

**ECONOMICS AND INDUSTRY  
STANDING COMMITTEE**

**INQUIRY INTO THE ECONOMIC IMPLICATIONS  
OF FLOATING LIQUEFIED NATURAL GAS OPERATIONS**

**TRANSCRIPT OF EVIDENCE  
TAKEN AT PERTH  
MONDAY, 21 OCTOBER 2013**

**SESSION FOUR**

**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 2.01 pm****Ms NATALIE WALLACE****Manager, Commercial WA and NT, Santos Ltd, examined:****Mr JOHN HUGH ANDERSON,****Vice-President WA and NT, Santos Ltd, examined:****Mrs JOANNE FLOWERDEW,****Project Services Team Leader, Santos Ltd, examined:**

**The CHAIR:** On behalf of the Economics and Industry Standing Committee, I would like to thank you for your appearances before us today. The purpose of this hearing is to assist the committee in gathering evidence for its inquiry into the economic implications of FLNG. 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. I am Ian Blayney, the Chair and member for Geraldton; next to me is Hon Fran Logan, who is the Deputy Chair of the committee; and we have Jan Norberger and Peter Tinley, who are our other two members here today. 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 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'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" 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?

**The Witnesses:** No.

**The CHAIR:** Would you please state the capacity in which you appear before the committee today?

**Ms Wallace:** I am the manager of the commercial team for Western Australia and the Northern Territory for Santos.

**Mr Anderson:** I am the vice-president for Western Australia and the Northern Territory for Santos.

**Mrs Flowerdew:** I am the project services team leader for the projects group within the WA-NT business unit of Santos.

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**The CHAIR:** Do you have a short statement to make to the committee?

**Mr Anderson:** Just a very short statement, Mr Chairman, thank you. We are delighted to be here today and, hopefully, to provide you some assistance in your inquiry into floating LNG. My colleagues are Natalie Wallace and Jo Flowerdew, whom you have heard. We are here today representing Santos, a major Australian oil and gas company. While Santos has its origins in the Cooper Basin—and that is about 60 years ago—our presence here in the west is significant and we remain committed to this state, and certainly for the very long term. In fact, on the gas side of our business, Santos produces exclusively for the domestic market here in Western Australia. We have large interests in John Brookes, Spar and Reindeer domestic gas fields in the Carnarvon Basin, as well as in two of the state's four domestic gas hubs, those being the Devil Creek gas hub and also Varanus Island. But we are also keenly looking to grow our business here in Western Australia, and our current, ongoing exploration program reflects that commitment. Like GDF SUEZ, whom you heard from earlier, we have provided a written submission to the committee, and we hope we can help the committee this afternoon with its deliberations. Thank you.

**Mr F.M. LOGAN:** Yes, I think I might lead off again. It is the same question that I put to GDF just beforehand about what, if any, discussions were had possibly with Inpex to tie the Bonaparte field into their pipeline and bring the gas onshore for tolling in Darwin.

**Mr Anderson:** If I go back perhaps a little bit in time, we brought GDF SUEZ into the fields Petrel, Tern and Frigate back in 2009. Prior to that time, as one would expect, we were in discussions with a number of parties. I think it is fair that I not describe who those parties are, but they were a number of parties. A number of different concepts were being contemplated at that time. That did not come to anything. There was an earnest attempt to try and find a way to monetise those fields—those fields which you have heard and read about have been effectively stranded for such a long period of time. At the end of the day, GDF SUEZ were the only counterparty that came through. They came through; they had a clear vision in mind to try and progress those fields to floating LNG. In a sense, that set us on that course. Whilst it was early days in the concept selection for those fields, the early course was to go floating, we having tried with other parties to look at other scenarios. Once you head down that course, you do start to get slightly locked in, but certainly part of the design concept is to look at other concepts, and other concepts we know have been looked at by the operator, and also with our urging. But so far it is the floating concept which has come to the top and is the one that is being pursued.

**Mr J. NORBERGER:** Thanks, John. Having had the opportunity to speak to GDF SUEZ, I suppose the Bonaparte field is a completely different composition compared with some of the other fields that the inquiry is looking into such as Browse and the like. I think it is a much smaller field that is well and truly stranded. But when you are looking at whether to use FLNG or not, what would be some of the limiting factors of FLNG? Under what circumstances would FLNG not really be the ideal technology choice?

