh: It is, yes.

Mr F.M. LOGAN: So it does not stand off.

Mr Leigh: No, it weathervanes. It can adopt the optimum position for wind and tide and so on, and waves. It is the same thing; we would proactively, preferentially down-man it but, again, it also survived the 10 000-year test. We have done the analysis on the moorings and the piles and all that stuff. Certainly in the JPDA, we have a system that we believe is robust.

The CHAIR: That facility has been there for a while, has it not?

Mr Leigh: Yes, since 2004, I think.

Mr P.C. TINLEY: Was it really?

Mr Leigh: We have just had our 10-year anniversary.

The CHAIR: Let us say that over those 10 years you have had reasonably serious cyclones go close to the facility, would your company do a report into that, basically, on how it affected it and any damage or anything like that?

Mr Leigh: Yes, there are a couple of things. We have an inspection program on our facilities anyway. An inspection program includes what we call a “splash zone”. That is the bit that it is really affected by water. We send people to have a look at fixing it. Typically, it is going to be things getting bashed by the waves—bolted connections and that kind of stuff—so we have to inspect those. We also inspect our structure above the waterline, typically for corrosion, and we also inspect below the waterline with ROVs. There is an ROV program on our platform as we speak. That, if you like, is the routine inspection program. We are looking for anomalies there—things that are out of shape, loose connections and stuff like that. Marine growth is a challenge; we have to watch that as well because, of course, the jackets are designed for a certain amount of marine growth—it is heavy stuff if it gets too big—so we check that.

More directly to your question, if we then had a major event such as a rogue wave—I am not aware of any, but that can happen. If a wave washed over the spider deck, which is the lowest deck to the waterline, you would go and inspect it specifically and figure out if it had received any damage.

The CHAIR: In the event of a cyclone passing close to your facility, do you have to report that to anybody in Canberra?

Mr Leigh: I would have to get back to you on that. I do not know the details of safety reporting in that context. We need to get back to you on that one.

The CHAIR: That is something I would be interested in. I guess you would probably regard any internal reports done on the effects that a cyclone on your facilities as pretty strictly confidential, I suspect.

Mr Leigh: At the risk of going out on a limb here, there is no secrets in safety and that is one of the reasons I think we are here. We are very proud of our record in the space; we have got nothing to hide around safety stuff. If we had a lesson to learn from the effect of a wave on our facilities, that is something we would want to tell the engineering community about. I do not know why that would be confidential. Clearly, if you end up with production outages that could be affecting the share price, then there could be some sensitivity in that space. If you had damage that led to

a prolonged outage, that would be market sensitive. But certainly from a technical perspective, we would want to share that as widely as we could. I do not know of any legislative requirements to do that. Again, we would have to get back to you on that with specifics around our relationships with Canberra and regulators.

[1.30 pm]

Mr R.S. LOVE: In your submission, you spoke about the oil spill response limit. Perhaps you might like to explain a little bit how that came about and what collaboration takes place in the industry to enable that to be effective.

Mr Leigh: Mr Love, I am not sure I can give you a lot more detail than what was in the submission. We have worked with OSRL and others for a long time. In a previous role in the company, I was a bit closer to OSRL than I am now. It is just a longstanding relationship. As the submission talked about, it is important to collaborate across industry, and that is why the industry forms these collaborative groups. Some of the cost of these interventions is pretty high, so it makes sense to spread that a bit. I think the best thing to do, if you wanted to ask some specific, more detailed questions in that space, is to send us a written request and we will get back to you on that.

Mr P.C. TINLEY: Just out of interest, you may not know this off the top of your head, but I would love to hear later what your LTI rate is for Bayu-Undan.

Mr Leigh: I know what the business unit rate is, which is broadly that. It is about 0.3 at the moment. I think we are looking at 0.3 at the end of the year, a little bit worse than last year, which was about 0.19, from memory, but still industry leading.

