ECONOMICS AND INDUSTRY STANDING COMMITTEE

INQUIRY INTO MICROGRIDS AND ASSOCIATED TECHNOLOGIES IN WA

TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
FRIDAY, 23 NOVEMBER 2018

SESSION TWO

Members

Ms J.J. Shaw (Chair)
Mr S.K. L'Estrange (Deputy Chairman)
Mr Y. Mubarakai
Mr S.J. Price
Mr D.T. Redman

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Hearing commenced at 10.08 am

Ms MICHELLE SHEPHERD
Commissioner, Australian Energy Market Commission, examined:

Mrs ANNE PEARSON
Chief Executive, Australian Energy Market Commission, examined:

Mr ANDREW TRUSWELL
Director, Transmission and Distribution Networks, Australian Energy Market Commission, examined:

The CHAIR: On behalf of the committee I would like to thank you for agreeing to appear today to provide evidence in relation to the committee's inquiry into microgrids and associated technologies. My name is Jessica Shaw and I am the Chair the Economics and Industry Standing Committee. I would like to introduce the other members of the committee: to my right is Yaz Mubarakai, member for Jandakot; and to my left is Stephen Price, member for Forrestfield, and Terry Redman, member for Warren–Blackwood. Deputy Chair Sean L'Estrange could not be with us today.

It is important that you understand that any deliberate misleading of this committee may be regarded as a contempt of Parliament. Your evidence is protected by parliamentary privilege; however this privilege does not apply to anything you might say outside of today's proceedings. Do you have any questions about your attendance here today?

The Witnesses: No.

The CHAIR: Would you like to make an opening statement?

Ms Shepherd: Yes, we would. First of all, thank you for the opportunity to come and speak at this hearing today and provide evidence to the inquiry. As you would be well aware, the energy industry is going through some pretty major rapid transformation brought about by a number of factors. Changing technology, changing consumer preferences, and also government policy are all leading us down a different path. That presents a lot of opportunities for consumers and a lot of challenges as well, particularly in making sure that the regulatory framework remains relevant and adaptable. The Commission's responsibilities in this space are that we make rules under the national electricity and gas laws primarily in the National Electricity Market in southern and eastern Australia. We also provide expert advice to governments.

Each of the challenges that arise as our energy market transforms can be addressed in a multitude of ways. The way that we go about making our decisions is that we aim to deliver targeted evidence-based least-cost solutions that provide benefits to consumers. We take those decisions really seriously. We are looking at security and reliability of supply and, ultimately, the costs that get passed through to customers along the way. As you know, we are currently undertaking a review into standalone power systems and we are looking at the regulatory framework to make sure that it is adaptable to those changing technologies. One of the reasons why we have undertaken this review is that Western Power put in a rule change to us a couple of years ago seeking some rule changes to allow them to transition customers off the grid. We did look at that. We engaged heavily with stakeholders through that process, but found that in looking at the changes to adapt the regulatory framework, it needed to be a lot broader. There needed to be a package of changes, not just the specific rule changes that come within the AEMC's power. We recommended to the COAG

Energy Council that we undertake a more wideranging review. That is what has led us to the review that we are undertaking today.

We are finding that customers can benefit a lot from having standalone power systems. We have had the benefit of looking at a number of trials, including the Ravensthorpe trial that Western Power has undertaken. We have spoken to customers who are on the trial and found that they are benefiting from better reliability. If you can achieve better reliability and lower cost solutions for distributors, we see a real win-win there, ultimately, for all customers. For us, we are looking at how we adapt the regulatory regime so that all customers see that benefit and no customers are worse off. That is really what our review is about.

Our challenge at the Commission is to find ways of updating the regulatory frameworks for the national electricity market. While our role in the National Electricity Market does not directly apply to changes here in WA, we see that there are a lot of similar issues across both sides of the country. I think there is a lot we can learn from each other through the reviews that we are undertaking respectively. At the end of our review our challenge is to find a package of regulatory reforms, present those to the COAG Energy Council and look at those to be implemented, which may require some jurisdictional changes as well through various states, as well as through the market rules.

The CHAIR: What is the timetable that you are working to for making your recommendations to COAG?