**Mr Anderson:** I would perhaps turn it around the other way. If the fields were sufficiently large, then you would look at opportunities to monetise those fields through a land-based LNG.

**Mr J. NORBERGER:** Why is that?

**Mr Anderson:** You will screen different concepts. You would hope—you would like to think—that the land-based scenario would come through most economically, but it genuinely is horses for courses, and your concept selection process will quickly determine the merit order of development.

**Mr J. NORBERGER:** Sure, and what would be your definition of a large field in TCF or the like?

**Mr Anderson:** Again, if I can just add to that, it will depend. Take, for example, Darwin LNG, which we are in. I think in recent months there have been some public statements made by ConocoPhillips, which we have echoed, that Darwin LNG is open for business, and that is quite pertinent, because you can then have potentially the brownfields opportunity to bring gas in through

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Darwin. So when we look at concepts, there will be greenfield-based options, there will be brownfields-based options, let alone whether it is floating or whether it is bringing it back to shore. That full set of options should be looked at. But against all of those options you have to also ask yourself, and, indeed, even test: Are there opportunities to actually work with those participants? Are they open for business or are they not? In the case of Darwin, it is clearly open for business, so there is a very clear signal to other parties to also consider Darwin when they are looking at their own concepts.

[2.10 pm]

**Mr J. NORBERGER:** Would you suggest it is a fair statement that FLNG, under the right circumstances, provides a much smaller capex requirement upfront—that is, lower capital expenditure compared with a land based facility—but the offset is a high operating experience expense throughout the life?

**Mr Anderson:** Generally, that is probably correct. We know, even from our own FPSO experience in terms of operating costs, that offshore can still be high. In the main, that would be a true contention.

**Mr P.C. TINLEY:** In the relationship with GDF Suez and Santos, you are a junior partner—by definition a 60–40 partner. What role do you have in the decision making in any of the businesses, I suppose, including and up to FID?

**Mr Anderson:** It is a partnership. You try to influence and to have a seat at the table. There are often very candid conversations around what is working and what is not. But all companies in the main tend to work to a very logical set of processes. Often a partner—if it is an operator partner driving towards—has real logic behind it. In the main, you would be coming behind them and saying, “We agree entirely with that decision.”

**Mr P.C. TINLEY:** In relation to local content—for example, to benefit the people of Western Australia—have you had any preconditions in the relationship with GDF about how this resource is going to be exploited?

**Mr Anderson:** I would not call it “preconditions”. Would I say that we, as an Australian partner, have had words to GDF around our expectations on Australian content? Yes. Has that been appropriately received by GDF Suez? Yes. They have international operations around the world. We know they are a quality partner and a quality operator, so it is an easy conversation when we point out what we feel as an Australian company to a company like GDF Suez.

**Mr F.M. LOGAN:** I was looking at the Santos submission. This follows on from what Peter was talking about with local content and the history of Santos’s involvement in the Fletcher Finucane project and the way in which Santos approached the local content for that project, which was very good in terms of the way in which the invitation to tender documentation was included as part of the whole process. I notice your submission also refers to your involvement in the Devil Creek project. I remember complaining bitterly to Apache that it was great that Devil Creek was going ahead, but so much of that was brought in from overseas and Apache did not do a lot of the work in Western Australia. What specific steps would Santos take in this project to maximise local content, given the big steps that it took in the Fletcher Finucane project to attempt to maximise local content? What steps would you take with the Bonaparte field?

**Mr Anderson:** Once again, as you know, we are not the operator of Bonaparte LNG, but we do seek to have some influence and some input. As I said, it is fair to say that beyond the generalities we have also shared our experiences. It is fair to say that GDF will have its own experiences with how it addresses local content. I will hand over to Jo in terms of how we have shared our experience from Fletcher Finucane and other projects.

