

TRANSCRIPT OF PROCEEDINGS



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NUCLEAR FUEL CYCLE ROYAL COMMISSION CONSULTATION and RESPONSE AGENCY – CITIZENS' JURY

SPEAKERS:

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TRANSCRIPT OF PROCEEDINGS

ADELAIDE

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DAY ONE

PROCEEDINGS RECORDED BY SPARK AND CANNON

MS JENKE: It's now my pleasure to welcome Premier Jay Weatherill to actually open this jury. Many of you all know him. He's our champion of democracy. It's really great to see one of our leaders so brave in running processes like this. Welcome, Premier.

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PREMIER WEATHERILL: Thank you, Emily, and thank you jurors for being part of this process. Can I acknowledge Mickey for that Welcome to Country. There are also some members here of the Consultation and Response Agency Advisory Board. That's a group of people that are supervising this whole process to make sure it all works properly. There are a group of people around here who are observers who are here to help you. There are also people that are joining us on live streaming so welcome to you. We can't see you but we know you're out there, and ladies and gentlemen.

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15 This is an incredibly important milestone in our community engagement process on the nuclear fuel cycle but it's actually a pretty important milestone for South Australian democracy. I know that many of you when you got that letter in the mail would have made a decision about wanting to be part of this for a whole range of reasons, but I can remember the first conversation I had when we had the first citizens' jury when I went up to a fellow and I asked him why he wanted to be part of the citizens' jury and he told me he had a young son and he, like most people, thought the politics didn't work very well and the reason he wanted to get involved is to show his young son that politics can work.

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I suppose in a very real sense some of you may have been motivated by a similar thought, that politics, as usual, doesn't work that well. I think we've seen just yesterday in Britain a pretty spectacular example about division and disunity over complex questions. So in a way what we're asking you to do is to make a contribution to democracy; actually a better way of citizens coming together and answering complicated issues. Your role in that is going to be absolutely crucial.

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You're generously giving your time, your energy and importantly your brain power, so thank you for that. Some of you have actually given up your traditional morning coffee at Lucia's, I know, so for that massive sacrifice I want to thank you because I've made the same sacrifice and it's driving me crazy. But really the fact that you've come here open-minded with a spirit of goodwill I think is a massive contribution to your fellow South Australians.

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As evidenced by the gathering outside today, there are strong feelings in relation to this matter. Some people have made their mind up without even reading the report and not needing to know anything else, and that's fair enough. People are entitled to just act on the basis of sentiment and we've got to respect that. I think what we want to do though is encourage as many

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South Australians as possible, including the people outside, to keep an open mind for as long as possible about these questions so that we can come up with some wise judgments.

5 What you're essentially doing is engaging in a process of engaged citizenship; not just the idea of what's good for me and perhaps the people around me but actually stepping outside of yourself and saying, "What's good for my community?", and more profoundly with a question like this, "What's good for my community not just now but for hundreds, maybe thousands of years into the future." That is a very, very big set of decisions.

10 So in a sense while this is an obligation that you've freely entered into, it's a massive privilege on behalf of the broader community to actually be part of that process. In a real sense, you're the stewards of this process because this group of citizens, if you choose to, can go all the way to the end of the process for the final citizens' jury which will be comprised of 350 people at the end of the process.

15 The question that we're really asking you to consider is what role South Australia should play in the nuclear fuel cycle. We know it's a complex question with enduring implications. It's for this reason that we've decided to go down what is a very extensive process. This of course is in a sense the second part of it. The first part was the Royal Commission. We asked Kevin Scarce to look at all of the issues and come up with a report which expresses a whole bunch of factual findings. But this next phase is about how we take that report and give it the broadest possible exposure so people can actually put it some use to inform their decision-making process.

20 The reason we chose a Royal Commission: most Royal Commissions happen after something has gone wrong and tell us how to clean up the mess. This is a Royal Commission which is quite different. We've done it at the beginning of the process to help us guide our decision-making. It's quite a rare approach and it's the highest form of fact-finding that we have and the community and the citizens have confidence in Royal Commissions and we chose somebody of impeccable integrity, Kevin Scarce, to run it.

25 As you know, he's prepared a 320-page final report which was handed down last month. It contains 12 recommendations and 145 findings. The next step is to sort through the wealth of that material contained in the report and decide which elements of it South Australians want to discuss further.

30 Now, we could have done that as the government, but we believe that it was appropriate that ordinary everyday citizens do that, because we would have been accused of setting the agenda. So what we want you to do is look at that report and see things from your perspective. One thing we do know about

complex issues, the quickest way to kill them and to get a very cynical response from the broader community is to get a bunch of experts telling ordinary people what they should think, and so we're determined to make sure that expertise is put in the service of citizens, not telling citizens how things should be, because the greatest resource we have in our community is the commonsense judgment of ordinary everyday citizens.

Listening to experts, but not being dictated to by experts. Experts in the service of citizens, not experts telling citizens what to think. That's why you're here, to guide that process. This is the role of the first Citizens' Jury, to actually make sense of this report, so that when we put it out to the broader community, they can actually make use of it. It'll help us take the conversation to as many people as possible. We want to make this report as accessible. As it is, it's pretty well written, but, nevertheless, it's still pretty dense at the moment and we know most South Australians won't read it. We also know that there's probably only two or three things that people will be able to keep in their mind in any one point in time to actually grapple with, so we're going to have to brutal simplicity without losing any of the essential complexities is the ultimate guide here.

You will help independently frame what we should be paying attention to. I urge you to bring clarity and precision to this process so that the statewide consultation phase can be carried out with an enormous sense of confidence, integrity and effectiveness, and it's a big ask taking such a big report and crunching it down into something, its essence. We're looking for you to devise the key topics for people in South Australia to consider. We would like it obviously expressed in a straightforward, neutral and non-prejudicial language.

Despite what some people have been saying, there is no aspect of the Royal Commission which is a done deal. And in a sense, it can't be, because there has to be a broad community consensus about the government taking the next step before we can sensibly go forward; otherwise, we'll be leading to the divisions and disunity we've seen in other divisive debates around the world. While the government doesn't have a predetermined result in mind, I must tell you that I wouldn't have commenced this process if I wasn't open to the notion of expanding further our involvement in the nuclear fuel cycle, so of course we're open to it. But whether we take that next step, that has not yet been determined.

What we want to do is carry out a process that allows people to be confident of the facts, to engage in a mature discussion and to ultimately arrive at a mature and wise judgment. So everybody starts on every topic with a series of opinions and views, people's first thoughts, but at the end of the process what we want to do is to have their judgment based on choices.

To give you some idea about this notion of choice, I just want to dwell on this for a moment. We're really looking for you to work through the key issues in a way that recognises the complexity of the topic and the need for us to make choices. Simple yes/no questions without any context doesn't assist
5 governments to make a decision. For example, I'll give you an example from the health sector, which assists to really understand things: if you asked people if they wanted more and better healthcare, the answer would be yes. If you took a poll on that, everyone would tick that box. If you asked people if they wanted to pay more to do this, the answer would be no; people would tick
10 every box. So those are predictable answers, but they're isolated from each other and they're irreconcilable. Those two things just don't work. So you can get that type of deliberative process and you just tally up all the numbers, but where does it take you, where does it assist policy-makers and decision-makers about what they should do next?

15 That's one approach. It's not the approach we're asking you to help us with. It doesn't take account of the fact that some issues are just not capable of an easy yes/no answer. If there's an exhibit A on the table, it's what happened yesterday in Britain. The Brexit vote was a yes/no answer. Do we stay in
20 Europe? Should we leave Europe? Now, the country is split almost right down the centre; 52/48. In some cases, Scotland and Ireland are strongly wanting to go out. What you've got is this: no capacity to actually reconcile all the different perspectives; just a simple yes/no. There's just no capacity to have worked through the things that are worrying people about being in
25 Europe, the advantages of being separate, the disadvantages of being separate. All of those things couldn't be debated because you only had this yes/no. This process stands in stark contrast to that; it's to help people work through those questions.

30 Against this backdrop, we're hoping the topics that the jury will identify will assist decision-makers to arrive at a decision. It won't be valuable for us to learn, for example, that some people are opposed to establishing a nuclear waste facility and some are in favour. We know that. Instead, what we need to consider is our role in the nuclear fuel cycle in the wider context. What are the
35 choices that are available?

While I've said that government won't prejudge these issues, I think there is a role for political leaders, not just politicians, but including politicians, to
40 engage in this debate over these coming months as we start to go out to the public consultation phase. It is appropriate for politicians to lay down their values about these matters. In my case, one of my personal values is that I wouldn't contemplate any deeper involvement in the nuclear fuel cycle if it compromised South Australian safety. That would be, from my perspective, a no go zone. Secondly, I wouldn't contemplate expanding our role and the
45 generating of any economic benefits that may exist unless those benefits were

shared more broadly. Now, they're my personal values, and I'll express them as the debate goes on. And we'll invite other people to express their values. We should be afraid of people expressing their values. They will ultimately have to be played into the decision-making process at the end of the day.

5

The government's role, from my perspective, is to elicit the broadest possible range of perspectives in this process so that our responsibility is to give weight to those views in the community and ultimately to act in the best interests of South Australians. What the entire Citizens' Jury and consultation process does is not to arrive at a decision, but to actually arrive at a decision about whether the government can make a decision. So what we're really wanting to know is essentially: have you satisfied yourself that you've got every possible perspective out there and told us about those perspectives, improving the strength and the size, perhaps, even, of how they're held? And is it now over to us? That's basically what we're asking. We're not abdicating our responsibility to make a decision to you. What we want, though, is to know whether the debate has got to a sufficient level of maturity that we could safely say it is now over to you guys to make the decision. That's an important distinction.