Ms Shepherd: We have a draft decision that we will consult on that is due next month. Andrew, the process after the draft is released?

Mr Truswell: That is right. The terms of reference we actually have for the review fall into two priorities. There is a priority 1, which is where standalone systems are being provided by distribution network service providers—DNSPs. As Michelle mentioned, we are working on a draft now with a final report due to the COAG Energy Council at the end of May. There is also a priority 2, which is about standalone systems being provided by third parties—parties other than DNSPs. We are about to start consulting on that early in the New Year. We have a final report due in October next year for priority 2 of the review.

The CHAIR: How do you go about consulting? You are going to put a discussion paper out there and then what? Is it comments or is it workshops?

Ms Shepherd: The process is we have issued an issues paper, which was part of our submission to the inquiry. Then we have been going out and consulting directly with people. The team came over to WA; we looked at the Ravensthorpe trial, met with Western Power, with the Public Utilities Office and with Horizon and the ERA. We have been doing similar things around the country, including in Queensland. We did site visits in regional Queensland. We do have our formal processes of issues paper and draft decision, which are consulted on and we receive a number of written submissions and then we go out and talk to people.

The CHAIR: What about engaging with the little guy? We have had a lot of absolutely fantastic engagement from Western Power and Horizon Power, but they are the asset owners and they have their footprint and their assets, both of which they want to protect. They want to be running the show. There are a lot of other companies out there that really want to break into this space. The energy market is changing. We have great big generators, very powerful interests that feed into processes, the network operators that do likewise. How do you make sure that you are not missing all these new participants that have some really exciting, innovative ideas about how to facilitate these technologies?

Ms Shepherd: I might pass that on to Andrew in terms of who the team has been speaking to.

Mr Truswell: We have consulted widely. We have had a lot of interest. We had, I think, 24 submissions to our issues paper that we published in September. It was a fairly wide range—from distribution networks, but also from consumer facing groups, the Public Interest Advocacy Centre here in New South Wales provided one of the most substantial submissions. We probably had, I guess, less interest from small people trying to break into the market, probably reflecting the fact that priority 1 of the review is, as I said, more about DNSPs providing the systems. We are going to try, as we undertake priority 2, which is more specifically focused on other players, to engage with potential providers.

Mrs Pearson: We will undertake proactive engagement with them. As you would appreciate, new energy service providers are not as well-resourced as the traditional players to participate in these processes. We have a practice, which we have developed over the last three or four years, of actively seeking out these businesses and new service providers. Many of them are known to us now and many of them know what we are doing. They just do not have the time and resources to participate. But when it is important, we will contact them.

The CHAIR: How are you making sure that customers' voices are being heard in this process? A lot of things tend to happen to customers. It is done to them rather than—one of our terms of reference is about social impacts of these technologies, making sure that the single mum in Ellenbrook stands to gain as much from the rollout of DER as anyone else and that appropriate consumer protections are in place. How are you making sure that end consumers' voices are being heard?

Ms Shepherd: Our objective is really around improving outcomes for all consumers. We always have a mind for what is the overall impact across the entire market and, as well, we engage with a number of consumer representative bodies. Anne and Andrew, do you want to talk about each of those bodies that we engaged with?

Mrs Pearson: Perhaps I could start more generally. We run a number of reviews. This is one very big important one, but we also do other work. Part of that is undertaking fairly detailed consumer surveys annually. We have a fairly rich database of consumers' views, expectations, the matters that concern them, and that is updated annually. That feeds into this and a lot of other work, more generally. Maybe I will pass on to Andrew in relation to this project.

Mr Truswell: In addition to the formal consultation we talked about earlier, I was just going to draw out, as Michelle mentioned, we have undertaken field visits to WA, to the Ravensthorpe trial and also to regional Queensland where we got to speak to customers either in the Western Power trial or who are supplied remotely either by Energy Queensland or by their own equipment in regional Queensland. Something else we have just done is to engage with the Alternative Technologies Association. We actually sent a survey out to their members where people are supplied off grid. We are speaking to get their views as to what their experience has been, although we have not actually seen the results of that yet. But that is something else that we are undertaking.

