# ECONOMICS AND INDUSTRY STANDING COMMITTEE

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

### TRANSCRIPT OF EVIDENCE TAKEN AT PERTH WEDNESDAY, 19 FEBRUARY 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 9.21 am

#### Mr STEPHEN WOOD

Director General, Department of State Development, examined:

#### Ms GAIL McGOWAN

**Deputy Director General, Department of State Development, examined:** 

#### Mr RICHARD SELLERS

Director General, Department of Mines and Petroleum, examined:

#### Mr JEFFREY HAWORTH

**Executive Director Petroleum, Department of Mines and Petroleum, examined:** 

**The CHAIR**: On behalf of the Economics and Industry Standing Committee, I thank you for your appearance before us here 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.

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 document during your evidence, it would assist Hansard if you provide the full title for the record. Before we proceed to the 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 have any questions about being a witness at today's hearing?

The Witnesses: No.

**The CHAIR**: Do have an opening statement to make?

Mr Wood: No, I do not. Details are in our submission.

Mr Sellers: Jeffrey will provide a short opening statement.

**Mr Haworth**: If it pleases the committee, I will reiterate what came in our submission, in that we are looking at only domestic gas supply and its impact on state revenues. This department through

its delegation under the joint authority has been responsible for resource management both in the commonwealth and in the state. It is our purpose to ensure that these resources are recovered efficiently and to the benefit of all Australians. It is on that basis that we will approach our answers to FLNG.

**Mr F.M. LOGAN**: Following on from that statement, the question begs itself: why does the department not analyse the impacts of FLNG until after a project application has been made? You just told the committee that the reason for your department's concentration on domestic gas supplies is because of its impact on the revenue of the state. Why is there no future modelling, as it would be done by any other organisation, private or public, in Western Australia?

Mr Haworth: In answer to that, we do look at the resource management and the modelling of a project as and when we receive information from a company. We have received in the past the reserves and resources for Browse and Prelude, for example. The company will then make its own financial investment decision as to which method it will use. The Woodside project was based on a land-based LNG train with platforms out there. We looked at that particular field development plan. As yet Woodside has not submitted a field development plan for its FLNG proposal. We are basically waiting for that to happen so that we can analyse it. We have had a look at the reservoir, especially in the Torosa field, which is the one that will impact the state. Yes, we do have some concerns about how it will develop it, but as yet we have not seen its plans to develop it.

Mr F.M. LOGAN: That goes to the very point I am making; you have the reservoir information. You can model exactly how much of that gas can be extracted from the reservoir. Subsea for a platform is exactly the same as a subsea for an FLNG. The technology that is being used for extracting gas is no different; what is different in the proposal is whether or not it is offshore. You have the reservoir information, because it was provided to you for a previous plan of extraction. You have all the information you need to do an economic assessment of the impact of that FLNG offshore, yet it is not done until there is an application to do FLNG rather than extraction by platforms. Why? If I were the minister—again—I would want to know what impacts the state would face, but I would not want it after an application for a particular technology has been made.

Mr Sellers: In a field of wet gas, for example, and we have had those in Western Australia before, certainly when we are working with a company and advising the minister of the day about what is the best extraction methodology, we would look to make sure that we get as much of the condensate out as well as the gas. If a company came to us and said it wanted to extract gas and condensate at the same time with the overall effect of being a drop in the pressure in the reservoir to the point at which some of the condensate turn from gas to liquid while it is in the reservoir and coat the source rock instead of being able to be extracted, then there is a real potential for Western Australia and Australia to lose revenue in royalties in the sales of those condensates. We would make that information available to the minister and whoever else requires it at the time. We would not be able to make that distinction until the company said that for the development of this field, it wants to do it in such a way, work this particular sand and use this particular technology—and then we would do the calculation. The initial question you asked was about the potential recoverable from a resource. Yes, we do have that. We do provide it to the minister of the day. But a company will come in and say that with the money it has invested and the technology it is using, it thinks it can extract this amount of gas. Our resource engineers and reservoir engineers in the petroleum section—if it is in commonwealth waters its people would do calculations on that and advise the minister of the day as to whether that is reasonable or unreasonable and what the total amount might be. While that is a little bit longwinded, the answer is, yes, we can do calculations on what is in the discovery and potentially can come out. We would then do another calculation based on the methodology and the technique the company wants to use to do the extraction. If we think that that methodology and extraction technique will leave a significant amount of gas or condensate in the field, we will feed that back to the minister of the day and other mechanisms very quickly, well prior to approving that reservoir management strategy.

