# 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**
**WEDNESDAY, 12 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**

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**Hearing commenced at 9.27 am**

**Mr STUART SMITH**
**Chief Executive Officer, National Offshore Petroleum Safety and Environmental Management Authority, examined:**

**Mr GAVIN GUYAN**
**General Manager, Safety and Integrity, National Offshore Petroleum Safety and Environmental Management Authority, examined:**

**Mr CAMERON GREBE**
**General Manager, Environment, National Offshore Petroleum Safety and Environmental Management Authority, 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 West 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 here today. I am the Chair, Ian Blayney; this is the Deputy Chair, Hon Fran Logan; and the other members are Jan Norberger 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 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 contempt of 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 could provide the full title for the record.

Before we proceed to the inquiry's specific questions we have for you today, I need to ask you the following: Have you completed the "Details of Witness" form?

**The Witnesses**: Yes.

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

**The Witnesses**: Yes.

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

**The Witnesses**: Yes.

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

**Mr Smith**: I have just one.

**The CHAIR**: That is a first.

**Mr Smith**: Hopefully it is a straight forward one. In the event that we get a question from the media or something after we have given evidence, are we able to talk to them or should we not talk to them? I do not intend approaching the media.

**The CHAIR**: Today is a public hearing. The only point to make is that you are not in any way covered by parliamentary privilege.

[9.30 am]

**Mr F.M. LOGAN**: When you walk out the door.

**The CHAIR**: And that extends to the point that if they said to you out there, "Do you agree with what you said in there?" and you said yes, then suddenly everything you have said in here is out there and it is no longer covered by parliamentary privilege.

**Mr Smith**: Fine. I do not think there is anything that I would be saying in here that would be an issue outside anyway. Thanks.

**The CHAIR**: I would just like to say that I really appreciate the fact that under the new policies you have come along to see us. It is genuinely appreciated. Do you have an opening statement, Stuart?

**Mr Smith**: Not a formal opening statement. I just wanted to put on the record though that we are actually pleased to be here and contributing to this inquiry. We believe that NOPSEMA has substantial expertise and experience in these issues that we can contribute to the inquiry, so it is good to have this opportunity to say a few words. As some of you are aware, I have only been in the role of CEO for a matter of a few weeks, but both Gavin and Cam are very experienced in their areas—safety and environment—so we think that between the three of us we should be able to contribute a fair bit to the inquiry. Thanks for the opportunity.

**The CHAIR**: Thanks, it is appreciated.

**Mr F.M. LOGAN**: Thanks, Stuart, and everybody for coming along today, and it is appreciated that you have made this contribution to today' hearing. It is a pity NOPSEMA did not make that contribution to the previous inquiry, nevertheless this is a critically important one so thanks very much. Stuart, how does NOPSEMA see the Prelude facility? For example, does NOPSEMA see it as a vessel, ship, or barge facility? I have asked this question to a number of other operators as well. Are there any laws, particularly international maritime laws, that would not cover the *Prelude* where it would cover a ship at sea and therefore present a problem?

**Mr Smith**: I will have a go at answering that to start with and maybe others will jump in. In terms of the nature of the vessel, for us it does not really come down to whether it is a ship or a barge or whatever. Under our legislation, it is a facility and it is defined as such. Therefore, the regulations that we administer apply to it and that is really the extent of our interpretation of whether it constitutes a ship, vessel, barge or whatever. For us it is simply a facility and therefore we have responsibility over the administration of our regulations and legislation. Mr Guyan can probably answer —

**Mr Guyan**: Yes, if I may. That is the case but I will just elaborate a little bit. Our legislation, the OPGGS, defines a facility, and, in so doing, triggers all the rest of the requirements under the legislation that we administer in terms of the safety and integrity aspects—let us be clear. So the nature of the vessel or structure is not really the defining point. It is much more that it is a vessel or structure and it is engaged in this instance in the recovery of petroleum. Once you have that established, and that it is in NOPSEMA waters, commonwealth or state waters, where a power is being conferred, then it is a facility. That also has the effect—I think it may go to part of your question—of dis-applying the Navigation Act with respect to OHS matters. Once the vessel or structure is a facility for OHS legislation purposes, only the OPGGS legislation applies and the Navigation Act 2012 does not apply with respect to health and safety.