Mr P.C. TINLEY: That was my final question: where does that sit?

Mr Leigh: That is very good. I am sure if you go to NOPSEMA, they will give you the most recent and updated numbers. As you may know, we won the APPEA safety award, I think, three or four years running. Partly, that is due to the out-turn results. I think a lot of it is to do with what you do to get there. I do not know how much time we have, but there is a long conversation of how do you achieve safety at those levels; but, more than that, why is it not zero, because we aspire to be zero? We do not want anybody hurt; we do not want any incidents. So, why is it not zero, and what do we do in that space to get to zero?

Mr P.C. TINLEY: The evidence that we have received so far in the committee I characterise as twofold, as you have already talked about—safety and design, and then culture. It is about how people approach it and their attitude to it. There has been commentary made to this committee that in the oil and gas space, Australia, or the Australian workforce, for some reason, does not necessarily rate as well as the international or other comparators. Is that something you could comment on?

Mr Leigh: I am happy to comment on it. I can only speak for the workforce I am familiar with.

Mr P.C. TINLEY: Sure.

Mr Leigh: I am not going to generalise or make assertions about things I do not know about. The workforce that I am familiar with are the folks up at Darwin, the onshore LNG plant, and our workforce on Bayu-Undan. They are not all Australians, frankly. They may have Australian passports. They come to the country, settle and become permanent residents, and that is a good thing. But what is their culture? It could be from a number of different countries. We try in the company to develop our own strong safety culture. I am sure all major companies would tell you exactly the same thing. I can only speak to what we do. We have our SPIRIT values—“S” is for safety—and we take it seriously. Frankly, it is one of the reasons why I work for the company, actually, in Onslow. I would say the culture that we have is very strong. In my role as team leader around process safety, I have a technical interest in this as well. Are our people reporting stuff or is it being hidden? That is one of the key issues. Is it 0.8 or 0.3 because we are just not hearing the

news? So how good is your reporting culture is a pretty key issue. We actually track that. In my space, I explicitly track that. I look at all the reports that come in from all the different areas of the business and then myself and my team will look at those and go, “Is that a process safety report or is it something else?”, and we kind of figure out our average of process safety reports compared with the total population reports. We are currently running in the order of 20 to 25 per cent of our reports are process safety related. That has been pretty steady. It is not going up and down. I have no idea if that is a good number or a bad number, but it is steady, which I think is good. I think it also speaks to the level of detail that the folks on the platform have got around this space. We are hearing things that tells me they are engaged, and of course are happy to report stuff. We report literally midge bites and other things. So, a loss of containment, which is, if you like, the ultimate test of process safety. In a loss of containment report, we would capture every single drip. Am I saying we see every single drip? Possibly not, but if the guys see a drip, they are going to report it, and then we can do a risk assessment and say, “Is that actually important or not?” Clearly, we then enter this issue of risk of a leak from a diesel tank that sat on a gravel pad somewhere is not the same as a leak of methane from a high-pressure gas circuit.

Mr P.C. TINLEY: Just extending that, then, do you have a discernible difference between the culture onshore and offshore as evidenced in the LTIs or anything like that?

Mr Leigh: No. Both are pretty good. I do not have any LTI data split between the two assets, so I cannot give you that data. My ratio of reporting data is pretty consistent. One asset is a little bit more than the other, but not in any material sense. I am never going to declare victory in this space. I always want the guys and girls to be telling me what is going on, because then we can do something about it.

Back to your original question around the Australian workforce, I would not observe any difference. I see plenty of evidence that I have engaged people from various countries in terms of working for ConocoPhillips—engaged in safety, the safety journey, safety experience.

Mr F.M. LOGAN: Has ConocoPhillips experienced any serious incident on any of its facilities that may involve trauma to anybody, and what is the process when that occurs; and if, of course, ConocoPhillips has not experienced that, if it did occur, what would happen? Do you immediately evacuate the person or persons to Timor, and do they have the facilities, or do you take them to Timor and then fly them back to Darwin? What is the established practice?