**Mrs Flowerdew:** On our involvement from the project team side, which is where we execute a lot of the projects, we have a couple of people within their team providing support. We also have what

we call a contracts committee. I go on a regular basis to attend meetings where we will go through and comment on processes that they are following, in particular, with things like local content. We have shared a lot of our documentation, in particular, with the Fletcher Finucane project being the project we recently executed. We shared with them how we went about setting up our contracting strategies and making sure that weightings are included when we do the evaluations so that the local content is considered during all the processes.

**Mr P.C. TINLEY:** What do you mean by “weighting”?

**Mrs Flowerdew:** When we evaluate a tender, normally within Santos we would do it in three ways: commercial, technical and contractual are the legal terms. Depending on the scope we are looking at, we look at the complexities and things like that. We decide how we come up with an end result and we put weightings on the importance of different aspects of the work. By doing that, we can— firstly, when we send the ITT out, the scopes are written in a way, I guess, that they naturally favour Australian entities because we are writing a lot in there about standards and things that we are expecting; so local companies will often come out ahead when they do their submissions to them. Those sorts of things get weighted within what we get back from the tenderers. Local content is something that we put a weighting on so that they do get marks, if you want to call it that, for being a local supplier to us.

**Mr P.C. TINLEY:** If I can drill down a bit when you talk about standards and setting the scope of tender and so on. We have often seen in other projects where the standard—for example, it is specified that we use a type of steel, JIS—and immediately Australian manufacturers are up against it because they have to import Japanese standard steel and there is no interchangeable standard. Is that the sort of thing you are talking about?

**Mrs Flowerdew:** Yes; if there is an appropriate Australian standard, where we can within Santos, we will include what is required. Things like electrical come to mind because it is often an issue. I have seen it myself when we have imported before and we have to be very careful because other places around the world have different standards. I have been in situations where we have rewired whatever we have imported at the time. There are things like that where we have learnt along the way to be quite specific with the Australian standards, because the Australian standards are quite specific. When we come to commissioning, we cannot commission the plant if the Australian standards are not met.

**Mr P.C. TINLEY:** The Australian standards are often interchangeable—for example, the US welding standard.

**Mrs Flowerdew:** We would put “or similar equivalent”. It would have to meet or be better than minimum requirements in Australia.

**Mr P.C. TINLEY:** It is a systemic problem in trying to create a level playing field for Western Australian and Australian businesses, where the specifications in the scope of the project work against them. You sound like you have an approach and a history that is a little different.

**Mrs Flowerdew:** Yes.

**Mr F.M. LOGAN:** This is a question I asked Jean Francois from GDF. The answer I got, as you heard yourself because you were sitting there, related to the operational side of the FLNG facility. Again, it is laid out in your submission as well, which states that Perth is to become the centre of excellence for this FLNG technology. What do you mean by that?

**Mr J. NORBERGER:** What does that look like?

**Mr F.M. LOGAN:** Given that the design—regardless of which design you do—will be done in Paris, London or Houston and the whole ship will be fabricated at Daewoo or Samsung are we the centre of excellence for operations?

[2.20 pm]

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**Mr Anderson:** I think the first step is to actually bring companies like GDF Suez to Australia, so then coming into Bonaparte LNG—as it got branded after they arrived—was I think the key first step. We, in essence, chose Perth as the location for GDF Suez in terms of its E&P. As you are aware, it is involved in environmental services already, in international power, but in oil and gas it did not have a presence in Australia. We effectively said that this is where we want you to set up. I see that as the beginning of an excellence hub in terms of where that project may ultimately go. So, first of all, get the participants on the ground; we did that in the case of GDF SUEZ. I think a lot will follow from that. Whether they are Australians or French, or whether they are just general expatriates working on that project, they will clearly learn—by osmosis in some respects—a lot about a floating project by being based here in Perth. All of the subsurface workers on that project, all of the sub-sea workers on that project, and yes, secondees going overseas for sojourns into various contractor companies, they will bring a lot of expertise back. I think that as Australians we should be pretty proud that we are at the forefront of this breaking technology. I think we will see benefits that might appear to be slightly intangible now, but will be very real as the years tick by.