20 There's been a lot of people running around saying, "How can we give 50 people the chance to make a decision about future generations of South Australia?" Well, we're not asking you to do that. What we're asking you to do is to help us make a wise decision. The way we'll make a wise decision is to make sure that enough people in South Australia feel as though they've been involved and have had their say, and that you've been able to accurately describe all of the different perspectives and all the different elements so that when we do make a call it's based on the best available evidence. That's ultimately where this process needs to wind up. Ladies and gentlemen, I know you're going to give all your best for the next two weeks that you will be sitting for this citizen jury. There will also be a further citizen's jury.

35 I have absolutely every confidence that you will a massive contribution to assisting this issue being understood in the broader community, so thank you for coming together and thank you very much for devoting your time and effort into this most important issue facing South Australia.

MS JENKE: Okay, Premier, I'm going to put you on the spot. Are you happy to take some questions?

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PREMIER WEATHERILL: Yes, sure.

MS JENKE: Okay, anything, now is your chance. I don't know if that's on.

45 JUROR: (indistinct)

PREMIER WEATHERILL: Yes, I think that second jury, we know those dates. I think we're talking about - - -

5 JUROR: Through October.

PREMIER WEATHERILL: Through October. So, what, we've got this for the next couple of weekends, a big process of going out to the broader community, which is in a sense the biggest part of the exercise, the length and
10 breadth of the state, on the basis of what you produce to try and guide that process, then coming back to get you plus or you as part of 350 others. The reason 350 is chosen is that statistically that out of 1.7 million people that gives you a statistically relevant sample, so it should have most people's
15 perspectives.

JUROR: Why are we doing it? Are we doing it just for money? Is that the reason why we're doing it?

PREMIER WEATHERILL: You tell me why you're doing it. I just invited
20 you to do it.

JUROR: No, I mean why we're digging the hole.

PREMIER WEATHERILL: I see. Sorry, I misunderstood you. We're asking
25 the question about whether we should do it. If it's just for money? Well, that's the question, it's a good question. If it is, is that good enough? Jobs, prosperity, you would have to weigh that up against, essentially, risk and safety. They're some of the big questions you're going to have to ask yourself, and I think that's really what this is all about. If it is for money, is that enough,
30 and can you satisfy yourselves that it's safe enough.

How big is the money? How real is the money? How real are the risks? Can they be managed? I suspect they're some of the questions you will ask
35 yourself.

JUROR: Hi, Premier. I had just one question because whichever way we choose to go there will be a huge up front cost attached to it before we start realising the benefits. How exactly are we planning to fund that huge amount of infrastructure that would be required along with a big maintenance and
40 disaster recovery budget? Considering that we're already struggling as an economy, I mean not everything is going in their favour at the moment.

PREMIER WEATHERILL: Well, I think in the Royal Commission report the commissioner says you wouldn't spend any money until you had the country
45 that was sending the material pay for it. Essentially, you would have locked in

contracts and they would pay for it, so I don't think we're going to be building anything on spec. That's what the report talks about, and you would have to analyse whether that's realistic.

5 He seems to think it is, but that's the process. There wouldn't be any up front money put in without locked in commitments from donor countries. That's certainly what's contained in the report.

JUROR: (indistinct) as a result of, you know, our deliberations, how is that
10 going to be distributed to the general public?

PREMIER WEATHERILL: I think that's really a question for you, that's part of what you will decide. In a way, what you are doing here with this first jury is you're almost producing a guide to the 320 page report. What should you
15 look at? If you don't want to look at the whole 320 pages, what should you look at and how should we frame up the choices? Then there will be a bunch of things come back through that process over these months when we're going out to the South Australian community.

20 How you summarise that and then send that back to government and how you publish that and send that to the broader community so everybody knows what you told us will once again be a matter for you, so I would presume that anything you want to tell government you will want to publish and tell the broader community about what you have found so that there can be no doubt
25 about what we've heard.

MS JENKE: Okay, anymore questions?

PREMIER WEATHERILL: Yes, there's couple there.
30

MS JENKE: Now is your opportunity.

JUROR: You mentioned Brexit as an excellent example of a yes/no decision. Would you agree that the reaction of many people in the UK was opposition to
35 being dictated to by the experts?

PREMIER WEATHERILL: Absolutely. It is a real gold example of the elite, all the movie stars and politicians telling ordinary every day people of Britain what they should think, and I think as much as anything else people rebelled
40 against that. What I'm trying to do with this is the complete opposite, that's why. I mean, if I was running this, you know, with all the best will in the world, I don't think it would have as much credibility as, essentially, a group of citizens like you running it.

45 In a sense, it's one of those questions where we just can't. I mean, this won't

happen unless this community consents to it, in a broad sense. I think consent in this sense isn't a vote, it's an acceptance, just an acceptance that this is an appropriate decision for the government or one of the range of decisions that the government could take, and maybe it wouldn't be a decision you agree with but within the acceptable range of responses for a government to take.

Now, if there isn't that, it won't happen, it can't happen, because we're talking about decisions that span decades, even hundreds of years, so it's not one of these decisions you can take one year and say, "We've changed our mind." Having said that, though, there may well be gateways, and that's one of the things that might emerge out of this, is that it may be that there are steps where we say, "Well, we are prepared to explore it to this point, to this point, but then if there's a irrecoverable decision to be taken then we will reconsider our position," so it may be that there are gates, and that's something you might want to think about.

JUROR: Just a question on, like, the report lets us be clear on the facts of nuclear, and that was the terms of reference for the Royal Commission, but I just find it lacking in the alternatives to nuclear. I know there's regard to renewables, I would say, in here, and, you know, just reduction in consumption, better housing design. You know, there's lots of other policy options before we head down a nuclear energy path, and I just found that, you know, hasn't been explored enough for me.

PREMIER WEATHERILL: What the report really says about energy is that really between now and 2030 there's no viable nuclear energy option for Australia, so in a sense it sort have defers that. Although, it does say you should prepare yourself because it anticipates that by 2030 we will need another form of energy which is not carbon producing, and the assessment in the report is that may have to be nuclear. It doesn't say that it should, it says that it might be one of the things that you have to consider, so you should take steps now to clear the way to make sure that you've got that option in 2030.

In a sense, if the report dealt with three things or four things, mining, and it says, "Tick, you should do more mining if you can." Enrichment, it says, "There doesn't seem to be any short-term or medium-term opportunity there because the world has got enough enriched uranium resources," so cross. Nuclear energy, "There doesn't seem to be any near-term or medium-term proposition there," cross. Waste storage, "Tick." In very broad terms, that's what it's saying.

JUROR: Thank you, Premier.

JUROR: Quite a lot of the report talks about the economics of the various activities. That involves quite a lot of crystal ball gazing, I guess you could

call it. How can we be confident in estimates - - -

PREMIER WEATHERILL: Yes.

5 JUROR: - - - because I guess it's fair to say the general public would see things like maybe the hospital or other endeavours - - -

PREMIER WEATHERILL: Yes.

10 JUROR: - - - that tend to run over time, over budget, so if we are being asked to judge the merits of this - - -

PREMIER WEATHERILL: Yes.

15 JUROR: - - - how can we say that these numbers make sense.

PREMIER WEATHERILL: Good question. I mean both of those things are – the point there about renewable energy, if you think that – it may be that the perspective you bring to it is that renewable energy isn't being given sufficient
20 weight or balance here and it needs to be considered in this context. That is an important observation, so that people understand the whole picture. In relation to the finances about whether these things are – in terms of the nuclear waste storage and its potential economic benefits, what the Royal Commissioner would say is that he's given a conservative estimate. But I think that anxiety,
25 that natural anxiety that people have because they see government projects over running and in terms of cost et cetera, I think it may well be that you – what you bring to this is that that is one of the most significant issues. The community needs to – to be satisfied about and so there needs to be greater exploration of that. That might be one contribution that the citizen jury has made. We are looking at all these things, now without – you might say, look
30 we're satisfied the storage – that safety for storage is ticked off. We get that. We're satisfied that you can – we're worried about transport to the storage site; question mark about that? We are actually quite worried about the economics. Are the benefits that are claimed actually there? And we think that's going to
35 resonate in the minds of people. We need very much – we need to spend more of our time on that, slightly less of our time on the technology about storage. A little bit of extra time on – see they're the sort of things that – that's exactly the sort of feedback that we're hoping will emerge.

40 JUROR: How many of the 350 person jury will be general public? One hundred per cent?

PREMIER WEATHERILL: Yes.

45 JUROR: Yes.

PREMIER WEATHERILL: Same process. So we'll send up another 25,000 letters, or is it - - -

5 JUROR: And is that also - - -

PREMIER WEATHERILL: This man - - -

10 JUROR: - - - sorry. Is that also 100 per cent of the answer; what jury decides?

PREMIER WEATHERILL: No, the way it will work is this, the – is it the same 25,000 – I will give you the technical answer first and I'll answer the second part second.

15 STAFF: Okay, so (indistinct) selection (indistinct) is random (indistinct) so the same way we (indistinct) Australia Post resident, there's other random draws we can do, sort of like based on lottery numbers (indistinct) your mobile phone number. We need to pick something which people (indistinct) So there is postal options but we're also aware of other options to use, like those
20 (indistinct) 29 come up first. If you've got (indistinct) in your phone number you're picked. It's a really efficient way for us to reach a large number of people. Equally, we could have such a high response to the first round that (indistinct) selected for, we'll also be using that (indistinct) as well (indistinct) that chance to participate.

25 PREMIER WEATHERILL: Okay, so that – so we sent out 25,000 letters; 1,000 came back, obviously only 50 got chosen, so we've still got theoretically 950, assuming they're still interested. So somehow we'll get another 300 is it – 50 plus 300, is that how it works?