**Mr F.M. LOGAN**: I see, so whilst it is not an ocean-going vessel, it is not a propelled vessel, and you are viewing the facility as if it would be a platform or whatever. Other maritime laws that would apply to an ocean-going vessel would be exempt—would not apply—and those facilities would be exempt from those, is that correct?

**Mr Guyan**: With respect to health and safety matters, that is correct. What am I saying? There are a number of things that might be linked in and I am confident that at some point we may get to talking about standards and the like may arise, then the same standards that might be applied under other legislation can be applied within our legislation once you would give them to the other requirements, the safety case specifically. The aspect of what the nature of the vessel is when it is not a facility is clearly not a matter for our legislation, but other legislation would apply to that vessel or structure when it is not a facility.

**Mr F.M. LOGAN**: Okay.

**Mr Smith**: Would it be helpful if Mr Guyan gave you an example?

**Mr F.M. LOGAN**: Or pointed us in the right direction because obviously NOPSEMA is guided by your act and really can only operate within the act and the regulations of the act, and that is what you are looking at. Maritime law is outside your jurisdiction. It is basically also guiding the committee to where we would have that question answered, which I imagine would be from the Australian Maritime Safety Authority possibly.

**Mr Smith**: Yes, quite possibly.

**Mr Guyan**: Yes, I would suggest that that would be the case.

**Mr F.M. LOGAN**: I will leave it then.

**Mr J. NORBERGER**: Welcome gentlemen. Shell's Prelude facility is obviously steadily nearing completion and some of the committee were able to actually see it nearing completion in Geoje. I also read recently in the *Financial Review* that it remains on schedule and we are still looking at beginning operations in 2018. Before Prelude can begin operations however, a safety case will need to be assessed and accepted by NOPSEMA. I suppose there are three parts to my question: has NOPSEMA received Shell's Prelude safety case? How will NOPSEMA go about the task of assessing the Prelude safety case? Has NOPSEMA had any preliminary discussions with Shell in relation to the Prelude project?

**Mr Smith**: In answer to the first question, no we have not received a safety case yet. The second question was —

**Mr J. NORBERGER**: How will NOPSEMA go about assessing the safety case? Are you sending a team out onto the vessel or do you inspect it before it even comes into our waters?

**Mr Smith**: I will get Mr Guyan to answer that.

**Mr Guyan**: If I could just interrupt and go back a step in terms of a safety case, I understand your question to mean the operation of the facility safety case. Stuart is correct; we have not received any submission of such a safety case. We have, however, received and accepted a safety case that related to the Prelude facility, which addresses installation of subsea infrastructure, so pipe work manifolds and preparation for that type of equipment. We have received a safety case in relation to Prelude, but not for the operation of the facility. Sorry to interrupt you.

[9.40 am]

**Mr Smith**: I am happy to let Mr Guyan go on to explain how we would go about assessing it.

**Mr Guyan**: When we cover the basics of the safety case, if I may, there are three aspects to the safety case as defined within our regulations. They are a description of the facility, which is self-explanatory in terms of describing the plant and equipment that is on board the vessel, but within the facility description it also describes the activities to be undertaken at the facility. Those are the

obvious ones around processing the hydrocarbons that you would expect and understand, but it might also, for instance, address diving activities in relation to inspection; it might address other maintenance work or it might address aspects around helicopter operations that are clearly essential for crewing the vessel. The second section is a formal safety assessment and that goes to providing an identification of all the hazards and risks arising at the facility and the technical and other control measures that will be put in place to reduce those risks to as low as reasonably practicable. The third section of the safety case is the safety management system, which is self-explanatory and describes how the facility will be managed in the context of those risks. These three sections are defined within our regulations to the subordinate legislation to the act and the contents requirements provide more detail. For example, they go to emergency preparedness and to supporting safety studies and analysis. For example, a fire and explosion risk analysis and emergency and evacuation risk analysis are prescribed contents requirements for a safety case. Our assessment process is to assess the documentation received against the contents requirements of the regulations. The principal, but not the only, criteria for acceptance or rejection of the safety case is whether or not the safety case meets contents requirements of the regulations, which go to identifying the hazards and risks and a demonstration that those risks have been reduced to as low as is reasonably practicable.