[9.30 am]

I have partway answered your question. Yes, we can do an analysis on what is in the ground now and we will do another analysis on whatever technique the company presents to us. Quite often in that discussion we may say that we do not agree that the company's methodology will be in the best interests of extracting the maximum benefit for Western Australia and Australia from that resource. That discussion needs to take place prior to final approval of a particular technology for a field.

**Mr F.M. LOGAN**: With due respect Richard, what you have just described is the difference between analysis of what the potential of a reservoir is and then the ongoing technical issues once that approval has been in place and the company is extracting. You refer to a number of technical issues that occur as a result of the extraction from the reservoir that is simply ongoing analysis.

**Mr Sellers**: I was not trying to make it the point of ongoing—so prior to them getting —

Mr F.M. LOGAN: But it is. The point I am making to you Richard is that what you have just described to the committee is two different scenarios. One is the analysis that decision-makers sitting around the cabinet table need to know about prior to approval processes, and the other is about the ongoing problems, should they occur, with extraction from reservoirs and the total scale of volume in the reservoir.

Mr Sellers: Sorry, I was not trying to present that as the scenario. What I was saying is that you discover a field that is potential extraction. Prior to getting approval to actually use a technique to actually do that extraction, we get given the proposed well management strategy and that is when we make the advice available to government—so prior to the approval to actually go and use a technique for extraction. I was not trying to say that then in the ongoing we have that discussion.

Mr F.M. LOGAN: Just on that Richard, has there been advice given to either the minister or cabinet about the type of technology to be used in the Browse field?

Mr Sellers: We have only just received the first preliminary field development plan, which we are working through now and providing advice to government on. Certainly, in there we see that the field would benefit from some reinjection of either gas or water to maintain the pressure so that enough condensate comes out of that fuel without cherry-picking the resource, so we are not preempting any advice we could give to government but that is certainly the nature of the investigation we are going through at the moment.

**Mr F.M. LOGAN**: With due respect Richard, if I or you were the minister sitting here, and you received advice saying that the field development plan has been provided —

Mr Sellers: Proposed

**Mr F.M. LOGAN**: That the proposed field development plan has been put to us by whomever the developer is and it has changed from platform and onshore processing to FLNG, and it outlines the developers opinion about it in terms of the choice of technology and, coming back to the Browse decision, as the minister, you or I or somebody else might say, "Big deal, I read about that three months ago in the newspaper."

**Mr Sellers**: Sure, that technology change goes from reinjection and taking out the maximum amount of condensate out of this field and potentially removing billions of dollars in royalties and billions of dollars in sales—moving between one technology and the other or one methodology or the other, that is a material difference and that is what we would be commenting on.

Mr F.M. LOGAN: You may well do but the overall choice of the technology—particularly when you are here to talk about FLNG—is so significant. The minister read about Woodside's decisions for example, in Browse, months ago in the paper and then in comes the DMP to say, "Here is our advice on the field development plan." Well big deal. I already know what Woodside is doing and now you are telling me about what it is doing. I wanted to know before it made the decision so I could possibly influence it on the impact of that technology on the extraction of gas out of that field.

Mr Sellers: I take the member back to Prelude, which is a floating technology that we support because it is actually addressing dry gas of a certain quality far away from any other infrastructure, and the floating technology we have discussed with ministers and others of the day decided that that was a very good technology for that particular stream of resource. Had that resource, even though it is dry gas, been somewhere where you could easily link it into one of the existing production facilities, the advice of the day probably would have been very different. The point that you are making, member, is that in the floating LNG—all our production facility platform that is sitting there—if it is loaded up with the technology to make sure that the maximum amount of molecules of condensate and gas are extracted out, then you are right, there is a very different scenario about the technology. If the floating platform at the moment is set up on this proposed plan that we are looking at without a reinjection, then we think there is significant possibility that condensate will be left in that reservoir in a way that will make it unextractable in the future, and that is the point in time where we need to talk to the decision-makers prior to the approval of that well development field proposal.

Mr R.S. LOVE: I had a number of questions, but you have covered a fair few of them as you have been going along. One of the outstanding issues at the moment is the difference of opinion about how much gas is actually there in the Western Australian share of those fields. Has there been any advance since your submission was written to the committee outlining the difference of opinion between the state and the commonwealth over those levels? Has been anything been done on working out exactly what the share will be, trying to put some further science behind those figures, or by negotiation or however else you go about that?

**Mr Sellers**: Certainly, the short answer is yes, but I will ask Jeffery to go through some of the technical-type discussion on it.