30 STAFF: Fifty plus 300.

PREMIER WEATHERILL: Yes, so another 300 plus you guys. Assuming nobody drops out, you know because that may happen, it may not be
35 convenient for you to participate in October. But your second question is what does the second jury really do? The second jury is about – so first jury, guide to the report. What do you people – which bits of this should people focus on? Second jury – sorry, second process, going out to the broader community and asking all the perspectives and third jury, summarising those perspectives and
40 getting a report to government which will be presumably publicly published. And then fourth process, in a sense, is us making a decision, assuming your – the 350 person jury has said actually it's now well enough developed for the government to make a decision, or at least a preliminary decision to – you know, one decision could be proceed to the next step but stop there and wait
45 for the next tick. That could be one potential outcome.

JUROR: I suppose one of the queries is that long term, if we agree as a state, as a government – SA government – that we should need to go forward and we believe that storage is an opportunity for us, there's still legislative issues
5 nationally that need to be addressed, so regardless of what 350 as a contribution of the percentage of our state, it's a very – not large enough percentage of a national level to make the government of the day nationally change those legislative barriers that exist today to allow us to go to that stage.

10 PREMIER WEATHERILL: Yes, that's exactly right. In fact it's even broader than that, it's – you'd need state government – there's state government legislation policy, there's federal government legislation and policy and there's international treaties and agreements you'd need cooperation
15 for, so you know the truth is this would be – even if you said yes tomorrow as a state, you would then – it would then be a long process for the commonwealth to say yes and then a long process for the international community to say yes. So you wouldn't get any change out of this any time soon. The other thing to remember is that there are political parties come in to play here, so federal
20 Labour party policy, federal Liberal party policy, state labour party policy, state liberal party policy and not all of those things are yet lined up but the truth is that those political parties will – are looking carefully at this process. You know, so they're not going – this process is not unrelated to how political parties will respond ultimately to this question. But there's no doubt it would need to be bipartisan for this to ever happen.

25 JUROR: If as a state tomorrow we said no, where do we go from there?

PREMIER WEATHERILL: Well, that – you know, I think that becomes an important part of the decision is you know, there are choices here. That would
30 mean closing off an opportunity and that's fine. That's a legitimate choice. And – but as long as people knew that that's what – that's the decision that was – that was being taken and fully aware of the consequences of that and it's a perfectly reasonable decision to take.

35 JUROR: So is there a plan in place to then look at further (indistinct) options? Money allocated to (indistinct) further investigation (indistinct)

PREMIER WEATHERILL: Well, I don't think the two things are mutually
40 exclusive. I mean you know, there is one view that Australia or South Australia would never need to have nuclear energy, that it could use renewable energy. We already have one of the highest levels of renewable energy anywhere in the world; we're at 42 per cent going up to 50 per cent at the moment, which is very high. I think outside of Denmark we've got more wind power than anywhere in the world. So we're already on an international scale
45 quit strong on renewable and there's no reason why that couldn't continue. It's

just that some countries in the world won't necessarily have the capacity to have renewable energy and they may still have nuclear industries and because we have 25 per cent of the world's uranium deposits, we'll probably still be mining and selling uranium. The question arises should we store the waste of that? I mean that arises, I think, independently of how we run our energy system. So you could – the two things could stand together. We could have a – you know essentially our power needs dealt with through renewable energy but we're still in the nuclear fuel cycle through mining or some other element of the process.

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JUROR: Okay, I'm terrified of these guys Premier - - -

PREMIER WEATHERILL: Yes, good question.

15 JUROR: I'm thinking they might be calling you back as a witness, so thanks – thanks Premier for your time and answering those questions.

PREMIER WEATHERILL: Thank you.

20 MS JENKE: Thank you. Okay, so are going to have a break in a minute but before we do, I do want to introduce you to the shadow man over there on the side, I shouldn't call you that, Iain come on over. So Iain's from the New Democracy Foundation and the foundation – this one is on, I think. I don't need two; I've got a loud enough voice. The New Democracy Foundation is an independent research foundation and you would have seen that Iain and Ilka are the people that brought you to the room. So it's just an opportunity for Iain to give you a bit of a high scale overview. Off you go.

25

MR WALKER: Good morning, there's really just one point, I want to land with you and it's great to land it right at the outset and it's always good to be an opportunist and have the Premier in the room at the same time. I got great questions at the back this morning and they all kind of pointed to – have you already made the decision? Is that – is that what's going to happen? And you should always look at people's self-interest, the self-interest of any source. I run a democratic reform foundation; I run it for a man who believes that this is how parliament should be constituted, that random samples of people will be more trusted than those in an elected office, than those in advocacy groups, than those in various self-interested groups coming together. My self interest is that at the end of this, 50 of you stand behind it and say that's our work. If it at any point that you feel led, or gently nudged to a decision, complain to me. Emily will of course help you through all the activities and speakers and activities. But there's one thing - - -

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MS JENKE: I'll help you complain.

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MR WALKER: But there's one thing - - -

MS JENKE: I'll help them complain as well. Yes.

5 MR WALKER: But that's our goal at the end, in the nicest possible way as the
20 or so of you I spoke to on the phone, we don't care what you actually
recommend, we care that you own it, and we care that you stand behind it,
because the greatest challenge here, as we saw, is actually with that (indistinct)
10 decision. Do you know what the most searched overnight term in the UK was,
what is the EU? What happens if we leave? That's our key challenge; as we
first approach this task there will be a great deal of challenge around this. I
know it's – the challenge is a million people will not read a Royal Commission
report. A million people probably won't trust government documents that
15 come out, they probably won't trust Business SA or the Conservation
Foundation, they will think – yes, you would say that wouldn't you. But
people will not say that of you. And I need to protect that each of you say we
weren't led, to the extent you can achieve that, we'll have a really successful
few days together. So please don't be shy. Thank you, Emily.

20 MS JENKE: Thanks Iain. Okay, you're going to have a chance with Iain a bit
more of a discussion after morning tea, but I do want to just give you a break,
so we can hopefully clear the room and then we are getting to work. So let's
have a break until half past 10.

25 **ADJOURNED** [10.11 AM]

RESUMED [11.33 AM]

JUROR: Yes, so what sort of assumptions have gone in making of the
30 economics, yes.

MS JENKE: Okay, so economics and assumptions. Look at this girls run.

JUROR: Hi, just that that there are opportunities and concerns together.
35

MS JENKE: Yes, and therein lies the challenge. Yes, next.

JUROR: To me the bottom of page 173 of the report is really what we're
40 about.

MS JENKE: And what is on that, because I haven't read the report.

JUROR: It's in the summary, bottom right-hand side, there's about four or five
45 questions which I think - - -

MS JENKE: Tell me more.

JUROR: I can't remember off the top of my head, but they are economic, they are environment suitability of how long radiation continues for, all those sorts
5 of aspects. The bottom right-hand corner of page 173.

MS JENKE: Okay, I'm just going to write, "Page 173," so we remember to come back to that. What else was on your minds? Hang on.

10 JUROR: What is on my mind is the complete lack of knowledge of radiation physics by girls and boys leaving school, and I think that we need to have an improvement in our curriculum in that area so that people go out informed and not full of fiction.

15 MS JENKE: Okay, so this concept of education and radiation. Yes, okay, anything else? Was there anything different that you heard when you were introducing your friend you haven't met yet? I think let's just lead them on.

JUROR: We take the whole society along for this ride.

20

MS JENKE: Yes, okay, so taking society along. Where are we?

JUROR: As we were discussing things, I was surprised to find how many people have very similar questions who would say, "I thought of X," and
25 someone else would say, "Yes, I thought that too."

MS JENKE: Yes.

JUROR: There was a couple of, to me, unexpected sort have questions, so the
30 consensus and the diversity is a different level. That's what I noticed about that discussion.

MS JENKE: Yes, okay, so the difference and diversity and the common stuff, commonalities. This list is messy, don't worry, and it's green, which I know is
35 really hard to see, but I haven't got a pen that works. Rookie mistake. Well, I'm always learning.

JUROR: It wasn't a point that I raised. I thought it was an important one, and that is the predictability of what's going to happen in the whole nuclear fuel
40 cycle, changes in nuclear technology, recycling, who deals with waste and where. To predict now what's going to happen in 20 years' time is very hard, so predictability or lack of.

MS JENKE: Lack of, okay. All right, I'm going to stop you there. I'm sure
45 there were some great conversations, but what we've got up there is things that

are on our minds. How do we summarise this for everyone? How do we bring people along? What are the assumptions? What are the economics? How do we grapple with the differences? How do we find what's in common? Education, environment concerns, a whole range of things, and safety. Safety is one thing that we know is really on your minds from the survey.

There was one question I think we asked, "What's on your mind?" and I think every single one of you had the word "safety" in there. I was actually looking at a time to see if could find one that didn't have safety, and I don't think I did, so it's very much top of mind. If that's what's on your minds, highly likely it's on the minds of everyone out there. If we can produce a product that speaks to not necessarily resolving some of that complexity but unpacking it in a way that says, "We know that safety is an issue. This is what we've learnt about it, this is what we know, these are the questions that we still need to talk about."

Okay, so that's kind have the logic that I'm seeing that you guys can produce in your report. There's two probably other little things that we need to talk about, which is how we as a group work together and how we're going to resolve difference in the room. This discussion is like having a discussion about what's going to happen the first night that your teenage daughter comes home drunk. You know, you can be planned and ready for it, but you're not going to know what's going to happen until it happens, so as a group I just want us to start to get our heads across how we are going to see consensus, because at the end of our report we need to say, "We're all pretty happy with that, we think it covers the breadth of what was happening in the room."

In order to do that, we need to have sort have decision rules, if you like. I don't want them to be too complex, and I've got some ideas for you. Where do I need to point this, Adam? I want that ropes one. I have used this for my whole career working with groups, small big groups, tried it out with teenage daughters, not kind have working very well for me at the moment. I am a red headed mother, which is difficult. This concept of remembering the ropes I think is really nice, and we could spend hours and hours in the room setting up some behavioural norms.

My experience with Citizens' Juries is that you guys are all here because you know what you signed up to. You're here because you want to hear those different views, you want to work together, you want to be part of this tussle and grappling with this task. So the ropes are pretty simple, the ropes stand for something.