Mrs Pearson: Another rich source of information for us in the Eastern States are the energy and water Ombudsmen. They often deal with the issues that consumers experience at the edge of distribution networks to understand the problems that consumers have. They also get a fair bit of feedback from consumers who are dealing with new energy service providers. In the Eastern States, the Energy Ombudsman schemes have recently been extended to capture all of those new service providers as well. They provide us with a lot of information and data on consumers and their experiences. It is not the direct consumer experience, but it is pretty good information. They have very good databases.

The CHAIR: Fantastic. I appreciate that it is rather early in your process. In particular, I am very familiar with Michelle's background and expertise in these areas. Are you able to give us some initial

thoughts on what the major regulatory barriers to distributed energy resources might be here in Western Australia?

Ms Shepherd: Yes. I think the barriers that we are seeing in the east coast are relevant, without going into the nuances and the differences between the jurisdictions. If we just talk more generally, there are a couple of issues. One is around distributors having a requirement in the Eastern States to have customers maintain their connection to the grid. That was probably a requirement that was put in place at an appropriate point in time. Now we are seeing that customers can be better off in some circumstances if they actually disconnect from the grid. That is the first issue around how we allow a more sensible approach to how customers receive their electricity supply.

Another major issue is around consumer protections. Currently, if a customer were to choose to disconnect from the grid and have their own standalone power system, they are also disconnecting from the consumer protections that currently cover them—things like, depending who their provider is, it might be access to an ombudsman scheme or a hardship program or some concessions around their electricity bills and so on. That is a really important thing that we are looking at—how do we maintain those customer protections?

Also, the protections around price—how do we ensure that customers can be no worse off in terms of the price they are paying for their electricity. There is also an issue around network tariffs and how they are structured. That may or may not be a barrier to incentivising the outcomes for customers. Price signals are sent. That is another issue that we are looking at.

Mr D.T. REDMAN: Can I just get a point of clarification, Michelle. You mentioned that when they disconnect from the grid, they also disconnect, so to speak, from some customer protections. Is that in the circumstance, if we use Western Power as an example, then Western Power is owning and putting the asset in, albeit a trial, it is their asset. Is that the circumstance where they are still disconnecting from the consumer protections?

Ms Shepherd: I cannot really comment on the specific experiences, but trials are different. I am suggesting that if a customer has decided just to disconnect from the grid themselves and install their own power system.

Mr D.T. REDMAN: I appreciate that. The other example would be Horizon, where they are legitimately able to do that. In Esperance, for example, where there are a number of customers who have a Horizon asset sea container out the back with a bunch of panels and batteries and generators that actually still provide retail services to the customers. I am assuming that they still have customer protections.

Ms Shepherd: Again, I could not comment on Horizon Power, but given that they are the provider throughout the whole supply chain —

Mr D.T. REDMAN: You would expect so.

Ms Shepherd: Yes.

Mr Truswell: I was just going to add—because an important factor in the determination for the Western Power rule change was that the consumer protections in the national market on the east coast through the National Energy Retail Law and National Energy Retail Rules might not apply. In most jurisdictions on the east coast, they are explicitly only applied to the interconnected system. One of the issues is that if a distributor did take a customer off the grid or supply them remotely, as those acts are currently drafted, they would lose the benefit of protections in that law and rules.

Ms Shepherd: Which is not the best outcome for customers. That is why we wanted to consider a package of reforms to ensure that customers are no worse off.

The CHAIR: Is the scope of your review encompassing asset class issues? These distributed energy resources—are they network assets? Are they generation load assets? Who, therefore, should be operating them? Who can earn a return on them? Are those revenue streams part of a regulated structure or not? Are you looking into those sorts of issues?

Ms Shepherd: I think, at a higher level, the answer is yes. I think, ideally, we would like to ultimately set up a regulatory framework that allows the right outcome for customers at the right point in time, considering how the industry is transforming to make sure that we do not pick winners and be too specific about who can provide what service. But that general context of who can do what and how they recover their costs is part of what we are doing. Andrew and Anne, did you want to add to that?