Mr Haworth: We have done our own independent evaluation of the reserves within the state acreage. We have not wavered from that. We still remain at the percentage that we stated in the submission. Woodside has given us three different evaluations on it and we are waiting for yet another plan to be delivered to us as well. Similarly, when there were negotiations with Shell and Shell were moving out, we got different opinions on the quantity within the state. We are still pursuing Woodside to get a firmer position on that and we are also communicating with the commonwealth and the Department of Industry. I am planning on going over there in early March and part of the meeting over there will be to talk about how much is actually in Western Australia, and come to a landing on that.

**Mr Sellers**: I might ask Jeffrey to talk about how the gas and condensate in the field is between different sand layers and the technicalities of that. One is that it is obviously easier to extract than the others, and he can go through that in a bit of detail.

[9.40 am]

Mr Haworth: Speaking specifically about the Torosa field; the Torosa field has about four sand loads in entirety. They are called J18, J22 and I am not sure what the other two are called off the top of my head. Woodside's proposal is currently to extract gas from the J18 sand only. There are reasons for that—porosity, permeability, access from the subsea completion into the state's waters to extract that gas and, it is also a slightly drier gas. The issue that we have and are still working through is specifically around pressure maintenance. As this field gets depleted the pressure can drop to a point which goes below the dew point of condensate, which means that the condensate will drop out. Should it drop out it is irrecoverable. To us, from our estimations, that could be as significant as a \$1.1 billion loss to state revenue. That is some of the stuff that we are discussing with Woodside and the commonwealth to ensure that this is done properly. The way that we get around the pressure loss is usually through injection wells—be it reinjecting gas or injecting water to maintain that pressure and keep that condensate in a gaseous state.

**Mr R.S. LOVE**: That is not possible with floating LNG.

**Mr Haworth**: With FLNG it is a concern as to whether you would be able to put compressors in and how you would sort that out. Those are some of the questions that we will be raising when Woodside comes forward with the proposal to move to a production licence.

**Mr R.S. LOVE**: So it is the weak nature of the field that is the problem.

**Mr Haworth**: Yes; Prelude is a dry gas so that issue does not arise but there are issues with the Browse fields.

**Mr R.S. LOVE**: So the field development plan that you were talking about before with the other member is the only opportunity to actually lay down any structure as to how this field will be developed? There is no other method, such as through a production licence, to achieve that without getting involved in the nitty gritty of how it is actually done.

**Mr Haworth**: Sure; at the moment they are all under retention lease. They will have to apply for a production licence and part of that application is a final field development plan. A final field development plan is signed off by both the state and the commonwealth, and the company. It is the way it will be developed in the future. As I say, we have not reached that point yet. Certainly with production licences, conditions can be placed on a production licence as well. All I can say is that at this moment we have not reached that point in the process.

Mr Sellers: Members may be interested to hear that where we have had floating production facilities that are extracting condensate or even where there is a field that is separated by ownership either end—there is an example here in Western Australia where there are production facilities either side owned by different companies and they are reinjecting—during the life of those floating production platforms there have been some issues around the reinjection such as fires and the refurbishment of the pumps. This created periods where those production vessels had to flare the gas that would have been reinjected and the flaring or loss of reinjection over a period of time dropped the total amount of condensate of the well that could have been taken from that field. At that stage it was more of a conflict between the two operators either side of the line over how much it was costing each other because of the breakdown in their technology. I guess the reason I am stating this is because it highlights that if you do have some flaws in the way that this is done it can very quickly add up to a large loss and an issue over a period of time. My recollection is that it took almost 12 months to rectify that pumping. I look across at Mr Tinapple because he was helping me at the time. Was it around 12 months, Bill? It is still ongoing; so that must make it nearly 18 months now.

**Mr R.S. LOVE**: If I could ask one more question. On the relationship between the state and federal governments regarding the Browse field, is it possible that that field could be developed outside of Western Australian borders and therefore take away the ability of the state to influence the decisions on the field's development?

**Mr Sellers**: Potentially, the development of the field at one end could certainly add adverse pressures at the other end of the field due to connectivity. The way that we are proposing to nullify that is to reach a landing on this unitisation discussion that we are commencing with the commonwealth. Should that be in place, then that will mitigate that sort of effect.

Mr R.S. LOVE: The unitisation does not do away with the loss of the ability to capture those condensates.

**Mr Sellers**: No; if you drop the pressure in the field it would still reach a point where you would lose the ability to suck a lot of condensate. However, what it would do is create a royalty stream from the facility that was there for the material that was taken out through that unitisation approach. The member is right though; if you cherry pick the resource it would have exactly the same issue.