R is about respect; having respect for others, for other people, for their opinions and their perspectives. Okay? It's open-mindedness. I don't know who knows about a concept called appreciative inquiry, which is about what's possible, you know, really this sense of curiosity and interest. So a

fundamental rule around respect. O is for open-mindedness. You heard the Premier talk about that. I know that most of you have come into the room with that sense of open-mindedness because you've told me, "I'm ready to learn. I'm keen to find out more. I kind of knew, you know, I was forming a position but now I'm open-minded." So definitely bring that in every day we're together.

P is participate fully. I already know you've ticked that box by doing that activity. By the time we have our group hug later in the day, you'll be - no, I'm only joking; there's no group hugging. Not yet anyway. But participate fully, get involved, and also help others participate fully. If you look around the room, we're a really, really diverse group, and some people will need support and some people will need time and space, and some people can go quickly, so we need to find a way to make that participation work.

E is for experience. We all bring experiences that matter. All of them do. Experiences, I mean knowledge, understanding, life experiences, whatever they may be. And S is about sharing the air. I'm not good at that. No, I'm only joking. Hopefully I'll start not talking so much soon. But sharing the air is really about making sure that the other 51 voices in the room are heard. How we're going to work is not as a big massive group all the time. We're going to break down into some little working groups, which is much easier for you to sort of talk about things, and then we will bring that back into the main space. So if you're not confident speaking in a big group, that's perfectly okay; you'll be able to participate fully.

Are you comfortable with those? I've kind of given you them because I just know they're nice and easy. As a general rule of thumb, we can pop them up again if we need to, but the next little question and little discussion I've got for you is about consensus and how we know that we're getting close to consensus. I think we're about to go back live streaming. What time are we doing that? We're on now? Yes, okay. We've got staff from the Royal Commission who have come in to give us a bit of a sense of the report and the process. Lucinda is here.

But just on your table groups, and I'm going to come back to this later on this afternoon, have a little discussion just for two or three minutes about what does consensus look like? How will we know we've reached it?

ADJOURNED [11.43 AM]

RESUMED [11.48 AM]

MS JENKE: - - - slam session. Did you know that? That wasn't part of the break, was it? On the Royal Commission reports we have three of the Royal Commission gurus. We don't have the Commissioner because he's sunning

himself on a beach somewhere, maybe, hopefully, in Turkey, having a holiday, a well-earned rest. But we do have Greg Ward in the centre. Greg Ward was the chief of staff to the Commissioner. We have Chad Jacobi. Chad was the counsel assisting. Also, Lucy Byers, who was the solicitor assisting through
5 the commission process. We're breaking this session in two because we've got lunch at - what is it - 12.30. So up until lunch we wanted to give you a sense of the process that the Royal Commission went through and after lunch some of the detail about the recommendations. However that goes, we've just got some time for you to really get your heads across it as much as possible. Who is
10 kicking us off? Greg?

MR WARD: That's right.

MS JENKE: Are you happy to have that?
15

MR WARD: Yes, sure.

MS JENKE: Do you need the clicker? Do you want me to click for you?

20 MR WARD: I'll take the clicker.

MS JENKE: You can click because you can see on the screen there. Yes, that's fine. Okay, off you go.

25 MR WARD: Thank you for the opportunity to present to you today and to talk about the process that the Royal Commission went through in its inquiry. That's what we'll focus on in this short session. We don't have a lot of time so we'll cover it at a high level and then in the session just after lunch we'll talk more about the findings and the recommendations. But I appreciate that some
30 of you have travelled a little way to get here and it's the weekend so I appreciate you giving up your time to listen to us.

I guess the first thing that I'd note is that this is a fairly complex, it's an emotive and it's an important subject I guess for the state to debate properly. There's a
35 lot of hubris and misinformation out there with respect to this topic and, as the Royal Commission found, there's a fair bit of time and effort that needs to go into actually sorting out fact from fiction and I think that's going to be partly your challenge as well. We had the advantage I guess of having what was close to 15 months to actually do nothing else but investigate this topic and,
40 as I said, there was a lot of detail to get around.

Before I get into it, just a quick intro for both of us. As was just mentioned, my name is Greg Ward. I was the chief of staff for the Royal Commission. I came to this without a background in the nuclear industry. I knew pretty
45 much nothing about it. My background was military, government and business

type roles. So I certainly came to it with a fresh perspective. I came to it ready to learn. I guess I was a little bit sceptical about the motives for those that supported the industry and for those that opposed it. I guess also that I wasn't too certain whether this was a good thing or a bad thing and it took me
5 probably about six to nine months before I got comfortable enough that I understood what was a fact and what wasn't and started to form my views. After this, I'm going on to other things that aren't related to the nuclear industry.

10 MR JACOBI: I'm Chad Jacobi. I'm a public lawyer. For the about the last decade my responsibility was to act for the government in criminal prosecutions as well as in Constitutional Law cases, essentially doing court work. At the end of the commission, I've left government and I'm about to go to the independent bar and work for myself. I had no background in nuclear
15 when I started and I have no expectation of being involved in nuclear at any point in the future, other than Saturdays, speaking about what the commission did. I'd echo everything that Greg said in terms of my expectations about what we were going to learn. I think that you're going to face very much the same challenge that we faced coming into it. I certainly had no preconceived view
20 about whether this would be a good thing or a bad thing in any respect. I think perhaps I'll hand over to Lucy, who was part of our team.

MS BYERS: Thanks. Yes, very similar to Chad's background. I'm a public lawyer for the state government, and have been for about the last 15 years,
25 predominantly in an advisory role. I've dealt with a number of different areas: Constitutional, administrative. I've had a bit of background in energy and electricity law but I really came into the Royal Commission process seeing it as just a really interesting topic and interesting challenge, something I didn't really know much about and so I can feel, hopefully, a bit of empathy for all of
30 you embarking on the start of this process as well. Hopefully we can help share a bit about what we learned and we're really open to speaking to anyone over lunch or as and when that works.

MR WARD: I guess we'll start by running through the process that the Royal
35 Commission went through. Some of these slides I appreciate you've probably seen. The Commissioner had a little video up which I'm assuming most of you have seen so you will recognise some of the slides. But the terms of reference were what we were required to work to. We needed to look at the entire nuclear fuel cycle, which comprised a number of elements.

40 The first part of it, the little green dot up there, was basically looking at the exploration and extraction mining of radioactive material. We were required to look at whether or not there was any opportunities, any additional risks associated with those, to increase the mining activity that the state already
45 undertakes. As you may well be aware, Australia has something like

30 per cent of the world's natural uranium and South Australia has about 80 per cent of that. So we're a significant player already in terms of uranium that's fed into the world market.

5 We were also required to look at whether or not there was any opportunities to add value to the uranium that we mine. At the moment we dig it out of the ground. That uranium oxide or yellow cake, which you may have heard of, is shipped overseas and there is no value-adding done to it here in Australia. By value-adding we were talking about the process of conversion, enrichment and
10 fuel fabrication.

Conversion is basically taking that uranium ore and turning it into a gas which is then fed into the enrichment process, which is really about trying to increase the concentration of uranium - in fact, a particular isotope of uranium - up to
15 around 4 per cent from the natural .7 per cent. That's required in order to be able to be used to power a nuclear power plant. Those little pellets that result from that are then put into fuel assemblies and that's the process of fabrication. It's those fuel assemblies that then go into the red dot up there which is nuclear power stations.

20 We were required to look at whether or not it made sense to produce electricity from nuclear power plants. Once the used fuel comes out of a power plant, one of two things can happen. It can either be reprocessed and uranium that's in the system can be reused and it also reduces the volume of the waste stream.
25 Alternatively, it can be taken in the form that it comes out of the reactor and stored and disposed of in that form, which is what finally happens. Of course there's some research development and education that goes around that. I've probably had my two minutes on that bit.

30 We were supposed to look at this in terms of opportunities and risks and in the context of the various communities in South Australia. So what do we do? We had a fairly short time to actually run through the depth of information that was required. This was a fairly complex topic, as we said. We had essentially a year to do it. We very quickly pulled together a core team of about 20 people.
35 Those people had expertise in law, in geology, in engineering, finance, medicine, nuclear clearly. The core team was about 20. We had another 20 or so advisers who provided support to the secretariat, and we had some consultants that also did some work on our behalf.

40 The first thing we did was issue a series of issues papers and ask for public feedback in the form of submissions. We gave the community about three months to provide those written submissions. While that was happening, our internal team was doing a lot of its own research. Very early in the piece we went to both proponents and those that were opposed to – to the nuclear
45 industry and we asked them who we should be talking to and where we should

5 go and visit and after coming up with a fairly long list we developed a programme of visits, initially through South Australia where we started in regional and Aboriginal communities and then progressed overseas to – through Asia, through Europe and over to the US and Canada as well where we looked at nuclear facilities, we spoke with people who supported the industry and we made a conscious effort to make sure we also met with people who were clearly opposed to it. We visited Fukushima to understand what the consequences were when things could go wrong.

10 The second part of last year we concentrated on a series of public sessions and that's where we invited experts in to address particular areas that we wanted to drill down further on. In January, February this year we spent – the team together and we basically analysed the information that we had in order to develop some tentative findings. Those tentative findings we made public and
15 we asked for feedback from the public in relation to what we had found. And while that feedback was coming in, we worked hard to develop the final report which was delivered as promised on the 6 May this year. So that was in essence the stages that we went through. Chad.

20 MR JACOBI: What we at the outset did was identify pretty clearly what the principles were that we wanted to act on. We picked three and if you were following the process early last year, the Commissioner was speaking about these and they are the three that appear there. What I want to speak about briefly is the implementation of them. If you are interested, you will find the
25 discussion of this in the report in appendix B commencing at page 181. The key point about it being evidence based was this, that the Commission's task in its terms of reference was to identify the evidence that it be accepted as the most credible and cogent, and that is what is reflected in its report. And so the point wasn't to balance competing passions, or cases but simply to identify
30 what were the facts, what was in contest. Seek to resolve what it could and identify where there was disagreement, what the nature of that disagreement was. There were four sources of that and Greg's already mentioned a number of them. One that will be of – given that he's already talked about submissions, I'll skip to the public sessions.