Mr Truswell: I was just going to refer back to—you mentioned the uniform pricing policies in some of the jurisdictions on the east coast. Basically, it does not provide an incentive for consumers to go off-grid themselves, particularly in remote places. Consumers might be benefiting, essentially, from a cross subsidy and paying less than the cost of the service provision. So there are opportunities to reduce the cost, but that may still be above the price that consumers are paying and that is the incentive issue, which is why the first priority, really, is to look at DNSP provision of the systems because consumers may not have an incentive to leave the DNSP; therefore, we need to find ways of allowing DNSPs to provide those services efficiently and then, under that, as you mentioned, that then takes you into questions of who should actually be providing that equipment, have you got different types of services between generation and network and retail?

Some of the classifications that work in the national market normally do not work so neatly in a situation in which you might have an individual power system. It is definitely an area that we are looking into in the review.

The CHAIR: I take your point on cost of supply and sending price signals to consumers, but in Western Australia we, very legitimately, pursue a uniform tariff policy so regional communities are not paying the extortionate cost of supplying electricity to them. There are a number of very important social policy objectives attached to that. This is not just about economic efficiency; this is about quality of life and equity between communities. I guess I am interested in views on how and where signals are sent and received, recognising that there are social equity objectives at the very skinny end—the consumer end.

Pricing and signals, I think particularly for DNSPs about efficient asset investment and allowing companies to earn returns at particular points in the value chain, are perhaps just as much a driver of economically efficient decision-making as making people in Terry's patch pay 10 times as much as in my patch, because it is a lot more expensive to serve Terry than it is to serve me. I guess I would just be interested to explore your views on how signals are sent through markets and the points at which these signals stand to deliver the most benefit, because it can become very complicated otherwise. I am wondering about your views on that.

Ms Shepherd: Just to be clear, we are not suggesting that all customers should pay the actual cost of supplying electricity to them. This is more about—because you do not have those price signals being sent to a customer, you may have a situation where a customer stays on grid because they would pay the same whether they are on grid even if it is cheaper for the network operator to put in a standalone power system, but they choose to stay on the grid for whatever reason, even though that means that all consumers will pay slightly more because of that consumer's decision. We just want to be clear on that. I do not think we will be suggesting that. We accept that many jurisdictions have a uniform tariff policy and that is not what this inquiry is about. It is about taking into account those objectives of government and then thinking about how we deliver the best outcome to all

consumers, keeping in mind that there are not direct price signals are sent to each individual. Did you want to add anything to that, Andrew and Anne?

Mr Truswell: No, I do not think so. I think I was just trying to suggest that priority one recognised those good policy reasons, and as Michelle was saying, there was a need to find ways to drive DNSPs to provide these services efficiently, within that constraint, and not just look to jurisdictions to remove it.

The CHAIR: So that is my question. If we cannot send a direct signal to the customer, how else can the signals be sent through, to whom, and at what point in the value chain?

Ms Shepherd: Well, I guess we would look at it from the point of view that whoever is paying the cost has a signal to them, so if it is in this case the network owner, they make a decision whether they want to continue to maintain a line or upgrade a line, or they have a choice as to whether to implement a standalone power system solution, or some other technological solution. At the moment the regulatory framework does not allow them the freedom to make that choice, based on the price signals that they are seeing, and so what we would like to achieve is that we get a more sensible outcome where the distributor is making a choice based on costs that ultimately are borne by all consumers.

At what point competition is introduced for standalone power systems, that is another thing that we will consider, but it might be at that point that the distributor makes a decision or there is some trigger around whether there is another solution, and the customers are transitioned off the grid.

Mr D.T. REDMAN: There is a strong sense that I think everyone recognises that there needs to be some regulatory reform in order to get some of the best outcomes. You operate on the east coast market, which has a lot of utilities, public and private, across a pretty substantial network. Western Australia is a bit unique. It is an outlier—a big government-owned utility in Western Power, Horizon operates right through the vertical supply chain, Synergy and other generators and the like. Do you see any need for any structural reform—structural in the context of those utilities the government has charge of—to be important to getting the benefit of the changes that we are seeing, as distinct from specific regulatory reforms?

Ms Shepherd: In all the jurisdictions that we have the power to make rules in, they are all structured slightly differently, if you compare Tasmania, Queensland, Victoria, and the ACT and so on. Our role is to really look at the way in which governments have chosen to structure their market, or that the markets have evolved, and then apply rules that best suit the overall customers.