Mr F.M. LOGAN: Following on from that; there is no agreement on unitisation yet and I think you would probably be aware of a number of comments that the Premier has made about the Torosa field. What if the commonwealth approval went ahead and directional drilling simply extracted

large volumes of gas out of the Torosa field whilst not being in the Torosa field? What would be the impact of that? What advice does the Department of Mines and Petroleum give the government?

Mr Haworth: Are you saying that the bottom of the hole gets into the state's area to extract?

Mr F.M. LOGAN: Yes.

**Mr Haworth**: That would be illegal under the current act. Under our petroleum acts, to remove petroleum from state acreage without a production licence is illegal.

Mr F.M. LOGAN: Under which section of the act?

Mr Haworth: I would have to dig that up for you but it is under the petroleum solutions act.

**Mr F.M. LOGAN**: Can you take the committee to that exact point in the act?

The CHAIR: Can I ask about the lead agency framework to help improve efficiency and reduce the time to deliver projects? How do the departments work that out between themselves? Do you think that the framework allows the departments to be proactive in, and I quote, "identifying economic development opportunities"? Perhaps you can come back and refer to Browse or Gorgon and say how the lead agency framework worked and how effective it was.

**Mr Wood**: In simple terms, for my purposes, lead agency on Gorgon and Browse is effectively given to us by the minister. We pick up that project under his direct guidance. In terms of the framework, any project of that complexity requires a fair bit of cooperation and coordination. The more you can save on that and deliver certainty on time frames the better the project in terms of cost and delivery. In a simple sense, that is what the lead agency's framework seeks to deliver.

The CHAIR: So your minister decides to make it —

**Mr Wood**: My minister will say that he wants us to be the lead agency for Browse or the lead agency for Gorgon—which is what has happened. Then we seek the cooperation of the other agencies to make sure that when we get the approvals and the scheduling and the problems for the development and delivery of the project we work in tandem, effectively, to try and deliver the project responsibly, timely, efficiently and in the best interests of the state. That is essentially what the lead agency framework seeks to do.

Mr F.M. LOGAN: Stephen, can you provide us with any advice about the analysis that DSD does as the lead agency; whether it is with the other agencies as well as part of that team or by DSD themselves? The analysis that DSD does of the project and its benefits to the state, if any, because the way that you have described how the lead agency works appears to simply be that they are trying to get the project up as quickly as they possibly can without any analysis as to whether it will have an impact on the state or not.

[9.50 am]

Mr Wood: I am happy to address that question. If that is the impression I have given you from my answer to your earlier question, then it is not the impression that I want to leave you with. Let me tackle the question in a different way. We have many projects in conception at any time in this state; some of those projects are never likely to get up for a variety of reasons and some are better prospects. You have to sift through those to work out whether a project is likely and is beneficial, and try to spend your time and effort on those that are more likely and more beneficial. Also to impose terms on those to try to shape them, as you in fact get a reasonable result. You would be aware from all of the press and from a range of other things that a lot of the activity in relation to the Browse project was around the issue of land and environmental approvals. A lot of that work was distilling out which was the best site for the Browse development. That was part of the work of the lead agency. That falls into the question that you are asking; it is not just a question of saying, "Here is your project, come along, plug it in", because a project of that size, in fact any project, does not work that way. It is a question of distilling what is capable, what the capabilities

components are and where the best site and result would be, along with any other issues to do with screening for each feature of the project. A project of that size obviously brings in all the environmental clearances, land clearances, Department of Lands, DMP, Transport, ports—the whole box and dice and more. You have to go through those features as you are building your project.

Mr F.M. LOGAN: Stephen, I think that you describe that well in terms of the role of the department; that it is a facilitating role. That is a point that I am making—it is a facilitating role for the project. At no point, not only from what you have just described but when we had an unofficial discussion with DSD to try and work out exactly our terms of reference and various other things from that information that was provided then, there does not seem to be critical analysis and advice to the minister by DSD. Is this project going to be of benefit to the state and the people of Western Australia? Or, are we simply just going to facilitate any project?

**Mr Wood**: The thread of your question and your earlier questions is about, is there is an assessment about what is beneficial or not? The answer to that is, yes, there is.

**Mr F.M. LOGAN**: At what time does the Premier—in your case the Premier is the Minister for State Development—at what point does the Premier then get that advice?