**Mr F.M. LOGAN:** It is interesting that you put it that way, John, because the committee is struggling to identify exactly what that set of wording means, and it has been repeated by most, if not all, upstream companies that have come before the committee or have put submissions in to the committee. Perth was a centre for LNG excellence not that long ago when we did all the design and engineering work for LNG here, which is now done in London. It is not as if we have not been at that point before. From the perspective of the state government and the future economic growth of Western Australia, we are trying to identify what are the benefits and elements of this statement about a “global centre for excellence”. As I pointed to out to Jean-Francois, subsea engineering could well be part of that excellence. What do you think?

**Mr Anderson:** I think we are still a centre for LNG excellence today. At Santos, if I look at our operated project on Curtis Island, I know that a lot of the individuals that we will bring in to do peer reviews and participate in various workshops and other governance aspects, will be people out of Perth because of that LNG experience that is now embedded in Western Australia. If we look at the FPSO experience that has been generated in Western Australia, a lot of that expertise is here. I think that over time you will see individuals sitting here who will be tapped on the shoulder because they have clear expertise to bring to future projects. I think it will be real. Obviously, we will not see for many years, the stay-in business maintenance and capital that will be critical for these projects; a lot of that you would expect to be serviced out of Western Australia.

**Mr P.C. TINLEY:** Just to follow on from that, so it is reverse engineering, if you will pardon my use of words. With all your experience—this would be your opinion more than anything related to Santos, but you have been around the game for a while—what do you think Western Australia could do that we are not doing to be better and take better advantage? I am not just talking about government, which would be part of a solution, but the totality of both industry and government to really take great advantage of this once-in-a-lifetime opportunity?

**Mr Anderson:** I hope it is not a once-in-a-lifetime opportunity; I hope it is ongoing. We should not underestimate the amount of investment that has gone on. Just even in land-based LNG projects, let alone the brownfields opportunities that I earnestly hope will come on in the future, whether it is Pluto, the five trains of the North West Shelf, Wheatstone or the Ichthys project and even Darwin LNG—I know they are in the Northern Territory—an enormous amount of investment has been made in Western Australia, and therefore there is an enormous amount of trapped expertise here. I hope it is not a once-off opportunity and I think we should hopefully see rolling years of new investment in LNG. I see floating LNG as just one component of the broader picture. Hopefully, we will see even more land-based projects. Greenfields are still a challenge, but I think the next wave will hopefully be brownfields investment.

**Mr P.C. TINLEY:** So what can we be doing better that we are not doing now?

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**Mr Anderson:** I do not think there is anything in particular. We have challenges at the moment that are often spoken of, the key challenge being cost. Will we see some of the costs get extracted? I think that is important. In our submission, we pointed out some Wood Mackenzie data on the challenges that we have in terms of our Australian costs for greenfields projects versus what we are seeing overseas. We are in a hell of a competitive race at the moment to supply Asia, and the big question that we have is: will we be part of the next wave of LNG projects?

**Mr P.C. TINLEY:** Do you see time to market as being an essential component to the commerciality of it?

**Mr Anderson:** Yes. I do not think other countries are going to stand still; they will push forward as fast as they can. But I do see brownfields as being a particularly important component through this next phase for Australia and certainly for Western Australia.

**Mr P.C. TINLEY:** In workforce planning terms—I know it is a bit early yet, but you have wider experience—can you predict, or are you satisfied, that the skills development pathways are robust to take advantage of it?

**Mr Anderson:** We talk about the new embedded infrastructure, if you like; they are all the new LNG facilities that are being built now. But we also have embedded human infrastructure—all the people—whether that is in the E&P companies, whether that is in the contractor houses, whether that is also sitting in the universities. Hopefully, I think you have got that wave of people poised to work on the next set of projects. The worst thing would be to see people up and leave because there is a lack of projects to be involved in going forward.

**Mr P.C. TINLEY:** Or the reverse, being brought in as a skilled migration program when young Western Australians should have been educated now for 10 years from now.

**Mr J. NORBERGER:** John, if I may ask, obviously whilst FLNG is a new technology, is not being advocated purely by one company. Obviously a number of fairly large global companies are developing their version of FLNG. That included GDF SUEZ, we know ConocoPhillips is looking at its own technology, and obviously Shell as well; there are multiple companies doing it. Currently, there are none in operation around the world. Of those that are coming on line, the very first three would seem to be coming to our shores. What is your viewpoint as to why, out of all the places in the world and all the different stranded gas fields and all the scenarios where an FLNG option could have been realistically viable, Australia is being the guinea pig for three different companies for three different fields?