35 The issue there was that the Commission sought to supplement the information you had received in the written submissions with further evidence. This wasn't a process of coming along and speaking about what you've put in your submission, we read all of the submissions and indeed, we read all of the
40 references that were contained in the submissions as well, collectively. The issue was that we knew that there were experts out there that we wanted to speak to, that wouldn't make a submission but we wanted to talk to, and the issue was to locate them and speak to them. So the task was to identify people that had a combination of – well, they had expertise by reason of either their
45 study or their experience and often both, that were balanced, could speak to the

risks of an issue and discuss it from their either scientific engineering, or other expertise. So we called about 140 witnesses in the year, across a wide range of areas, they're listed, I think at about – I think I mentioned 181, it's about – page 186 is a big list of the witnesses that were called and the topics on which they were called. There were also some people where they put in a submission we sought to speak to them about their submissions so that we could find out what the basis for it was but that was more limited.

So that represented our best efforts in the time that we had to identify the people that we thought were expert and you will see throughout the report, references from the footnotes in to the oral evidence that people gave in those public sessions and certainly they were illuminating. The other thing I will mention is the Commission studies. These were a series of studies that focussed primarily on viability, though there were a number of others, one on safety cases and another on transport risks where the Commission put out a scope of work, that is, it defined the task that it wanted undertaken and we had experts undertake that work. The views expressed were those of the expert organisation and it was simply evidence that the Commission could accept or reject as it saw fit and so that fitted in to its analysis in that way and you will see references throughout the report, to the reports of Hatch, who did the work on further processing. The works of DGA that did the work on electricity and the work of Jacobs that did the work on waste. That's what I want to talk about in terms of evidence and I think Lucy's going to deal with openness and transparency and independence.

MS BYERS: Yes. So the second foundation principle that the Commission really wanted to adhere to as its entire process rolled out, was this value of openness and transparency. We were lucky enough with our Commission and our terms of reference that we really had the freedom to – to do things in perhaps a slightly different way than the way you see a lot of Royal Commissions being rolled out at present. We weren't investigating something that had gone wrong in the past, and so there weren't concerns about confidentiality or liability or anything like that, so we had the opportunity really to – to be quite open in relation to how we went about things. And the way we tried to keep that practice going throughout the Commission was to publish a lot of the information on our website; all of the written submissions that were appropriate for publication were published. We used the website as well to live stream all of the witnesses that we heard from in the public sessions, so people were able to tap in and watch those as they were going. They were also able to view podcasts later. The transcripts were all made available on our website and also all of the Commission studies have been published in full, along with the tentative findings and of course the final report now too. The intent was to allow people to engage with the subject matter as we were going through and engaging with the subject matter. How much that – that worked, I think is open to question. Most people are pretty busy and I

think we had a core group of followers, it's fair to say. But in general, the information is all there, it's up to the community as to whether they choose to now dip in to it. But it is still there, if there are areas and subject matters of interest to any of you, I would recommend going and having a look in the topic list and the witness list and the interviews that we conducted through the public sessions. There was some terrific information that we got out of some very eminent and expert people in this area.

MR JACOBI: Yes, I could underscore that. In a number of cases the people we spoke to were very, very difficult to organise and get and we were able to ask them questions that related specifically to the circumstances and challenges that we faced, and indeed the sorts of questions and issues that you face. So if you are interested, I would certainly encourage that and we are more than happy over lunch, if anyone is interested to talk to us, we can tell you who we thought good people were on particular topics and so on. So - - -

MS BYERS: And the final principle was of independence. Now that's obviously fundamental to – and having a process that has integrity. You heard a little bit about all of our backgrounds. We were a core part, I guess of the leadership team within the Commission. None of us had a background in the industry, none of us are continuing in the industry. We – none of us had preconceived ideas, that was the case for the majority of the Commission staff. There were some who clearly had relevant experience and expertise in areas and certainly we had to speak to a lot of people in the industry. If you want to understand how the safety systems in a nuclear power plant work, you go and speak to someone who builds a nuclear power plant and ask how it – what makes sense. I never had the sense that there was anything predetermined in our process. We were left to do our jobs and we were left to do them thoroughly. The Commissioner had high expectations of all of us in that regard and I'm very comfortable that the result of the report is an independent analysis.

MR WARD: I think what we might do now until somebody waves their hands and says stop, is take questions from the floor. So feel free to ask away.

JUROR: Thanks. Am I on? Okay. So it's a long-term project that you guys were working on in this report, you had a hard deadline, I guess it's safe to say. In the work that I do, I have similar sorts of pressures and in the work that I do I usually get the sense from both myself and my colleagues that there are things that we could have done better or things that we feel are kind have incomplete but due to commercial time and whatever other pressures didn't result. Do you feel that the report is complete to the best of infinite resources, or do you feel like you ran out of time and you needed to not cut corners? I'm not trying to be offensive, but is there something that you feel like, "I wish I could have looked or we could have looked more deeply into X"?

MR WARD: I think the first thing I would say is that we could have been doing this for years and you could get into, you know, great depths in each one of these areas that we looked at. I think in summary, no, we felt that we had
5 sufficient time to do justice to the terms of reference that we were given. We had a fairly clear plan from day one, we had a lot of moving parts happening in parallel.

MR JACOBI: You can gather Greg was the taskmaster.
10

MR WARD: Yes, whilst it was challenging we certainly didn't have time to rest on our laurels, that's for sure, but, no, I would have to say that the process that we ran through, the people that we talked to, the evidence that we collected was fairly extensive and as a group we had sufficient time to do it justice.
15

MR JACOBI: Can I just chime in? I think the issue raised is a real one, and the way that we managed it is that to the extent to which we weren't satisfied of something we've indicated that there would need to be further work done in particular areas. Now, I don't think anybody pretended that with respect to
20 these matters that there aren't further steps that you would need to take as a matter of investigation, and that's where the commission has pointed.

That, I think, is the way that I would answer the question that you asked, that we made, and certainly I can indicate that from a personal point of view, I am
25 satisfied of the matters to a very high standard of the issues that we expressed views about to the extent to which we've indicated that you would need to do more and that there would be certain work that would need to be done, in fact, some of which would be outside of the terms of reference of the commission. We've indicated what it would be, and I think we've endeavoured in the final
30 chapter to point to some of the sorts of things you might need to do, but that wasn't for us to flesh out.

MR WARD: I think I'll just finish that one off by saying there is clearly still a lot of work to do. I mean, a lot of the analysis we did was conceptual and high
35 level, and if there's a desire to take this further then clearly there's a lot more detailed work that has to go on, so we were just the start of that process. With respect to our terms of reference, yes, we were comfortable we had sufficient time.

JUROR: I had one question. It is very motivational, and we see some very strong opinions across. When you reflect back in the 15 months that the commission was working through this whole thing, do you feel there could have been a better change management plan or an engagement model which could have swayed, because of course we are expected to dally with that. If I
45 can use the word "sanity" to the whole thing, and, you know, communicate

that, as some of the people said, you know, summarise the entire Royal Commission report which is a very onerous exercise, because many bigger initiatives have failed on change management. Do you think when you reflect back that there was something you could have done differently?

5

MR WARD: I would answer that by saying that as a Royal Commission our job wasn't to convince the public that this was good, bad or otherwise. Our job was to actually try and get to the facts, the evidence, to understand it and to draw some conclusions and make some recommendations. Frankly, we could have done it behind closed doors if we wanted to and still produced a valid report, but we acknowledged that this was something that the whole community needed to understand.

15 If the findings and the recommendations were actually to be taken further, then the community clearly had to understand what was being discussed, so we took a conscious effort right at the beginning, as Lucy said, to be as open and transparent and to share to the extent that we could the journey that we were going on with the broader community. That was a side benefit, and we appreciated that if we had have put a report on the table at the end of this without trying at least to share that process with the community, then, you know, whoever picked it up would be basically starting from square one with that.

25 JUROR: Why this question comes up is the fact that, you know, we had different diverse groups coming and presenting their submissions to the commission, so it would be really interesting to know how the groups were in terms of what we heard and the witnesses that we go to provide submissions to the commission, and then how much that was taken into consideration by preparing, or it was just on the viability sides of the things.

30

MR JACOBI: I can indicate that I read all of the submissions. I can say I read all the submissions. Yes, I was very tired, but we genuinely read what was there, we genuinely look behind what was there. I did so at one stage because I was searching for who the people that were said to be experts in this field's work so I could arrange to meet them for the purposes of organising public sessions, so that was very genuine. I think in answer to your question: could we have done things better?

40 Of course, you can always do something better, but I think Kevin's and Mr Commissioner's defence the simple fact was that I don't know a Royal Commission, and I've been involved in a Royal Commission back in 2005, who did more media, that spoke to more radio and did FM and AM and drive and mornings, who did more public meetings, who spoke to more newspapers during the course of a Royal Commission. I simply can't think of one.

45

I think from his point of view that was very important to what he did, and I think if he was here he would say that was something that he was doing on an ongoing basis and they worked very, very hard at making sure that people were aware of what was being done. Now, can you engage everybody all of the time in this? Of course not, people have got their own lives, and they couldn't follow this Royal Commission and the Institutional Responses and the Royal Commission into the Childcare System in South Australia as well, I mean people have got their own lives and other issues that they're concerned about.

As far as the commission could, I don't think we could have travelled more extensive. I know the road shows we did when the tentative findings came out we stood in rooms and explained to people what those tentative findings were and invited them to respond, and people came.