Mr Wood: Well, the advice has to be, sort of, "commensurative". Part of, I think, what needs to be understood, and I am sure you do from your previous experience, is that it is "issuative" and a project is not just, "Here it is; it is boxed up and away you go"; a project changes in shape and complexity and "doability" as it goes along. Any project has those characteristics and certain features of the project will be doable or not for various reasons. You know, they might not be doable for—parts of it for environmental reasons. It might not be doable because there is going to be a clash of time frames; the money component is not doable under certain arrangements; the technology that they are seeking to use, we know is not going to work or not going to be the best extraction method—the same sort of question on iron ore to that. The site they are going to use is not a site that the government would endorse for various reasons because there can be a collision of various things. There is a practical side, because of all the planning has been done on another site. All of those sorts of things factor in. Just because someone comes to the table and says, "I think I would like to do this", does not mean that we or DMP or Transport or another agency that might take a lead agency or be involved in the project says, "That is fine; do what you like. Come back and see us when you are ready." It does not work that way, there has to be an ongoing discussion about what is actually achievable and not achievable; what is responsible and not; and what the statutory requirements are for screening. Remember, when you do a project, whether it is a subsea oil and gas project and you are trying to work out what the field is, or an iron ore project and you are trying to work out what the resource is, the method of extraction and treatment and stuff, you get additional information as you are going along and as you then go through stages of the stake you say, "Well it is worth me spending a bit more money. I then need to do this stage of the project. I am getting closer, so I will engage DSD more at this point of the project." The early phase might be DMP to sort of say, "What do you know about this resource?" and to get lease clearances et cetera. Usually, for us, in DSD, we like to know about the projects early in the piece. If they are not of a size we just say, "That is interesting and if you need some further advice come back and see us" and they get dealt with by another agency because they do not require the DSD lead agency treatment. They are not of a size that would come through that filter.

**The CHAIR**: Can I go back a bit? What is the status of the Browse LNG precinct now that Woodside has announced FLNG is its preferred option?

Mr Wood: In terms of the land, the land has been taken as the LNG precinct. In terms of the agreements that the government has made with taking that land, they are in place. In terms of Woodside's treatment of those agreements—Ms McGowan can correct me—but I think that Woodside has given notice in relation to those to withdraw from those agreements. Ms McGowan

can correct me if I am wrong on that. There is a process for withdrawal from those agreements. The precinct then remains for the purposes of a LNG precinct under that arrangement. In terms of the environmental clearances, we have given notice to the EPA to say that we wish those environment clearances to be progressed. The EPA is in the throes of considering that.

**The CHAIR**: So, effectively, the work is still continuing, it just so happens that Woodside has decided not to build at this stage?

**Mr Wood**: Yes. I think your question neatly underplays it. I mean, let us be clear, you have lost a large JV with a large degree of financial backing that has said it does not wish to do it onshore. They have not said they do not wish to do it at that site; they do not wish to do it onshore at all. They wish to do it offshore. No government can say to companies "Well, we disagree with you. We will make you spend the money." You cannot do that. That is a very significant decision for us. The decision for government was, given what has happened should the land be taken as a precinct for future developments? The decision was taken to do so because life had progressed. Remember, in terms of the northern task force, it has been many years for the definition of a parcel of land that was suitable for LNG developments.

Mr R.S. LOVE: Does your department continue to be a lead agency for the development of Browse now that the joint venture has apparently, as you have said, left the field, or do you now consider with the floating platforms that it is something that is no longer of significance to you in terms of a major project? You have outlined that you have a filtering system in which you decide whether projects are significant enough to be involved with; does it remain a significant priority for your department or has it slipped down the list now?

**Mr Wood**: No, it is a very significant priority for my department; we are still lead agency on the issue. That particular JV on those retention lists has not left the field, they are still on the fields and the methodology for developing has been covered in earlier questions. We are still very much enmeshed in that project as lead agency to extract the maximum benefit for the state, but that particular JV has decided not to do an onshore development at this stage.

[10.00 am]

**Mr R.S. LOVE**: If that particular avenue has closed, what is plan B from your department's point of view? Do you continue to pursue the fact that you would like to see James Price Point developed, or do you now look at the best way to harness benefit for the state from FLNG?

Mr Wood: I come back to the earlier question about assessments. We are required to do the broadest reasonable assessment we can make about what is possible in this space. We are required to also consider what will happen if FLNG does not work out or someone cannot reach a decision on FLNG. These are not next day's or next year's or next five years' newspapers; these are very long-term decisions. So we have to assess the optionality about that. At the moment we also have to assess the reality of if they had said they are not going to do it onshore and we cannot make them spend the money onshore, what is the best prospect of developing that oil and gas resource. So, we have to work through that and work through a lot of the questions that I know the committee is asking.