**Mr F.M. LOGAN**: Can I just take you back to before the safety case, before the actual operational safety case lands on NOPSEMA's desk. At what stage does NOPSEMA become involved? Does NOPSEMA have input when an offshore operator has a new facility—I am not talking about Shell or Prelude here, it could be anybody—that involves new technology that the operator believes is completely safe. NOPSEMA may have questions about the risk factors associated with the technology, whether it is environmental, occupational health and safety or other safety factors. Does NOPSEMA let an operator build a facility and then say that it does not like a part of it and asks that it does it again or does NOPSEMA advise the operator?

**Mr Smith**: Is there any early engagement; and, if so, what is the nature of that early engagement?

**Mr F.M. LOGAN**: Yes, that is correct.

**Mr Smith**: I will refer to Mr Guyan.

**Mr Guyan**: There are a number of possible preliminary steps. If I address what has been described as the early engagement safety case process, that is probably worthwhile. To do that, it is worth addressing the regulations as they stand now, regardless of new technology or not. The process is designed around a design already being complete for a facility. It may or may not already be built; however, the design is available and, therefore, you can go some way down the road and look at the standards that have been or will be applied. For example, there is a requirement for a validation in relation to a safety case. I will correct myself: the regulations say that NOPSEMA may request a validation in relation to a facility. As a matter of policy, NOPSEMA will always request a validation in relation to a new facility. The definition of a "validation" is specified in the regs and it goes to standards that will protect the health and safety of personnel at the specific facility. However, it does not address any of the conceptual issues that might arise during consideration of different designs. That may be at the fundamental level of what type of facility should be used here and, having decided that, what should the layout be and what are the key factors—those types of things. It is difficult to get to that within the current regulations. It is an area that was identified a number of years back—I am trying to pin it down—and NOPSEMA had already raised this issue. It is addressed in others areas, I am sure you are aware. A mechanism was put in place whereby NOPSEMA could engage with an operator coming with a new technology facility in particular where NOPSEMA could provide advice to the proponent and have an exchange about the likely risks and the things that need to be considered in the design of the facility in the context of how these would need to be addressed in a safety case that could be accepted by NOPSEMA at some point in the future. Not a great deal is required in terms of change to the legislation, but some

changes to the legislation were made to facilitate that activity, in particular essentially a fee-for-service approach, because our functions are clearly defined in the act and we are not able to arbitrarily provide our services to external parties outside of our specific functions. So there was an amendment to the act to enable this particular function. Going forward to having enabled that, we have engaged in that process with more than one proponent, but certainly with Shell in connection with the Prelude facility. That goes back to certainly 2009. We did engage in that process with Shell in relation to Prelude whereby Shell provided us with submissions that were essentially safety-case submissions, but in the context that because the facility was not designed and was not complete and all the material that is required by the regulations to be within the safety case that could be accepted by NOPSEMA, it was always understood that the outcome would be an exchange of information identifying areas that would require work to be included in any future submission of a safety case, which has not yet been received.

**Mr J. NORBERGER**: When it comes time for NOPSEMA to review safety cases, be it Prelude or any kind of facility, as a broad snapshot what is the skillset of the people who do it? Does one person review an entire safety case or is it a team of 20 or 30 people? Do you have structural engineers and specialists? I ask that because from our research of organisations similar to NOPSEMA in other countries—Norway was one we visited and it prides itself on employing highly specialised oil and gas experts so its in-house experts go through the cases with a fine toothcomb.

[9.50 am]

**Mr Smith**: We certainly share that view. We think it is important that we have deep expertise within the organisation, but that is not to say that we just rely on our own expertise; if we are seeking input from others we need to be able to understand what they are saying at a technical level as well as a more superficial level. We see it as critical that we have and maintain a great depth of expertise, and we believe we have that. I will ask Mr Guyan to run through some of the expertise, particularly in the context of discussions and how we deal with discussions about safety cases.