JUROR: You said you had 20 people involved in this process of putting together 300 plus pages in a commission report and came up with 12 recommendations. Within those 20 people, was there a consensus that those four recommendations were about what the whole thing was about, because we've got 50 people here that have got to come to a consensus after four days and you guys were involved in it for 15, 16 months. While we can read 330 pages of data, you've been involved in these people talking to you, et cetera. Those recommendations, do you think that you had consensus that was the way to go?

MR WARD: It took me, as I said, six to nine months just to understand, you know, what was a fact and what wasn't, and I think it's also fair to say that there were a variety of different views amongst the core team on the Royal Commission. At the end of the day, though, we debated this internally, it wasn't just the Commissioner sitting there, you know, making decisions. He encouraged everybody in the team to share their views, and if there was a different view to explain and try and understand why people had those views.

I think in general, and I don't want to talk for each of the individuals out there, but I think as a general rule we were pretty united in the findings and the conclusions that we drew in the report.

MS JENKE: Any over that side?

JUROR: My question is that the Nuclear Royal Commission, to all of its recommendations were evidence-based. What I'm asking is: there is no evidence for underground storage. Do you know what I'm saying? There is no evidence to call on for underground storage because no-one has done it yet.

MR WARD: Okay, I'll just step back. You are right in the sense that nobody has - I guess there is one. There's the waste isolation plant in the US which actually has been storing waste of a similar nature, albeit it's not used fuel, which is specifically what we're talking about, but countries around the world, and I can run off, there's Finland, there's Sweden, Switzerland, Belgium, France, the US, elsewhere, the list goes on, have been studying deep geological storage for decades, 30 or 40 years or more, and most of those countries actually have underground research laboratories in the environments in which they plan to dispose of this, where they've actually been running tests over those decades to test the concepts.

JUROR: That was my concern, that for all these years they've been doing tests but they've never actually done it.

MR WARD: No, they haven't actually done it because, up until now, they really haven't had to dispose of anything. I mean, this stuff has been collecting over time, it's been stored. It has to cool down, and we'll talk more about this in the session afterwards, but, you know, there's a period of time where you have to cool this stuff down and let it settle before you actually bury it. So for a period of time, you know, it hasn't been an immediate requirement to actually bury their stuff. These countries that have been exploring this have been taking the time, I guess, to make sure that they really understand how this would work. They've been working on developing the safety cases so that they can satisfy their own communities and their regulators that, you know, this is safe, and can convince them of that. But the time is rapidly coming where some of these countries are now at a point where they need to start disposing of this waste, and Finland, at the moment, is probably leading the pack there, and they will be starting to dispose of some of their waste in about four or five years' time, closely followed by a few other countries, France and others.

JUROR: Hello.

MR WARD: Hi.

MS JENKE: I just wanted to see what your personal experience was when you went to Fukushima, to what you learnt from that trip as well.

MR WARD: Well, yes, I guess I'll have to talk to that one. Look, it was very sobering, to be quite honest, to go to Fukushima and to witness the impact that community had experienced. We've got to remember, when we're talking about Fukushima, it was, first of all, hit by a rather large tsunami which killed 15,000 or more people, and basically wiped whole communities away. So one of the first things I noticed was the impact of that tsunami and the devastation that had caused. Clearly, the tsunami then created a problem for the Fukushima nuclear power plants. The impact of that was basically the fact that

they had to evacuate communities that hadn't been impacted by the tsunami. They had to evacuate them to minimise their exposure to some of the radioactive waste that - sorry, not waste, the fallout from the nuclear power plants.

5

It was quite sobering driving through these communities watching the - basically, they were in the state that they were in when they evacuated and the trees were starting to grow over them, and, you know, the vegetation was returning. There was also a lot of activity around those communities where they were basically decontaminating the area, and people were starting to return to some of those communities, but there were communities, quite frankly, that won't go back for many more years, I guess, before they're - and that was in the immediate vicinity of the actual power plants. The power plants themselves, I mean, it was an explosion, so it was a hydrogen explosion, so, you know, you saw the devastation, I guess, of an explosion in that sense.

But one thing that really did strike me was the work force, the amount of effort that's going in to actually decommissioning those power plants. It was a huge operation and will be going on for a couple more decades before they've actually finished packing it all up and putting it away. I think one thing that struck me was those sorts of accidents can be quite devastating on the immediate communities, and clearly they're things that the industry and governments, and regulators really want to spend a lot of time to make sure that those sorts of things don't happen again.

25

I guess two points there, though: one thing we did find is that there was a lot of lessons learnt and had started to be implemented as a result of both Chernobyl before that and Fukushima, and that a lot of the technologies that are embedded in nuclear power plants nowadays are quite different to those. So both Chernobyl and Fukushima were 1960s type technologies and there were some design issues, clearly, with them. Yes, very interesting.

30

MS WALKLEY: Hello, Greg. Hi.

35

MR WARD: Hi.

MS WALKLEY: I've been asked to ask a question on behalf of one of the jurors here, which is: what are the alternatives you looked at for disposal of nuclear waste, and was digging a big hole in the ground the best thing that people could come up with?

40

MR WARD: Okay. Well, we looked at a lot of ideas that are floating around there. I mean, people have been floating ideas for many years, from firing this stuff into space to reprocessing or doing all sorts of things, and we looked at all of those. Some of them are quite fanciful, to be quite frank, and would never

45

happen. But I have to say, there was pretty much universal agreement around the world, and that was from both the industry and from those opposed to the industry that deep geological storage was the most effective and the best way to deal with used fuel and nuclear waste. I guess we didn't have to explore
5 some of these more fanciful ideas too much, because pretty much everyone we spoke to said, "Well, this is the way to deal with it." We've been studying this now for 30 or 40 years, and we're pretty much convinced that this is the best way to do it.

10 MR JACOBI: To direct the person that asked that question to the report, you can pick up where we went with respect to that issue. It's finding 68. It's on page 83. There's a finding with respect to there being a view that there's an international consensus now that geological disposal is the best technical solution currently available. The basis for that can be found in a footnote, but I
15 can just paraphrase it in this way, and there are other techniques that have been used, one is a closed fuel cycle method, which is the reprocessing idea, which is the French, though they will be and they are exploring GDF as well.

20 The issue is that there have been a number of commissions done in a range of countries for determining their own domestic solutions as to what the best technique is. The most recent is the one in the United States that was done following the circumstances of Yucca Mountain no longer proceeding, which is called the Blue Ribbon Commission, it was a presidential commission under
25 Obama.

It reached the conclusion that GDF was the best technically available method currently available, and there are a range of other analysis that have been done in other countries, including Canada, the United Kingdom and I think a number of European countries as well, and indeed that's the reason that Finland has
30 gone down the road that it went down.

JUROR: In a hundred years' time, do you think that's the best we'll still do?

35 MR WARD: I was just about to go there. There are two feasible alternatives to a point. Chad just mentioned reprocessing, but at the end of the day reprocessing would reduce the volume of the waste that you would need to dispose of, but you still have to dispose of elements of it, so it doesn't solve the problem. The other potential change would be what's called Advanced Reactor Technologies, the generation four reactors that are talked about.

40 They're not commercially produced at the moment and probably won't be for another couple of decades, to be honest, but what they do is actually reuse some of that waste that is generated, but notwithstanding with that there is still a component of waste that still has to be dealt with. So whichever path you go
45 down there will always be some waste, it might be just the volume of it that

varies a little bit that needs to be disposed of. That is where the world has basically come to the conclusion that geological storage is the way to go.

5 JUROR: When I was reading about the radiation risks, and you mentioned things about what happened in Chernobyl and in the Japanese case, I was also looking about it's not the best example to analyse what happened after the atomic bomb in Nagasaki and Hiroshima. Why didn't the commission report to us the effect of radioactivity in these two populations? Sorry to use the words "the best example", but is that not where we should obtain the consequence of
10 radioactivity?

MR WARD: We did. The body of knowledge out there about radiation and its effects on humans and the environment comes from a number of sources. I mean, the impact on the community in Hiroshima and Nagasaki, you know,
15 back in world war two has clearly been studied over a long period of time, as has been the impact on the communities from Chernobyl and to a lesser extent Fukushima simply because, you know, it wasn't only five years ago that happened.

20 That's just one example of populations that have been exposed to the results of something that's gone wrong from a nuclear power plant, or, in the case of Japan, Nagasaki and the like, a nuclear weapon. There are lots of studies being undertaken and have been over many years in universities and the like around the world to look at it from other angles as well. I think there's a fair body of
25 knowledge of what radiation, the physics of radiation and the extent or the impact of that on humans.

I would have to say that there's a cloudy area, and that's largely around the impact of low doses of radiation on humans. I was going to talk a little bit
30 more about that in the next session, but I guess the point that I would make here is that sitting here right now we're all exposed to radiation, it's just natural background radiation, and that varies quite significantly depending on where you're sitting in the world.

35 Here, to use a term, it's somewhere between 1.5 and 2.5 millisieverts, which is a term you will get to know pretty well. You know, in the UK it could be up to 7.5 millisieverts, if you're in Iran or India or Brazil, you know, it could be way over 20 millisieverts, in some places over 100 millisieverts, so, you know, it varies significantly and I guess that's where the question remains at the
40 moment. You've got some people that think that every neutron will do you damage, so, in other words, just sitting here absorbing it now is causing your problems.

45 You've got others who would argue that actually small amounts of radiation actually has a beneficial effect on your immune systems, but there's certainly

no - I would have to say there's no universal agreement at this point.

5 MS BYERS: Yes, I just wanted to add to that as well. Our terms of reference really required us to look at the particular industries around the nuclear fuel cycle, so mining for the processing, electricity generation, waste storage, and so what we really thought we needed to focus on are what are the radiation risks that result from those sorts of activities. We have learnt that the impacts, even when things go wrong in those sorts of activities, in terms of their scale are vastly different to an atomic bomb being landed somewhere.