Mr D.T. REDMAN: So you start with that as a fixed parameter?

Ms Shepherd: That is right, yes.

Mr D.T. REDMAN: So you do not want to make a comment.

Ms Shepherd: That is correct.

Mrs Pearson: In their infinite wisdom, the COAG Energy Council has decided not to give us an opportunity to make that comment. We have got a role set out in law, and there are lots of other instruments around that, so we take what we are given, and we also have the national energy objectives through which we assess every problem that comes our way.

Mr D.T. REDMAN: You can see where I am going. The Committee here has a lot of evidence that operating in the full supply chain, which Horizon does, gives them a lot of opportunity for innovation. They can make a whole heap of decisions in every part of the value chain, whereas others cannot. We have got Western Power, where just over 50% of their network goes to 3% of their customers. One thing that is going around in my head is whether the rural component of

Western Power should be separate from the much more meshed component, and allowing—I guess, whether that structural change would drive the level of innovation that might not otherwise be driven out of a bigger organisation. It is just a question, but you do not want to answer that one so we will let it be.

Mrs Pearson: Industry structures are usually questions for governments to deal with.

Mr D.T. REDMAN: Let the politicians wrap that one around!

The CHAIR: Can I have a chat to you about regulatory frameworks and innovation. These technologies are now well-established, and proven, and there is a lot of excitement about the degree to which they can be rolled out. Something that has been suggested to us in evidence is that the regulatory process itself does not necessarily encourage, and in fact may operate to stifle, innovation by not allowing network operators to do things like recover the costs of smart meter rollout or the ICT required to make these assets more dispatchable and controllable. How effective do you think the call–response regulatory framework is operating to facilitate these technologies?

Ms Shepherd: I think that one of the biggest challenges for all regulators and policymakers is adapting to this transformation that we are seeing. To go back to an earlier comment that I made, we really want to set up a framework that does not stifle innovation, that is broad enough to allow the flexibility and the evolution to continue without trying to pre-empt and predict what technologies or solutions might occur, and therefore solving for that. It is a challenge.

The other challenge is that it takes time to make good regulation and to undertake good reviews, and I think that is really important. I think that the moment that we decide that a quicker solution is better than a more thoroughly thought-through solution, that will only provide future challenges for us that we will then have to deal with. It is part of the reality of policy-making, I think.

The CHAIR: The problem that we have as a Committee—I accept that point; it is important given that we are long on gas, long on generation capacity and have a little bit of time; we take that. On the west coast, we are nowhere near confronting the same energy market challenges as on the east coast, so we do arguably have a bit of time to make sensible decisions, hopefully as bipartisan as possible, about the things that just need to happen. But we have had an incredible amount of evidence to us to say that we do not have time.

This is happening around us. People are putting this stuff in, whether you like it or not, and we have got to start adapting. We really do need to be enabled to respond. AEMO in particular is very nervous about this. There are conflicting signals coming through. One is saying "Take the time to make good regulation and good policy", and then others are saying, "We don't have time; this is a now problem, and you've got to get on with it." There are just some conflicting signals coming through.

Mrs Pearson: If I might just jump in for a minute. We do see those conflicting signals, and our approach over the last three or four years, where we can, is to take a staged approach. You are probably aware that following the black system event in South Australia in 2016, system security has become a really critical and important issue. At the commission, we have had a very—actually, it started before then—long-term work program to work through all of those issues, which we are doing in a timely manner, but at the same time we have made some shorter-term rule changes to give the market and system operators some additional powers to be able to manage the transformations that they are experiencing, so I think it is really hard, as Michelle said, for all regulators and policymakers.

The way we are trying to handle it at the commission, where we can, is to sort of take a multilayered approach, because you need to address the critical problems that are here now, but at the same

time you do not want to be locking in solutions that may be disproportionate in the longer term, because ultimately the consumer carries the risk of getting it wrong. We are trying to get that balance right, and as our market is transformed, we are seeing a lot of things happen, but what we do not understand are the implications for all of them. We are seeing new forms of generation come in, but we are slower to understand the implications, so we need to be careful about what we do in response. I just thought I would add that, because we are seeing it across a lot of issues, from the generation end right down to the consumer-facing end, and our approach is, where we can, to deal with the problem that is here and now, and then deal with the bigger issues over a longer period of time.