Mr F.M. LOGAN: Just to follow up on that, has your department as lead agency, or with the group of agencies that come under your lead agency, and, in particular, has the Department of Industry, done any economic analysis of Woodside's decision to walk away from onshore development and go to FLNG? Has any economic analysis been done on the impact of that decision on state revenue, jobs and the economic development of the state, and was the local content element of that project taken into consideration? If such an economic analysis has been done, has that advice been given to the Premier, and is that advice available for the committee?

**Mr Wood**: I think the general points are covered in the submission that has been made to you. But, in simple terms, if you take away the land development and you take away the pipes to shore and

the construction onshore, you can have a reasonable idea of what the cost of that is and you can have a reasonable idea from previous developments about what sort of construction jobs and other jobs might flow from that part being deleted, and then what sort of payroll and stamp duties and other stuff might flow from that part being deleted. But the bit that we cannot know, because we do not have sufficient information, is that we cannot model the operational and the maintenance jobs well enough for FLNG until we know with more definition what the operator is seeking to do. We know a certain amount about Prelude in terms of what they have decided to do by virtue of using Darwin and WA airports for transport et cetera, and we can get a bit of a gauge about employment in that respect. In terms of the return to the state on the actual resource, yes, that is very carefully modelled on the number of molecules of gas, and they have got a handle on what that means for the purposes of the state.

Mr F.M. LOGAN: That does not answer the question at all. I asked: Was any economic analysis done in addition to what you have provided to this committee by way of submission? Was any economic assessment done around the impact to the state of the change by the JV from onshore development to offshore development? It is more than simply the molecules of gas and condensate out of the Torosa field. That is a minor consideration in looking at the flow-on effects of building that project onshore. Was any economic analysis undertaken; was the Department of Industry involved; was any consideration given to local content; and was that summarised in any document, and was that provided to your minister; and, if so, is that available to the committee?

Mr Wood: The plain answer to your first question is that a cost-benefit analysis in a comprehensive fashion between the two options has not been done because it is not capable of being done because there is not enough information around for it to be done. We cannot make up the numbers. We have some numbers in respect of the onshore development, and we have the numbers at the time the decision was taken that they would not undertake the onshore development, and we have letters out asking for further information in relation to that, but we have not had a sufficient answer on that. The real comparator that you are seeking relates then to what is the level of information on FLNG, and we simply do not have that. We would be making up numbers if we were to do that, and it would not be an authentic economic analysis because we would be putting in far too many assumptions to make it realistic.

**Mr F.M. LOGAN**: I think that is fair. So to summarise what you have told the committee, the answer is no, and I assume also that the Department of Industry was not involved, and local content was not taken into consideration?

**Mr Wood**: Local content is taken into consideration in terms of any assessments we make. To come back to your principal question, which is about a comparator between FLNG and onshore, and a cost–benefit, we simply do not have enough information to make that comparator.

Mr R.S. LOVE: I am wondering what steps will be taken to gain that information. I assume from the body of knowledge built up from the Prelude proposals that you must be able to give some estimates on those types of matters, and also on what you would see as the risk for the domestic gas supply in Western Australia from this shift of operation because of the difficulty, as we can imagine, in being able to capture those molecules, which is another arm of this committee's inquiry. Is that something that you would be looking at down the track?

**Mr Wood**: To answer your first question, we are still chasing that information in relation to the actual suggested cost in relation to the onshore development, because we still have some queries about that. As we get that information, we will be able to do better modelling. In respect of the domestic gas, yes, if it is offshore, it is harder to get. If it is onshore, it is still hard to get. It is hard to actually work through these proposals and capture the domestic gas component. That is not an easy task. But if it goes offshore, it is a lot harder to capture.

Mr F.M. LOGAN: How then is the minister or the Premier or cabinet supposed to make a decision on whether to make it very clear to the project proponents that that type of technology is not

welcome, if they are basically flying blind without any advice from your department? It happens regularly around the world that governments make these decisions. How is a Western Australian government able to make that call if it is flying blind?

[10.10 am]

Mr Wood: In terms of the way you put the question, I simply disagree with the question. It is not flying blind. The government receives advice; it receives the best advice it can get at the period of time with the information that is available. I come back also to the proposition that projects are not fully formed with everything known from the beginning of a project conception. Matters develop along the way and assessments are made along the way. Part of that assessment also, as will be plain from evidence given to the committee, is that you have to make a judgement: if you want the gas extracted and it cannot be extracted under one method economically or it cannot be extracted because there is no-one wishing to extract it, then is either method safe? It gives you some benefit—maybe not as much benefit—and you are prepared to entertain that method of development.