10 As much as the understanding that has developed following those terrible incidents where atomic bombs were released about the impacts of very, very high doses of radiation on the body, the investigation we had to undertake was looking at much lower scale amounts of radiation even when things go wrong.

15 MR JACOBI: If people will forgive me, I'll just refer you to a little part of the report which might help.

20 MR WARD: Guess who wrote most of the report.

25 MR JACOBI: It's a personal failing. The distinction between deterministic and stochastic effects, I appreciate the words immediately spring to mind, but the point is these deterministic effects deal with very, very high doses of radiation from the sorts of circumstances that you're talking about, the detonation of an atomic weapon deliberately involving the dispersal of radionuclides over a population where you get very severe doses of radiation.

30 \The only people that I understand that received deterministic effects were some emergency workers at Chernobyl. Now, don't quote me on this, but they were the ones that suffered ARS, which is the acute radiation sickness, and there were a small number, they were the firefighters that died shortly there after. For the rest of the effects that we're looking at, they are what are known as stochastic effects, they deal with lower doses where you need to epidemiological studies in order to determine the relationship between radiation and a particular consequence, so that's what's picked up there.

40 There were two people that explained this to me, and bless them because they did, one is Mr Larsson who gave evidence, he's the head of ARPANSA, he's the former Swedish regulator and he's now the Australian regulator and he's brilliant. He gave evidence to the commission, and if you're interested in this topic watch him. The other person is, and she gave outstanding evidence, is Geraldine Thomas. Geraldine Thomas is the head of the Chernobyl Tissue Bank, she is at one of the United Kingdom universities, the name of which now escapes me, and she has been involved in the long-term study of populations associated with the release of radiation of the Chernobyl incident over eastern

and western Europe.

5 She gave excellent evidence on this topic and her evidence is very interesting, and if you can bear watching me ask her questions, and I'm not advertising, you will learn a lot from her in terms of that particular issue and what the particular consequences are.

10 MR WARD: I should point out the obvious, that none of us are medical experts here, so we asked a lot of questions, clearly, of people like those that Chad has just mentioned, but we also had a team of largely professors in oncology and radiation medicine and the like who were part of our radiation medicine advisory committee, and we put to them the evidence that we were hearing, both the stuff from every different angle, and also sought their advice, so we didn't just rely on trying to understand it ourselves.

15 MS JENKE: Okay, we're going to take two more questions and then break for lunch and then we can come back, so if you've still got questions don't worry.

20 JUROR: In your research on the deep geological containment, I presume that you spoke to geologists; did any of them agree on seismic stability in any area in South Australia?

25 MR JACOBI: At the outset the Commission identified that its task was not to site a facility and so – and because that was simply not within its terms of reference. Its task was not to answer that question. The question was could this activity be viable? What are the risks? What might the opportunities be? And what might you need to do to paraphrase? The consequence of that was that we did not direct attention to identifying sites by reason of their suitability for the purposes of, for example seismicity, or water, or the suitability of rock characteristics, because one of the particular issues with GDFs is that you need – there are two broad concepts that are explained in the report. One is a clay based concept, the other is a hard rock concept and that is the distinction between Finland Sweden and the other countries. And so the question was not to do an analysis of that. We did speak to people with respect to seismicity.

30 I'm hoping that I get this right, is that the evidence was from Geoscience Australia. The evidence is in the report; I think his name was Andy Baneka.

MS JENKE: Dr Baneka.

40 MR JACOBI: I'm glad I got that right. And he gave evidence with respect to seismicity in South Australia and the seismic characteristics of South Australia and that's been summarised in the report and while Greg's speaking, I'll find you the page number.

45 MR WARD: Yes, I guess the point I wanted to make is that whilst we weren't

here to - - -

MS JENKE: Seamless.

5 MR WARD: - - - pick a site, we were clearly here to determine whether or not
South Australia had the characteristics which were necessary for these sorts of
facilities, so yes we – we looked closely at understanding the general
geological characteristics of South Australia, the hydrological characteristics,
10 seismicity and all of those criteria which will clearly be important for selecting
a site ultimately. So we satisfied ourselves that yes, South Australia does have
some unique characteristics which are suitable for this sort of activity. But
specifically – and quite widely suitable.

JUROR: And did - - -

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MR WARD: But we didn't pick a site.

JUROR: And was that some – just one person's recommendation or - about
suitable sites or?

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MR WARD: No, no. So we looked at – we got information from a variety of
sources with respect to each of those areas. We actually had on staff our own
geologists, actually two who – sorry. So we - - -

25 MS JENKE: Page 89, Chad?

MR JACOBI: Yes.

MR WARD: So we did our own research as well as calling on experts, you
30 know from other organisations.

JUROR: Sorry, just related to that question here, might be a bit silly but you
mentioned that some of the countries like USA or Finland have underground
research facilities. They've been studying this matter for decades. Has
35 South Australia been studying that long enough to be confident that it can
happen here?

MR WARD: Well, I - - -

40 JUROR: Do we have the same facilities? Do we have those researches
happening for decades or - - -

MR WARD: No - - -

45 JUROR: - - - long enough or not?

MR WARD: Well, a couple of points. No, we don't have an underground research laboratory specifically focussed on you know the storage of used fuel. But we have very similar geology to a lot of these other countries. So the first
5 thing I – point I'd make is that clearly we could leverage a lot of the information that they have produced over many years. Doesn't mean that we wouldn't still want to do it ourselves here and in part of what we modelled, we assume that we would build our own underground research laboratory but rather than start from scratch, we'd take the information and the knowledge
10 from those other countries.

JUROR: (indistinct) different environment, different (indistinct)

MR WARD: Yes, absolutely. And that's why we still need to do our own
15 specific work to confirm that the sites that we pick are actually suitable. The other point I would make though is that we have been doing underground mining in South Australia for quite a long time, so there are – there is a fairly robust body of knowledge already in the state that is directly related, or relevant to the sorts of things we're talking about here as well. So –
20 Olympic Dam for example's a big underground mine which looks pretty dam similar to the underground laboratory in say Finland and elsewhere. It's just that they're neater and more organised and tidy but you know they – it's a similar concept.

MR JACOBI: The answer on seismicity, someone's called it out from the audience, is 89 and if you're interested in underground research laboratories, you'll find that on 88. But please don't get the concept that these are scientific laboratory, you know 10 metres down. What we are talking about is something
30 500 metres underground, engineered at enormous expense and you can watch the video on YouTube of them driving down it in Finland, I am told now, and it is an enormous undertaking but the purpose of that is of course to test the permeability of the rock and the rock fracturing at a precise level. That is, at that site.

MR WARD: Just one other point there, in Finland the geology there is largely
35 hard rock, so that they've been studying hard rock concepts. In Switzerland where we went, it's hard clay, so totally different geology and a hard clay. You head in to Belgium and France and it's a soft clay, so it's actually gooeey runny clay. So you know these laboratories have been established in you
40 know, different geologies and I'd have to say that in South Australia we have all of those different types of geology.

MS JENKE: Okay, my friends it's time for a break and time for lunch. We're
45 hitting the pause button on the Royal Commission gurus and coming back in after lunch. Just before we do go, we've got until quarter past 1. There will be

a new tranche of observers and – observers coming in, so thanks observer group 1, you've been great. And we will have a bit more opportunity to dig around some questions. There are some – we might be able to find that video maybe Chad and put that on base camp for the jurors to have a look at.

5

ADJOURNED

[12.47 PM]

RESUMED

[1.23 PM]

10 MS JENKE: I'm going to hand back to the super team and I've got super microphones for you to take us through some of the depth of the recommendations. Thanks, Greg.

15 MR WARD: Welcome back. It's good to see most of you returned. There's a few spare seats. We've got a very short period of time here to cover the meaty bits of the report. What we're going to do now is quickly skim through the key findings and the recommendations. I appreciate this is going to be fairly high level and once again you will have seen some of this in the odd slide from the Commissioner's video, but we'll try and stick to the tight time line and leave it
20 open for some questions at the end if we can.

I guess the first point is that this will be high level and I think we'll start with Chad.

25 MR JACOBI: Good afternoon. What I'm going to do is seek to create what I think is a bit of a bridge between the executive summary and the rest of the report. I'll give you some page numbers as I go, given that that appears to be my special power. Recommendation 1 - you will see the recommendations above on the slide - there's a reference to simplifying mining approvals. That's
30 a reference to finding 17 which you'll find at page 21. There was a key idea here that there are overlapping licensing and authorisation processes for uranium mining in Australia. The overlap arises because there are both requirements to be licensed under state law as well as under Commonwealth law for uranium mining that does not apply for a wide range of other mining
35 activities, notwithstanding the fact that the mining process is very similar, and that's particularly the case in underground mining.

The commission's view - and this is explained - was that there was not a lot of
40 evidence that the additional process offered advantages, it rather duplicated assessments, gave rise to different time lines and duplicated conditions on approvals. There was some evidence given about that. There was some submissions on that question as well. The view was expressed that that had a significant effect on the ability to develop new mines and the time taken,
45 notwithstanding the fact that both of the bodies approved the mine. So there was a recommendation that's directed precisely to that issue.

5 If you're interested in interrogating that more, go to page 21 and finding 17 and the discussion that's there and you can then work your way out from the footnotes and when you look in the footnotes you'll see who the people were that said it and why that was the case. But the basis for the commission's view is set out in the explanation at that point. In saying all of this and giving you the references, I'm not discouraging you - a number of people have told me that they've read the report a couple of times, for which I'm grateful, but you'll need to read - the context helps but that's the precise point.

10 I'll deal with recommendations 2 and 3 together. They deal with the enhancement of geophysical data set and the need for further geophysical survey. You'll find this in finding 15 on page 20. The key point here is that exploration activity - and indeed because exploration activity precedes mine development by a decade or more - it is driven by the availability of what is known as the pre-competitive data set. This is, in South Australia, a system that's operated by the Department of State Development called SARIG. It is all of the historical information that's been done with respect to mining activity in South Australia, including the results of commercial activities that have been returned to the government, as well as also government's geophysical surveys - aerial and other techniques that it's used. This is very, very significant for people because they seek to reduce their exploration risk by interrogating this data set.