**Mr Guyan**: The model is indeed the expert regulator model. It is almost essential in objective-based regulation. You need to understand the risks and what does as low as reasonably practicable look like. NOPSEMA, and NOPSA before it, has recruited as a matter of policy industry practitioners and experts first and foremost. Typically we have people with 20-plus years' experience in industry roles. They are almost without exception tertiary educated or with equivalent professional qualifications and then we go to an understanding of the legislation. So the technical expertise is paramount—it is primary. For example, we have 10 or 12 marine personnel who have experience as foreign-going masters, masters of FPSOs, chief engineers of tankers and FPSOs, naval architects and so on across the board. Ex-marine surveyors from DNV and AMSA, for example, are in that group. When you consider that in terms of producing vessel facilities—vessel facilities producing hydrocarbons—right now there are roughly a dozen in the regime. We have a very high ratio of expert inspectors versus the number of facilities that they need to look after. Similarly with process, structural and pipe work, we have the same approach—industry experience first and foremost, often at very senior levels. Within drilling we typically have drilling superintendents and manager level people who again have 20-plus years' experience and are tertiary educated. Absolutely that is the model.

**Mr Smith**: The government has given exemptions in regard for recruitment so that we can pay the sort of money required to attract the right expertise.

**Mr R.S. LOVE**: With FLNG tasks offshore, you have not really had prior experience in those types of facilities floating offshore. We have been told that it is somewhat unique, so I am assuming that is the case—maybe it is not.

**Mr Smith**: We would say that we have relevant expertise. We can go through that if you like.

**Mr R.S. LOVE**: From what I have heard about your engagement with Shell in particular in terms of *Prelude* is probably a little different from the impression I got speaking with people from Shell, not in evidence but in conversation. They indicated that they really had not had much feedback about what would be required and in their view were a bit in the dark about what NOPSEMA would make of much of the safety case when it finally came down. Were you completely misguided? What is the level of engagement? You have spoken generally about that but specifically what engagement have you had?

**Mr Guyan**: There are two aspects. In terms of in-house or experience, FLNG certainly as a concept is unique in some way but in others it certainly is not. LNG has been around a long time, FPSOs have been around a long time and in-house we have that expertise. In terms of LNG plant onshore, FPSO understanding and knowledge, marine knowledge and the combination of the two together, there are really only small elements of this that are actually new. However, in terms of our engagement, the process that we described as our early engagement safety-case process has gone on for a period of at least two years. We have received submissions in tranches on a mutually-agreed basis addressing different areas of the facility. I think there are four significant tranches. In terms of our assessment and providing feedback, we have provided questions on technical issues that run to of the order of 180 issues that have been exchanged in writing—this is the issue; how are you going to address that?—with varying degrees of responses taking into account the nature of the submission as I was describing earlier. So we have addressed a number of issues, some of which have been resolved, some of which were parked for further study and analysis, but all of which have been identified for inclusion in the future safety case. I suggest that the engagement has been substantial and documented.

**The CHAIR**: What has been the role of Lloyd's Register? I understand it has been involved in reviewing the safety case. Can you tell us about the process Lloyd's used to assess the facility, considering the innovation involved, and advise us of any findings? What is the status of Lloyd's report? Is that a document that the committee would be allowed to see or is it a confidential document?

**Mr Guyan**: I am aware that Shell is using Lloyd's Register as a prospective validator in the nature of the safety case, however, NOPSEMA and Lloyd's have not had any interaction. Lloyd's has no role in assessing the safety case in the context of NOPSEMA. What Shell has used Lloyd's for is Shell's business. As I say, I am aware that Shell has used and perhaps intends to use Lloyd's as a validator, but that is a commercial matter. They are at liberty to choose a validator that is independent and competent—the regulations require that—but beyond that they are free to choose a suitable validator with respect to the safety-case submission and, of course, that ties into some of the design aspects of the vessel itself. Lloyd's role with respect to the safety-case assessment within NOPSEMA is none. Let me add that we have had no report from Lloyd's in that respect.

**Mr F.M. LOGAN**: Earlier, Gavin referred to changes to the act that allow fee-for-service to be applied. Does NOPSEMA operate on a full-cost recovery basis for the work that it does? I am just picking up what Gavin said. Does the act allow for charging for fee for service in specific areas or is it across the board?