Mr Leigh: On the one hand, we could best deal with the specifics of the specific incident in a written response. We have that data, so we can tell you that. The general principle is to get the injured person to the best possible care as quickly as possible. In the context of the JPDA, we would evacuate someone to Darwin preferentially, and we have the ability to do that. We can fly helicopters directly to the JPDA and back out. That would be our preference. Yes, we have had some trauma to individuals, and we will need to get a written response from our safety stance. I do not recall any injuries offshore of that magnitude. There have been some medical cases. Again, for the same reason, we will get them to the best care we can get them to. We have had some lost work day cases at our LNG plant which, again, require them to be triaged and taken to Darwin hospital, and one gentleman came to Perth, and that was more appropriate for his healthcare. It is important when someone has been injured to get them back to their family as quickly as possible so the family can visit, and there is obviously a whole process of care issue there. The basic principle is to get them to the point of safety and the best healthcare as quick as you can.

In the context of your inquiring around that remote offshore production operation, I do not know if you are familiar with the *Mumbai High* disaster. What is interesting is the amount of risk management. It involved somebody on the *Mumbai High*, I think as a deck crew, maybe somebody in the galley, but someone on a standby boat. Again, this is a matter of record; you could find the specifics. The gentleman concerned cut his finger, essentially. Consistent with getting him to a good place of safety, the operating company folks—not ConocoPhillips; it was in the Indian sector—said,

“Let’s get him onto the platform, where there’s better medical care”, because he was on a standby boat. It seemed reasonable. What they had not considered was the risk of doing that lift with a crane from the boat to the platform, and the weather conditions that pertained at the time, and what happened is that the boat hit one of the risers, and now you have a bad situation gone horribly worse. There were multiple fatalities. I think the field was completely destroyed. It was just a horrible event. That is an example where you have got to think this stuff through. As I mentioned earlier to you, keeping the plant running might be the safest option. Sometimes the obvious solution is not the right answer. That talks to why you have to have a robust safety culture where people throughout the organisation understand some of this, so you make good decisions, basically. That is just a little anecdote, story, around how you think one thing is obvious but it might not be the right answer.

[1.40 pm]

The CHAIR: If you wanted to talk comparatively of the north west coast of Western Australia against other areas where there are busy oilfields, where do our cyclones stand in relation to what you get, say, in the Gulf of Mexico or other places?

Mr Leigh: Clearly the Gulf of Mexico is a hurricane-prone zone.

The CHAIR: Is a hurricane the same as our cyclones?

Mr Leigh: Hurricanes are typically worse, I believe. Again, I am not a meteorologist. You would have to do your own research on that. My understanding of it is that hurricanes are the northern hemisphere equivalent of a tropical depression. In the southern hemisphere, it is a cyclone. They take opposite directions, obviously. I understand that cyclones are statistically not as severe as hurricanes. That is one point. The other thing I think I understand from the Timor Sea is that it is somewhat less predictable. We talked earlier about the timing of the warning horizon; the evacuation. What has happened in the past is we get a four or five-day heads-up but they inevitably go somewhere else. As you know from the storm tracking, you will see the likely path of the storm and they can do strange things at the last minute. The Gulf of Mexico is a classic hurricane zone. I know that the platforms there get de-manned and shut, and then they fly back afterwards and put them back together again and start back up. I am not familiar with cyclone frequencies in WA.

The CHAIR: That is something we can chase up. The Bureau of Met is coming to talk to us.

Mr Leigh: You could perhaps ask us a question, if you wanted to hear our Gulf of Mexico expertise, around hurricane management.

The CHAIR: You are an operator in the Gulf of Mexico.