#### Mr F.M. LOGAN: Or Not.

**Mr Wood**: Or not. They are judgements that you make. I am sure you are aware from your previous ministerial experience that it would be lovely to make all judgements with full knowledge. You make your judgements on the basis of the knowledge you have at the time.

Mr F.M. LOGAN: But what you do not like to do—from my former job, Stephen—is read about it in the newspaper and then have to answer that question in front of a media pack, without having the full body of knowledge to give you that proper response, and that appears to be what is happening. Your advice to the minister over the decision to move from one type of technology to another still has not been completed, yet the proponents have already made their decision on which technology they will use. You saw the response from the Premier.

Mr Wood: Let us break the question down. Is the minister given successive advice? Yes, the minister is. Have the proponents spent a lot of money and a lot of assessment and have we spent a lot of money and a lot of time and assessment in relation to the onshore development? Yes, we all have. That, in the company's eyes, has proven to be a decision they are not prepared to take to FID. You want to make them make a FID decision, so life has moved on and we have to then work out what the best arrangement is. Would I still favour, for various reasons, onshore development if we could achieve it? Yes, I would. Have I given away the notion of an onshore development entirely? No I have not, but, for now, to say they are going to come onshore is not a realistic proposition because the JV is committed to doing their work in respect of an FLNG facility. We still do not know yet—because they have not completed that; they have not completed costings or FID, et cetera—whether that will be the reality or not. We have all spent a lot of time working out the proposition for the onshore development. There is a lot to go yet before you can work out the proposition for the offshore development. To say, "Okay, well look, that's bound to be the case", is not a proposition I accept at the moment because we do not have that information. That decision has not been taken either by government or the companies.

**The CHAIR**: We are going to have to finish that line there. How are state agreement acts monitored?

**Mr Wood**: The state development part of our organisation deals with the constant development, if you like, of the state agreements and the arrangements under the state agreements, for reporting, for seeking approved proposals, for compliance with those state agreements and for also variations and development of those state agreements. That is part of the normal work of the Department of State Development.

**The CHAIR**: So that is just an ongoing job?

Mr Wood: Yes.

**Mr F.M. LOGAN**: Back to DMP. Richard, you made a comment earlier to the committee that DMP now supports the FLNG for Prelude and that decision was discussed with the minister and approved. When was that undertaken?

**Mr Sellers**: The approval for Prelude?

**Mr F.M. LOGAN**: To approve Prelude or to support the concept of the FLNG.

**Mr Sellers**: I would have to go back and provide the committee with the dates from history, sorry; I do not have that off the top of my head.

Mr F.M. LOGAN: Are you saying that Shell's proposition was discussed and approved?

Mr Sellers: The process would have been that the minister of the day here in Western Australia and the minister of the day in the commonwealth would have had that proposal put to them and, after consultation and any sort of adjustments and changes would have—this is the bit I will check—whether there was consensus or any dissent, but usually by consent, agree and then the federal minister issues the approval.

**Mr F.M. LOGAN**: Yes; I am aware of that. It is just that, up to a very key point last year, that was not the view of the Premier. He was strident in his opposition to Prelude, up until a particular point.

**Mr Sellers**: We will give you the history of the approval. It is under construction. We are happy to provide that.

Mr F.M. LOGAN: I have one more question of both departments and that is advice on alternative ways to develop resources, and that can be onshore or offshore. For example, you are well aware, Stephen, the problems we have had in the north west—in the Pilbara area—with access to transportation, mining railways, and who gets access, where they are and the problems that have occurred for the effective and efficient development of iron ore projects in the Pilbara. The same goes for offshore with pipeline access and pipelines. Is there any advice or consideration, particularly for stranded fields that could have, and may well have, a pipeline that passes very close by for the purposes of onshore development. Is there any advice given or analysis ever done of pipeline access by regimes and propositions for effective field development that is in the state's interests as opposed to the company's interests?

Mr Sellers: With individual companies, the answer is clearly, yes. When you have—talking about pipelines, specifically here—the ownership based in history with individual ownership, the opportunity there is very limited.

Mr F.M. LOGAN: Has there been any advice—I will ask that of DSD as well because it is about the rational extraction of the public's resources—ever given to government about pipeline access regimes? We have been through the whole issue again in railways in the Pilbara. This is no different; it is simply gas offshore. Is any advice ever given to the Premier, cabinet or the minister on that method of extraction or access to extraction?