The CHAIR: This Committee is going to have to come up with a series of recommendations to government about things that could be done. What do you think we should prioritise? What are the things that are urgent and need more immediate addressing? What is the low-hanging fruit? What is the stuff that we just know needs to happen? What are the thought pieces? What needs that more considered, slower, deliberative process?

Ms Shepherd: I think some of the more urgent issues are around distributors being able to make sensible decisions about investing in the network that consumers will be paying for, for a very long time. Is the right solution—a grid connection or is it an off grid connection? With that, what consumer protections apply? What consent should customers be allowed to provide in those cases? I think that is the more pressing issue. We want to allow distributors to have that flexibility, but we do not want to do it at the expense of those individual customers.

Mr D.T. REDMAN: Choice.

Ms Shepherd: Yes. The second, in terms of that longer term issue, is what other technologies are coming and how do we adapt to that? We are seeing electric vehicles, for example. They are predicting to have a much bigger impact. It is not just going to be about solar PV and wind farms. It might be batteries. How do we make sure that we can get the most out of the battery technology in the right areas of the network that need it? That requires a little bit more thought, I think, because that is still rapidly changing. Some of the other technologies like solar on rooftops, wind farm technology is a bit more known because there is just more of it. We have been dealing with it in the market for a lot longer.

Andrew and Anne, did you want to add anything?

Mrs Pearson: No, I think that is fine. Thank you.

The CHAIR: One of things, Michelle, that you were saying before was about avoiding the temptation of picking winners. There has been some evidence suggested to us that someone somewhere—we are trying to work out who—should define a problem that needs to be solved in a particular area and rather than saying, "I need 10 megawatts of generation or some battery storage here", what should happen is, "There is a problem in this area and I need a solution", and then let the market come up with some creative ways. What are your views on, rather than procurement processes that target specific solutions that have been identified by a planner or a network operator, that the flip approach is adopted where there is just a problem definition and a request for proposal or some sort of EOI process for solving that problem?

Ms Shepherd: It probably depends on how urgent the issue is, but, generally, we find that market-led solutions will deliver the better longer term outcomes for consumers. If you provide price signals, for example, and allow all sorts of solutions to that problem that is indicative by the price, you will get the better outcome. Having said that, there are some energy security–type issues. Anne alluded to the fact that we have worked to give AEMO, the market operator, a little bit more power

to be able to solve more urgent issues around security and reliability, but the better longer term solution is to allow the market to solve it, really, rather than have a single person, whether that be a policymaker, regulator or operator, to pick a particular solution.

Mr D.T. REDMAN: One of the things we saw over in the US was the opportunities around community-aggregated generation and microgrids. Have you got any comments about that and any issues that emerge in your regulatory processes—jurisdiction, if you like—if and when they become a participant in the supply of energy?

Ms Shepherd: That is a really interesting issue that we are looking at in terms of what price do those customers pay, particularly where we have competitive retail electricity markets where prices are led through the national electricity market and the spot price and so on. You are sort of disconnecting from all those things, and how do you protect those customers in the long term in providing them with a fair price for electricity?

Andrew, are you aware of trials and things going on, on the east coast, looking at that specific issue?

Mr Truswell: None that are well progressed. We have spoken to a number of people, although we often find that when they come and talk to us about trials, often they want to retain a grid connection of some form. The review we have been speaking about today—when we use the term standalone power system or microgrid, we are really meaning a completely isolated system. Often these sort of community trials we have had some informal discussions with have wanted to retain some sort of connection to the grid, so they are not necessarily falling within the remit of the standalone system. I do not know if Anne knows of any particular ones that are more well advanced than me.

Mrs Pearson: Not really, other than we have seen a proliferation of embedded networks—little systems within the broader network. They are still connected. We are seeing those become more sophisticated, but I am not aware of any sort of standalone trials going on.