Mr Leigh: We have the Magnolia platform. We used to operate a lot of Gulf of Mexico properties, but like many of the larger oil companies, we have tended to divest a lot of those assets. There are other companies that operate many of those; some of them are probably operators here. But you would need to check your listing of the operating companies you have got and see if they operate in the GOM. Certainly we have some operations in the GOM. We can give you some perspective on that.

Mr F.M. LOGAN: Just on the Bureau of Meteorology information and ConocoPhillips, and the issue of timing, because it is all about facilities having enough time to make decisions that are rational and in accordance with safety procedures. We have some verbal submissions so far that the industry is also looking at improving the data they currently get. Would that be the same position as ConocoPhillips—are you satisfied with the data that you currently get on cyclone activity or could it be improved?

Mr Leigh: Again, we would have to get back to you on that with a specific written answer. I am not familiar with the details. I know we have a contract with BOM. We get data from them into our

safety system, but in terms of improvements, we would have to get back to you with a written answer on that.

Mr F.M. LOGAN: That would be good, because there have been verbal submissions from others with different points of view.

Mr Leigh: Yes.

Mr F.M. LOGAN: Can I just ask about responses to serious incidents, for example, the Montara incident which was in the area, not in the JPDA area but close to Darwin, and the failure of authorities to be able to respond properly to the Montara incident. Have you any comments about Australian authorities' capacity to respond to severe incidents on your facilities or facilities generally in the industry, given the remoteness of the location of those facilities?

Mr Leigh: I think we covered that in the written response that we sent to you earlier. In terms of our response system, we have a pretty well developed system which we are very comfortable with. We drill that all the time. We have probably state-of-the-art or certainly a leading-edge response centre down at our Cambridge Street office. We have people trained up to deal with all that. Part of that of course is to reach out and work with regulators and government authorities to provide support if something really, really bad has happened. We have collaborative agreements with other operators in the area. I do not believe there is anything specific that is lacking in that space.

Mr F.M. LOGAN: I will give you an example. In the jurisdiction of Western Australia—obviously you operate in international waters and off the Territory as well—the authority that is responsible for search and rescue, someone going over the side, is the Western Australia Police force. There is no way the Western Australia Police force can organise search and rescue, or has the capacity for search and rescue, two and a half hours off the coast of Broome or the Kimberley. They just do not have those facilities. Industry is looking at jointly funding a search and rescue helicopter, but there is more to it than just a helicopter. There are all sorts of other support mechanisms that go along with it. Normally that falls back on the land-based jurisdiction, in which case it would be the Western Australian government. I do not personally know what happens in the Northern Territory. It will be interesting to know what you have got to say about that.

Mr Leigh: The first response to man overboard, for example, would be your stand-by vessels and things you have in the field. I guess implied by your question earlier, the more operations there are in an area, in this context the safer it gets. You have got more assets you could mobilise; more stand-by vessels, more supply vessels going in and out. There are actually more helicopters in the area and so on. The first response to somebody getting in the water is essentially local help. Ideally, your stand-by vessel and then potentially other assets as well. In terms of the adequacy of onshore support, the coordination of that, again I would not be able to respond to it in detail. I am not familiar with how that works.

The CHAIR: How far off the coast of Darwin are you?

Mr Leigh: The JPDA pipeline is about 550 kilometres. So that is a fair old hike.

The CHAIR: You have got choppers that can go from Darwin to —

Mr Leigh: Can do—not by routine. We do not do it routinely, but we can if we have to. We refuel them there. The extended range choppers have big extra fuel tanks in them. It can be done. But preferentially, aviation is through Dili and back out to JPDA.

The CHAIR: It is much closer to Dili than it is —

Mr Leigh: It is quite a bit closer, yes.

The CHAIR: Can you tell us exactly what facilities are in the Territory? What does the Territory government say should be on the coast for offshore facilities?

Mr Leigh: I cannot answer that question. The facilities we have offshore are in JPDA; they are not in Territory waters. We come under JPDA jurisdiction, which is from Dili. In terms of the specifics of Northern Territory requirements, again we would have to get back to you with the specifics.