**Mr Smith**: NOPSEMA is fully cost recovered. It operates on a full-cost recovery model and does not receive funding from government, for instance. We operate primarily with a levy system, which applies to industry. There is capacity in the legislation to apply a fee-for-service for some specific services, including if it happens to be from a government entity as well as from an industry entity, but they are for specific services. I can ask Mr Guyan to elaborate on the levy model and the fee for service if you want more detail.

**Mr F.M. LOGAN**: No, I think it is quite similar to the state mining legislation.

**Mr Smith**: It is similar, but not identical.

**Mr F.M. LOGAN**: In terms of the fee-for-service basis, as the new director general, are you quite happy with the independence of NOPSEMA charging a fee for service—forget the levy because the levy is a standard across the board and does not impact on decision making by NOPSEMA—and are you happy that there is no possibility of a conflict of interest in charging a fee for service for particular advice or assessment in those cases?

[10.00 am]

**Mr Smith**: In terms of fee for service, it is very early days for me, so I have not looked at any specific examples yet. It is an issue that I would consider. At the moment, my consideration is limited to the reviews that have been conducted and they have been substantial in regard to NOPSEMA. We have a triennial review but in the last 12 months or so, we have had a very major review by the Australian National Audit Office. I have a lot of confidence coming out of the number and detail of these independent reviews that there are not issues in regard to conflicts of interest arising from fee-for-service arrangements. That is the level of investigation I have gone to at the moment. I will look at it further. We have another review coming up in the first half of next year. If there are any concerns in that regard, I expect they will be raised and looked at. If I have concerns, I will be raising it with them as well.

**Mr J. NORBERGER**: Thank you. We hear through our inquiries that the term "as low as reasonably practical" or ALARP, is used obviously fairly regularly by operators and by NOPSEMA as well. How would NOPSEMA assess a claim that some particular strategy has reduced risk to the ALARP level?

**Mr Smith**: I will hand that one to Mr Guyan as well.

**Mr Guyan**: There is a number of methods to demonstrate that risks have been reduced to as low as reasonably practicable. They are well documented. They involve qualitative assessment of the risk or quantitative assessment of the risk. They are the two principal aspects of it, and then reducing that risk down to a level where any further reduction would require a grossly disproportionate expenditure of resources to achieve that matched increment of reduction. That is the principle of it; that is the essence of it.

The starting point is relatively easy. It is assessing the credible risks that exist and then considering the likelihood and the feasible controls, starting with elimination—can you eliminate the risk altogether?—and moving down through engineering controls to the administrative and procedural controls. That is a process that is well established within, not just this industry, but others. The follow-on questions become what is grossly disproportionate in relation to any risk reduction and that becomes a matter of what actually is feasible and at what stage in the life of the facility. It is one of the aspects around being able to contemplate the risks before a facility has been not only designed but built and at location ready to operate. Any changes that you might want to consider at that stage will be much more expensive than if you had considered them at the design stage. That is the nature of the design notification process that our department is pursuing.

**Mr J. NORBERGER**: Thank you. I have a question for Cameron just so that you do not miss out. I am feeling for you; I am sitting there going, "Come on, I brought a big folder and everything!" Are environmental risks managed also to the ALARP standard or are there different standards for environmental risks?

**Mr Grebe**: No; it is the same. The ALARP principle is embodied in our regulations in a similar fashion, obviously, related to environmental risk versus risk to people at facilities. Environment extends to include social and economic features of the environment in our legislation. There are additional decision-making criteria that include also to-acceptable levels. That is due to the nature of environmental impacts and risks versus safety risks.

**Mr F.M. LOGAN**: How would ALARP then be determined in law? How would a judge go about interpreting the definition of ALARP?

**The CHAIR**: I do not think anyone here is a lawyer.

**Mr Grebe**: No; I am not.

**Mr F.M. LOGAN**: Nevertheless, it is your regulation and you have to apply it.

**Mr Smith**: Mr Guyan might have a go based on the decisions from courts.

**Mr Guyan**: I do not want to offer a specific example, but I am sure we could, with notice. But certainly there was a case where the court had determined that to put in place a particular control, whether procedural or hardware, is reasonably practicable. There are a number of reasons we might conclude that. Typically, that control is already part of an industry code of practice. It is something that is well understood and in place in other areas or types of facilities and so on, so they will use that as a benchmark. Clearly, it is not particularly useful if you do not have a direct comparison to form that view. Then the next stage, I would suggest, would be to consider similar types of plant and equipment. There certainly have been cases in court where courts have decided that a control is reasonably practicable on the basis that it has been done elsewhere.