Mr Sellers: As the member might recall, the market forces—talking downstream here—for the sale of gas, even individual ownership of a pipeline, does not preclude a market deal being done and gas being extracted off a pipe that would, say, run into a particular mine for a completely different ownership to attaching, and with the right pressure and looping that pipe uses, that market force can also prevail in an upstream situation. Unfortunately, history has not shown that to be very successful.

Mr F.M. LOGAN: I ask it because that issue has come up in this committee, which you will read about probably in the report and, of course, there is the response to the British government to what happened in the North Sea where the British government directed companies that they will use other people's pipelines and they put in a regime in place so that they got the efficient extraction of oil and gas from their resources that they owned. I was asking whether similar advice had been provided to the government.

[10:20 am]

Mr Wood: The simple answer is yes, both on iron ore and on oil and gas. On the oil and gas, I would have to say to you, from BST's perspective, less so in respect of pipelines, although we have some fairly regular discussions about the potential for third party pooling, but more in respect of the actual processing facilities and the efficiency of capital and site for the purposes of those processing facilities. It is kind of technical but it is one and the same question: where does this gas get processed, what is the efficiency of the capital and the regime for that? I was not around at this stage, but there must have been questions, for example, when the Pluto development was being screened and developed: do you have that development separately or do you have it combined? That must have been a part of the considerations at the time. Ashburton North has presented itself as a site that is more obvious, and the quantities of gas coming out of the nearby basin presents itself as an obvious site. And a decision has been made to also foster one development site in the Kimberley with proximity to the resource, so those questions come up. Then to come back to another part of your question, which I think is implied: do we seek the cooperation of the companies to try to achieve those outcomes? Yes, we do. It is a large part of the work. Whether you are going to achieve it or not is another issue because of people's own preference as to how they spend their capital and what parts of that they wish to control for the purposes of operational or whatever. And that, as you know, on the iron ore railway component is played out regularly.

Mr R.S. LOVE: Earlier when you were speaking about the Browse development, you mentioned that a lot of the work had been done on the land-based component, which is a bit ironic because it was an offshore gas field, but what work has been done to actually address some of the longstanding complaint of industry about the red or green tape that they have had to go through to address development in Western Australia particularly? Do you see it as a problem? Certainly, the industry that we have spoken to time and time again reports it as a problem. Is there anything that is being done to address that and to improve the efficiency of those approval processes?

**Mr Wood**: I would make three comments in relation to that. If you look at Browse, I think if you could reverse history and say that all of the Browse Basin be developed through one site, Inpex does not split off and does not get to go to the Maret Islands et cetera, that is a more effective way of processing that gas and preserves more capital. You do not get your sequence and all of that right and you do not get to rejig your history. That is one comment I have made. In respect of the approvals, yes, a lot of work has been done to sort of coordinate between agencies to try to improve the transparency and the time lines for approvals. And when industry comes back and says they complain about approvals, we always ask, "Well, which approval? Where did you get stopped? Did you speak to the DG of that agency to get it fixed up?" Quite frankly, I can tell you from my conversations, that conversation tends to then sort of peter out. So our efficiency of delivery in the state I am never sanguine about, but I actually am quite happy that we are pretty good at this business. I would always ask you: if industry is saying that, ask them to be specific about the approval. The other comment I would make is that a lot of this in terms of conservation of money is actually in the delivery of the project. It is not just in the construction of those approvals; it is actually in the delivery of the project. We are pretty good also at trying to foster that, not in a rampant pro-development sense, but in a responsible sense of working that through with the agencies and the community. I think the state has a good reputation in that regard.

Mr Sellers: Chair, can I just add a little bit to that, if I could? Clearly, we have been working very hard on approvals. The transparency and other things within the agency is actually getting well recognised. Our systems in petroleum—some of them—have been voted best in the world. The nature of onshore–offshore activity sometimes goes from commonwealth waters to state waters. We do those transitions as clearly and neatly as we can. I do not have a line of petroleum people outside my door telling me that there is an issue with state waters or onshore. Unfortunately, I have had similar comments with other jurisdictions and we would like to see examples of where we might be failing and are happy to work on them.

The CHAIR: Okay, thanks.

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. We probably have not got through all the questions that we were hoping to get through, so is it okay if our secretariat writes to you with additional questions?

Mr Sellers: Yes; we welcome it.

**The CHAIR**: With that, I would like to thank you for your time today.

Mr Wood: Thank you for your time and courtesy.

Hearing concluded at 10.26 am