The CHAIR: Can I come back, Michelle, to the point you were making before about price signals and problem definition and market-based solutions. For system operations, do you think that the sorts of things that are required to make a system run—all the forms of ancillary services that are required to keep a system stable and reliable—are adequately defined and valued and remunerated? I am thinking about things like provision of inertia, VAR support and voltage control—things that currently happen on the network and are now provided by traditional forms of generation that they would argue add more cost to them—as opposed to the traditional ancillary services that we have valued and procured. What is your view on that?

Ms Shepherd: I think as we have seen the energy mix evolving and changing and a number of coal-fired power stations close and more intermittent generation, we have seen the need for different sorts of security that were just inherently supplied previously. Some of those things that you mentioned, like inertia and so on, are becoming more of a challenge for us on the east coast.

Anne, did you want to provide some comment on the work that we have been doing in that space in security and reliability?

Mrs Pearson: Certainly. As I mentioned before, we have had a work program for a number of years, and we are working very closely with AEMO on this, to define all those services that really were provided as a by-product from traditional generation. Initially it was around inertia. We continue to have a work stream on frequency and how to manage that. Given what is going on in South Australia at the moment, we are looking very closely at system strength or what used to be called fault levels—one of the other characteristics—and how they can be best provided. We have made some rules in that regard. Based on some other feedback coming through, voltage is another area that we

will need to be working on. Our challenge over the past three years has been to define what those characteristics are in a way that enables providers to supply and value those services adequately.

Going back to a point that Michelle was making earlier, we are trying to define them as neutrally as we can so that we do not tie ourselves to one particular technology because if we know anything now, it is that nothing is staying the same and there are different providers and different solutions all the time. A power system is a power system and the physics is the physics. That does not change, but the way that we can keep the power system secure or the sources and way we can do that is changing over time. With our rules, we have been going through a process of redrafting them in one way or another to define outcomes more neutrally.

The CHAIR: At the risk of being, sort of, blunt, if we do not value these sorts of things adequately, what is the risk to the system?

Ms Shepherd: It is about identifying what those issues are and then how they are incentivised into the market. The value may be price. It may just be something that is required to be provided when you connect into the network; that is, new generators must also be able to operate in a certain manner. As Anne said, there are different ways of solving it; it is not necessarily about the price.

The CHAIR: But if they are not valued, presumably they go away. I guess what I am trying to tease out is that the risk to the system is that if there is no way of monetising or valuing these things and they are core to enabling these technologies, they go away, which undermines the technologies. They complement one another. These additional system security services, or whatever you want to call them, are absolutely key to enabling these distributed energy resources. If we do not have them, distributed energy resources will be a disaster, theoretically, or perhaps actually.

I will get into one of the core issues, I think, around this inquiry: if we lose these other forms of ancillary services, we lose the key enabler of these distributed energy resources. There has been some evidence presented to us to suggest that.

Ms Shepherd: Yes. There is no doubt that in order to keep the energy market secure for the provision of electricity, you need a range of services. How you incentivise and ensure that those services exist, there is probably a number of ways in which you can do that. We certainly recognise that you do need all those things to make a system work effectively.

The CHAIR: Thank you. Are there any other suggestions or any other—we have a couple of minutes left—things that you think this committee should be aware of? We are now moving into the really pointy end of our inquiry process. We have got three or four more hearings and then we are done. We will be in report-writing mode and, hopefully, tabling next year. Are there any other things that you would suggest that we keep in mind as we consider regulatory barriers and, particularly in light of the work that you are undertaking, anything that jumps out from your work that you think we should be cognisant of?

Ms Shepherd: Our draft report is due out next month, so we will submit that as part of evidence, if you would find that helpful.

The CHAIR: That would be very helpful.

Ms Shepherd: There may be some things that come out of that that we can call out in the submission that we make.

Andrew, is there anything else, or Anne, that we have not talked about?

Mr Truswell: I do not think so.

Mrs Pearson: I do not think so, no.

The CHAIR: Fantastic. Thank you so much. I really appreciate you taking the time to put the submission into us and appearing before us today. I will proceed to close today's hearing and thank you for your evidence before the committee. A transcript of this hearing will be emailed to you for correction of minor errors. Any such corrections must be made and the transcript returned within seven days of 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. Thank you.

Hearing concluded at 10.51 am

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