**Mr R.S. LOVE**: Over the time that NOPSEMA has been operating and will continue to operate, how do you see your role in lifting safety standards? Is there a role for you to include standards of safety for the industry and how do you share some of the knowledge without breaching propriety interests?

**Mr Smith**: I might get Mr Guyan to answer in terms of the safety case. In the meantime, I will come back in regard to the more general compliance approach that we have.

**Mr Guyan**: Certainly. Safety case itself certainly does drive continuous improvement within itself. It needs to be a mechanism to continuously review the risks. Going back to our discussion on ALARP, ALARP is a moveable criterion. What was ALARP 20 years ago, may no longer be ALARP. Simply new technology, new processes become available; what is now reasonably practicable has moved. Safety case does drive that in a number of areas, including through a revision over a period of time or a revision being required by regulations over time or due to improvement in knowledge and information. That is contained within the regulations, so it does drive that. In terms of how we may contribute to that, there are a number of areas that might arise through our compliance monitoring activities, conducting inspections at facilities where we will identify a particular issue or a particular interpretation that can be a challenge. A particularly pertinent one perhaps is around lifeboats. There are a lot of issues with lifeboats and, of course, standards within lifeboats are addressed in the marine environment. However, the circumstances of deploying a lifeboat in relation to a petroleum facility may be quite different from a vessel that is travelling from A to B on a voyage. That is something that we have addressed and particularly became readily apparent following Montara. Since the Montara incident, we have progressively conducted a campaign of educating, influencing, persuading and, ultimately, enforcing industry to raise standards in relation to lifeboats on vessels that are working in relation to production facilities, for example.

**Mr Smith**: Just to elaborate, Mr Guyan has talked about monitoring enforcements. Our legislation gives us a broader role than just monitoring and enforcement. We have a broader compliance role, as Mr Guyan mentioned, regarding safety and environment. Our functions include promoting safety and integrity with facilities and awareness of those sorts of issues. Likewise on the environment side, our function includes a role for us in advising industry and stakeholders on that function. We see us having a role beyond just working with the companies themselves but more broadly. It is not confined to just when a safety case is submitted to us and working with that particular company.

[10.10 am]

**The CHAIR**: In light of the fact that Shell intends to begin operating *Prelude* in 2018, have you undertaken some preliminary work to familiarise yourselves with what you see as risks that are

specific to this facility? Following on from that, how do you envisage inspecting it, because it is an innovation?

**Mr Smith**: You are looking primarily from the safety and integrity of the site, so I will get Mr Guyan to answer it.

**Mr Guyan**: Our starting point in compliance monitoring and how we will conduct our inspections is based on the safety case that has been submitted and accepted, which I covered earlier and needs to address all the hazards, risks and controls that will be present at the facility. By the time the safety case has been accepted and the facility is in situ at location, we will be familiar in detail with that specific facility and the risks and controls at that facility. From that, we will—now I am talking procedurally—as with any facility, inspect the effectiveness of the risk controls in relation to the major accident events first and foremost in relation to that facility. We will do that on a sampled and systemic basis. We will look at the integrity of the structure; we will look at the maintenance system; we will look at the emergency shutdown and blowdown systems and general control systems relating to each of the major accident events. By the time we have an accepted safety case, we will know the details in relation to that particular facility. We are already aware of the risks that will be at that facility. The majority of those risks are likely to be the same risks that are present at other producing facilities at FPSOs in particular—broadly, the same category of risk. There are some new risks in relation to an FLNG facility; there is no question of that. The nature of those and the controls have yet to be detailed. When they are detailed, assuming of course that we have accepted a safety case for the operation, we will base our inspection around major accident events and their risk controls. We will do that, of course, by going to the facility but going to the facility is one portion. Of course, it is a very significant portion of the inspection but before we step on board the facility, the inspectors conducting that inspection will have thoroughly prepared what they are going to inspect, test and verify in relation to particular major accident events based on what has been defined in the safety case because the safety case is a legally binding commitment on the operator. So, they will have done that preparation, identified the controls they want to test. They will have done some of that testing and verification office-based, then they will travel to the facility. Typically, a facility inspection will last two to three full days with a team of a minimum of two inspectors, so it is quite intense. It is focused on particular major accident prevention controls. That is the process we use. All of that is under our powers, of course. We have the power to conduct such inspections and require information to be provided as necessary and the operator must provide all necessary assistance to get us out to the facility.