**Mr Anderson:** I would not agree with the expression “guinea pig”. The companies that you mentioned are not companies that are really involved in guinea pig projects. These are massive undertakings that they want to see succeed, and there will be an incredible amount of diligence that will be applied before those projects get sanction.

**Mr J. NORBERGER:** Sure, I agree. It is a first of a kind, though.

**Mr Anderson:** But I think that is something that Australians should be particularly proud of, and Western Australians in particular. To see Prelude and Bonaparte LNG, which kind of straddles the Western Australian–Northern Territory border in an offshore sense, I think is something that we should be immensely proud of. It is just one of the levers to monetise gas, but I think it is an important lever that will hopefully have very positive repercussions into the future, just as we saw with FPSOs on oilfields.

**Mr J. NORBERGER:** In the right context, I suppose. Not speaking out of turn, but having had a look at Bonaparte, just from what little I have learned, Bonaparte does tend to really lend itself to that argument of a stranded gas field that is perhaps best exploited by FLNG. I think we are all proud to see our resources developed, but it comes at a fairly significant cost from a manpower point of view—even the loss of construction jobs and fabrication jobs and the like. Do you think that our tax regime is making Australia a more attractive place to try FLNG because every dollar of

research and development, every extra dollar that it takes to get this new technology up and running, is being offset if you like, by 60 cents in the dollar by the Australian taxpayer because of how the PRRT works?

[2.30 pm]

**Mr Anderson:** But I think our submission sets out, probably, the two key reasons why parties have gone down the floating path, and I do not believe it is for its own sake. One is that we do have a cost challenge; we do have some gas which is genuinely stranded. Both from a cost and from a stranded viewpoint, floating LNG is seen as the solution that may not otherwise—the solution otherwise might be that we will not see it developed. I think that is a point that is made, but I think it is made very, very reasonably.

**Mr J. NORBERGER:** You had an interesting point, John, and you are right. I think, obviously, if you are having a look at a field and, let us say, it is stranded or it is the opinion of the proponent that it is stranded, and you look at your different options and you look at your internal rate of return because it may well be that, for example, a land-based option does not even make a profit, full stop. It may be literally unprofitable, so it would not even be an option. But if you have two options that are both profitable, but one is slightly more profitable than the other, from a Santos point of view, for example, how much would that gap need to be to justify the offset in regard to local content, local employment and the like?

**Mr Anderson:** I have made the comment publicly that I do not believe oil and gas companies are doing floating LNG for its own sake. When you pose that question to us, I think if we had a choice between floating and land based and they were equal in all respects, I do not know why we would not go back to the shore. As I said earlier, I think one of the things that we are going to urge and push and try and find that door opening will be brownfields opportunities through existing facilities. Because one thing we do not have to have as a company is to have our ownership all at the door—to have another brand-new facility built with our nameplate on it. We are more than happy to put our gas molecules through somebody else's facility. I would like to think that you will see more of that going forward, and I think that will be another response to the cost equation and another response as to how we can sell more LNG to Asia and still compete against some of these other countries.

**The CHAIR:** You just mentioned the Wood Mackenzie report. Can you give us a bit more information about that?

**Mr P.C. TINLEY:** It is the "McKinsey" report.

**Mr Anderson:** We can certainly get a copy of where those references are for yourselves.

**The CHAIR:** You are talking about the LNG McKinsey report; whereas, this is Wood Mackenzie.

**Mr P.C. TINLEY:** Is that right?

**The CHAIR:** Yes, it is a different report. If we could, perhaps, have some details about it.

**Mr Anderson:** Yes, we will supplement that for you, Chairman.

**The CHAIR:** Yes, it would be useful.

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. If there are some other issues that arise in future discussions, are you okay if we write asking you whether you can give us an answer on those?

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**Mr Anderson:** Yes, Chairman.

**The CHAIR:** Much appreciated. Thank you for your time.

**The Witnesses:** Thank you.

**Hearing concluded at 2.33 pm**

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