Mr F.M. LOGAN: Mark, if you are getting back to us, can you also respond in terms of fire—if there was a severe incident involving fire as well?

[1.50 pm]

Mr Leigh: I can talk a little bit about that. Again, we can provide a formal written submission. It comes back to the inherent design issue. As part of your safety case, you have figured out what the hazards are that you are dealing with. A hazard is one axis of risk; the other is likelihood. Once you have figured that out, you then put in place a number of defences to mitigate that bad event. Clearly, for offshore installations, fire water supplies are pretty important, and there are a number of design solutions to get fire water onto the platform—typically, diesel-driven fire pumps with ring-main deluge systems that trigger automatically and also monitors that either are self-actuated automatic monitors and sometimes manual monitors as well. We can throw a lot of water onto the facility. In the event of an explosion and a fire, that is what you are going to use. Obviously, our design intent is not to get to that point; there are other defences that stop you getting there. If that is the case, then you have got fire water on board. Secondly, you would normally provide fire water systems on your stand-by vessels and on your supply vessels. Again, I go back to the point about the more stuff there is in the area, the safer things become, because you have got more marine assets with fire pumps that you can throw at your facilities if you need it.

Mr F.M. LOGAN: But steaming time from Dili —

Mr Leigh: It would be interesting to see a case that says we do not need any fire water; we will run a boat from Broome. I doubt that is going to be the case. I cannot conceive that anybody would suggest that as an answer. No; you are going to be providing your own fire water in the first instance and then potentially supply boats and stand-by vessels is the next line.

Mr P.C. TINLEY: Picking up on this congested place, which is increasingly becoming a part of the world, particularly on the northern coast, with FLNG, for example, we anticipate potentially as many as 10 of these behemoths off the coast in our lifetime. Conoco has an interest here obviously and with various projects. In that safety case now—I am talking about not just any specific project, but the area of interest—do you see potential problems with the amount of players on the ground. I know there is a good asset. I suppose the second part of the question is: is there something that the jurisdiction should be doing now to assist in making sure that the businesses are being able to run effectively?

Mr Leigh: I think we have said in our submission, and certainly I reiterate it here, that there is no technical reason why you cannot make FLNG safer than any other hydrocarbon business. It is fundamentally no different. They had to deal with all the problems and engineering issues that we briefly touched on earlier around floating or fixed and off-take options and pipeline requirements and all the other things that we have to wrestle with. I do not think there is anything specifically magic and different about it. It has to be addressed on its merits. But there is no reason why one or 10 give you any different issues for floating LNG compared with any other collection of hydrocarbon assets. You have got to think through, particularly from a legislative perspective, how that works. We believe that the safety case regime is the way to go. It has served industry well and, as I said earlier, the more players you have in the basin, you can leverage a lot of stuff. The threats would be clearly if all the companies said, “Good news; we want to do it all at the same time”, that would be a strain from the project management perspective. How many heavy-lift barges and construction sites have you got? Inevitably, you end up with a conveyor belt of opportunity that has to match the market conditions. But, in principle, there is no reason why it cannot be safer than anything else.

The CHAIR: We have come to the end of the road. I would like to thank you for your evidence before the committee today. A transcript of this hearing will be forwarded to you for correction of minor errors. Any such corrections must be made and the transcript returned within 10 days from the date of the letter attached to the transcript. If the transcript is not returned within this period, it will be deemed to be correct. New material cannot be added via these corrections and the sense of your evidence cannot be altered. Should you wish to provide additional information or elaborate on particular points, please include a supplementary submission for the committee's consideration when you return your corrected transcript of evidence. The staff will get back to you about those issues we were going to chase up with you.

Mr Leigh: Okay. I would like to thank you all very much for the opportunity to talk to you.

Hearing concluded at 1.54 pm