**Mr F.M. LOGAN**: Following on with the explanation of the safety case and the inspections, do safety cases also cover evacuation procedures not just from the facility itself but from the facility to the nearest point, including the infrastructure that may be at that nearest point to an offshore facility, whether it be by helicopter evacuation, search and rescue if someone falls over the side and the capacity of medical facilities to deal with a severe incident with multiple casualties?

**Mr Guyan**: The short answer is yes. The regulations define safety case content and they specifically include a requirement to address emergency evacuation. They address emergency preparedness and they also address medical facilities. The safety case must address all the things you have described.

**Mr F.M. LOGAN**: Offshore and onshore?

**Mr Guyan**: What is required is a plan and the plan must address these areas. It does not specifically say they must describe onshore management but the plan must describe how an emergency at the facility will be managed, and a range of options needs to be addressed. The regs are specific on that. It does address total evacuation of the facility and also addresses individual cases or multiple casualties and how these will be dealt with at the facility. There is a specific requirement that there must be a plan to address these types of things.

**Mr Smith**: It gives us the capability to look at the sorts of things you are talking about as part of the safety case. Whether those things are relevant or not or are a significant risk or not will depend on the individual facility and circumstances but, yes, we have the capacity to look at those under our regulations.

**Mr F.M. LOGAN**: In that assessment—I am not asking you for an opinion, Stuart—of onshore capability, particularly in light of Montara, and I broaden that out to include the environmental consequences of Montara as well, would NOPSEMA share with the committee any assessment it has over the capacity of onshore facilities to cope with a significant incident offshore; for example, firefighting, helicopter capacity, search and rescue and hospital bases, should there be multiple casualties; and, also, of course, the environmental capability as we saw with Montara?

**Mr Smith**: Are you talking about *Prelude*?

**Mr F.M. LOGAN**: No; I am talking about industry generally.

**Mr Smith**: I will get Mr Guyan to respond.

**Mr F.M. LOGAN**: If you do have an assessment you could share with the committee, we would certainly love to hear it. It does not have to be now; it could be in writing.

**Mr Guyan**: This does go to the emergency response plan that needs to be described within the safety case. The resources need to be available, of course, to implement such a plan. We can, and often do, inspect against that control. We view that as being a mitigation measure. It is after the fact of whatever the event is to mitigate any further harm to people, so we can test against that control, and often do. I am not sure if you are going to onshore resources in terms of hospital capability, but the safety case in general and in this area in particular, requires that there be performance standards in relation to safety controls. For example, a performance standard might specify a particular time to get a casualty to an appropriate level of medical care. It might specify time to recover a man overboard, so once a fast rescue craft has recovered them and has them in the medical facilities. The performance standards are key to the effectiveness of all of the controls. Those are specified, so on a facility-by-facility basis, of course, that changes. Each has its application and are very effective, so there are a number of ways that these can be tested and assessed. That is probably as much as I can offer now.

[10.20 am]

**Mr Smith**: The arrangements are very similar for environment, and I can get Mr Grebe to run through some of it if that would —

**The CHAIR**: I think we might do that by letter if we may.

**Mr F.M. LOGAN**: And if you can also tell the committee if there are any state–federal arrangements in place with respect to both environmental responses and also the other emergency responses particularly for significant incidents.

**Mr Smith**: State–federal in terms of collaboration?

**Mr F.M. LOGAN**: Yes. If there are formal or informal agreements could you advise us on that?

**Mr Smith**: Yes.

**Mr R.S. LOVE**: I did ask a question before about proprietary interest of companies in the industry that might have developed a system that has raised the expectation of what is an ALARP level. I am just curious to know what you do if you come into the possession or knowledge of an improved safety feature or standard that has come about from the development by or at the expense of a particular organisation? How do you treat that because you now know that there is a better way of doing things? Do you mandate to someone that they have to find a way to replicate that level of security without indicating that they can find that information, or how does the intellectual

property—I suppose—of companies exist in a field like this continuing public exposure of improved standards?

**Mr Smith**: I will get Mr Guyan to say a few word in a moment but I will have a crack at answering it first. We would not specify to a company that you have to apply these arrangements that another company has applied in their safety case. We will, however, participate in public forums. Recently, Cameron and I participated in a dialogue on decommissioning, for instance. So there are public forums in which we can exchange ideas with industry and other stakeholders, so that is partly about raising the awareness of different approaches. We will not say, "This is the threshold and if you are over it, you are fine, but if you are below it you are not." That is not how we operate, but we can talk about different approaches that could be applied and maybe worth considering. There is also interchange within the industry. People move from one company to another. There is the industry body in APPEA and you tend to find that that source of exchange assists in knowledge transfer throughout the industry, but Mr Guyan can probably go into more detail on specifics with regard to safety cases.

**Mr Guyan**: Certainly, there are a number of sources of information that we might well recognise as improvements that could be made to an operator's system. Our primary approach to dealing with that is through our inspection process where upon recognising that operator A has not taken advantage of the process of technology or system that we are aware of or that we have seen in relation to operator B, that does not prevent us from making a recommendation. With the circumstances of proprietary technology as such, we tend not to get to that because we will not say, "Drive a Holden." We will say, "There may be a better way to do this, have you considered this type of approach?" It depends on the nature of the issue but certainly part of our role in driving and promoting improvement is to facilitate that transfer of information, and our principal mechanism is by recommendations in inspections where we will recommend that, "Yes, what you have got is in line with what you have committed to in the safety case. However, you may wish to consider this" and we will provide an explanation that will allow—recognising of course that we are in a mature and professional industry in this context—provide enough information for the proponent to understand the issue. We will rarely, in terms of new technology, mandate it because if it is brand-new it is likely to have been something that is in a new facility and not necessarily transferrable to an existing or old technology facility. However, there are a number of areas where, as technology moves on with or without industry closures back to source standards, we will raise an issue for existing older facilities—it is the managing ageing assets aspect of the business—where we will recommend and/or require an operator to consider a particular new risk that has been revealed, often tragically through accidents elsewhere in the world, that relate to that facility.

**The CHAIR**: We have got time for one last question so we will see how we go with this one.

**Mr F.M. LOGAN**: And that goes to what Gavin has just been talking about Stuart and that is, how does NOPSEMA go about its role of conducting inspections while its monitoring; what occurs during that NOPSEMA inspection; and what is the normal time period between inspections?

**Mr Smith**: Do you mean the time for an inspection, like two or three days, or how regularly the inspections are carried out?

**Mr F.M. LOGAN**: How regularly you do the inspections.

**Mr Guyan**: As a matter of policy, we will inspect manned facilities twice a year that are continually in the regime of course. There are vessels that come and go, but anything that is here continuously manned, we will inspect twice a year. Additionally, if circumstances arise, and typically by that I mean that there has been an incident that we will investigate that does not need to be a catastrophic event of course. It depends on the issue. We may investigate on the basis of potential, so there has been no injury, however there might have been under other circumstances. We will conduct an investigation, which is essentially an inspection using similar powers and focusing on that particular event. I am actually talking about the category where it is unlikely that

we are considering a prosecution case. We look to see what the deficiencies were and what the lessons can be with the view to disseminating that information. I am not talking about a major event where we might be considering prosecution that is a larger scale investigation.

**Mr Smith**: With regard to that, Mr Guyan is talking about OH&S inspections, not environment inspections.

**The CHAIR**: I would like thank you for your evidence before the committee today. A transcript of this hearing will be forwarded to you for the 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 by 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.

I think we will probably have a few more questions. Is it okay if we just write to you with those?

**Mr Smith**: Happy to assist.

**The CHAIR**: Thank you very much for your time.

**Hearing concluded at 10.29 am**