25 The issue was that what's there is great and it's apparently highly regarded but there are big gaps in what is known. If you want to have a look, there's a map on page 20 which in fact shows all the drill holes that have ever been taken in the state. What won't appear from the scale of the map is that some of those drill holes are only five centimetres wide. There are significant parts of the state on which there are very few drill holes and there was some significant evidence on that. We're talking about tens of thousands of square kilometres that haven't one drilled hole in them.

35 The issue here was that there was a need in the view of the commission to improve the integration of the availability of the data set; that is, this disjoint bodies of information which, in the view of a number of geoscientists, could be integrated together in more sophisticated systems to allow multiple data sets to be overlapped. The second view was that there was a need to engage and expand the range of geophysical survey work that had been done to improve its resolution. That, in essence, allows new techniques to be used or affords old techniques to be used with a high degree of accuracy. Combined, the commission was of the view that that was of an advantage and that's the explanation for those recommendations.

45 Recommendation 4 concerns government support in the exploration of

greenfield locations. The issue here is that most exploration activity occurs in brownfield sites. Brownfield sites are around existing mines where mining companies are seeking to prove the size of their existing resource or to direct their further activities. Greenfield exploration is in a new area and it is high risk; that is, it's commercially high risk because the probabilities of success are low and the costs of exploration activity are high.

There is a government program in place - I'm just being reminded of the time. There is a government program in place to encourage further exploration and the idea here is that PACE, which is this program, be supported to allow countercyclical investment; that is, during periods of downturns.

Recommendation 5 concerned decommissioning costs being secured by guarantee. The short story here is that all new mines in South Australia are required to be secured with guarantees that are calculated by the Department for State Development and amounts are paid in. The issue here was, this was not standard practice at the time of the Olympic Dam development and in fairness to BHP, their evidence was that there is provision in their financial accounts to pay for the full cost of decommissioning but in the view of the Commission, all future mines should have their decommissioning costs secured by guarantee. That's explained at finding 13 on page 17.

I'll be very quick on the topic of further processing. The findings with respect to further processing were to the effect that the further processing activities of conversion enrichment and fuel fabrication were in principle not viable given not only the assessment of their viability but certain barriers to entry but the view was that combined with a waste facility, that is if there was a deep geological facility, there would be the opportunity for South Australia to link up its mining activity with some of these other further processing activities which are necessary to make fuel, as Greg explained. The fact is that cannot occur in Australia at the moment. That is, that such a commercial possibility could not even be licensed because there is a prohibition under commonwealth law that restricts or prevents such a licence being granted by the commonwealth minister. And the view was that were these activities to be explored and in view of the commission there would be some question of viability, the fact was that that could not proceed while that prohibition was in place. Now that wasn't to say that there wouldn't still need to be a licensing process but the fact is the minister is prohibited by statute from even licensing.

And the final one, the final recommendation concerned the utilisation of the cyclotron in the building in which we are in. The evidence here, this is a nuclear medicine related recommendation, there is a cyclotron in the building below us. It is used for generating radiopharmaceuticals for hospitals in South Australia, particularly fluorine. There is evidence that there is the capacity to expand its use, particularly with training other people to use

cyclotrons and equipment but also to develop radionuclides for nuclear medicine, particularly where there is not a research reactor in that country. And the view was that there was an opportunity for its increased utilisation for a commercial purpose. That's the reason for recommendation seven.

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MS BYERS: Right. I'm going to talk to you about the electricity generation findings and recommendations, principally set out in chapter four of the report and there's some relevant appendices which I will refer to as well. We started by understanding what nuclear power generation was, it's a pretty mature
10 technology; many other countries around the world have been using it for decades now. It's a technology that produces a lot of power from a relatively small power source and because it's not actually burning anything. It uses fission to heat the water to spin the turbines to create the electricity. In terms
15 of its greenhouse gas emissions, it's comparable as a clean energy source with wind and solar power. We spent a bit of time looking at greenhouse gas emissions from nuclear power generation because that's a field that we understood was fairly contentious and we were satisfied based on a number of lifecycle studies.

20 So studies looking at the full range of nuclear power generation from mining in to decommissioning that in terms of its greenhouse gas emissions it can be considered to be equivalent to wind and solar.

JUROR: (indistinct)

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MS BYERS: Yes, it does. It's addressed principally in chapter 1 and in the footnotes in the Energy Future section. And the study that we relied on particularly, was one undertaken in – most recently in the United States by the National Renewable Energy Laboratory where they looked at lifecycle
30 greenhouse gas analysis over a number of energy generation sources.

MR JACOBI: Indeed it was relied on by the IPCC.

JUROR: (indistinct) page 3 (indistinct) the manufacturing of the appeal but it
35 doesn't actually talk about the mining. So it just wasn't clear there.

MR JACOBI: It does include the mining.

JUROR: Yes.

40

MS BYERS: The next principle issue in the electricity generation chapter is of course the – the assessment of the risks of nuclear power generation. This is an area obviously that is well known in terms of the potential risks of when things go wrong and nuclear accidents happen, based principally on what we
45 understand from both Chernobyl, Fukushima and less well known is the near

miss at Three Mile Island. So the Commission spent some time looking at these – those accidents, how they were caused, what was learned from them, really through the lens of trying to understand does this mean that we could not recommend that South Australia even consider nuclear power generation as an option. Is it just that unsafe that it really should be ruled out? And where the Commission’s findings came out on that was, no that wasn’t the case. A lot of lessons have been learned from these incidents, a lot of design elements are now being introduced in to new nuclear reactor designs which mean that they – what’s called in the industry passively safe. There is also a lot of work has been done in terms of operational safety culture as a result of learnings from Chernobyl, Three Mile Island and in particular Fukushima. Based on everything that was learned from the studies, the experts that we spoke to in the overseas visits, the Commission came out that nuclear power generation is not something that should be taken off the table. It can be safely managed, you need a very strong independent regulator to be able to do that safely but it’s not something that’s beyond South Australians in a technical feasibility sense to be able to consider.

The critical discussion within chapter 4 around nuclear power generation is really towards its commercial viability. Would a nuclear power plant, if built in South Australia, actually be able to make money? Is it something that makes sense in a commercial sense? And we had to look very closely at the system and market in to which a nuclear power plant would sell power, to be able to understand that. And in Australia, that’s the national electricity market, which is the interconnected network of poles and wires which connects the predominantly eastern states, Tasmania and South Australia and we needed to understand very carefully how that worked. And in particular, in the South Australian sub-region, so that we knew that if a nuclear power plant were to be built here in South Australia and start operating best case scenario say around 2030, would it actually be able to make money given the network that it would be integrated in to.

Long answer short, there are lots of peculiarities about the South Australian submarket of the NEM which pose significant challenges to a large, what’s called base load generator, like nuclear power. It would be very, very difficult if not impossible, based on current market operations, for an energy generator like a nuclear power plant, to be commercially viable here in South Australia. Now if things change in certain respects, for example if there is very strong action on climate change, such that a strong carbon price is introduced, that equation starts to look a bit different. If there are changes in terms of the capital costs that are involved in nuclear power construction and operation, which are significant, it’s very, very complex technology and the safety requirements mean that it’s very expensive to build and regulate. If those costs can be brought down, again the equation starts to change a little bit.

And when the Commission was investigating this area, we looked a lot at the connection between climate change policy and energy policy because this is an area that's undergoing amazing amounts of change at the moment. We're seeing a lot of renewables being brought in, which is fantastic. We're seeing things like storage starting to come online. We're hearing about electric vehicles, we're hearing about people going off grid, all of these things are changing and moving and are going to have impacts on the way electricity is going to be generated and delivered in the future. And what the Commission really came out at, in terms of a finding, was that there needs to be a plan, there needs to be a state and a national plan that connects our energy policy and our climate change policy in a rational and sensible way, so that there is a pathway as to how we're going to meet those very, very difficult challenges of greenhouse gas reduction based on the targets that were set in Paris last year. So the recommendations that are generated by the electricity findings are really much more policy oriented. They're signals to government to think about these things more broadly. Think about how you're going to construct a low carbon reliable and lowest possible cost electricity system into the future, given all these changes that are happening. And given the findings on the safety, don't take nuclear off the table. It might make sense. You don't want to be left with no options. You want all the options available to you as you investigate this further. So that's really where the recommendations came out at. Take the existing prohibitions on nuclear power generation away to allow this to be further explored, does it develop a more comprehensive national policy about low carbon, reliable, low-cost electricity, and keep an eye on the newer reactor designs that are coming through, particularly for smaller reactors, which are starting to be at the final stages of development and may well be commercialised in the next decade. If those reactor designs are potentially as cheap as their vendors say they might be, the commercial equation starts to look a little bit different.

MR WARD: So I guess now with respect to the back end or the management storage of waste, what the commission found was that there was significant economic opportunities to provide services to manage, store and dispose of nuclear waste, specifically used fuel and intermediate level waste. South Australia has some unique characteristics not shared by many other places in the world that make it well suited to this sort of an activity, including its geology, its hydrology, stability in terms of political stability and seismic stability, as well as Australia's strong credentials with respect to non-proliferation and some of these other considerations. As I said, there's not too many places are the world that actually shares all those characteristics in the one place.

If this is done right, what the commission believed is that there is significant benefit both now and for future generations, and we'll talk a bit more about that in terms of the economics, which is where the focus of that statement is, in a

minute. However, for this to actually be realised requires the community to agree to this, and Lucy will talk more about this a little bit later on, but, clearly, if we don't want to do this and we don't agree as a community, then there's not much point pushing too far with it.

5

However, it should be noted, and this was the subject of a couple of the recommendations, as Chat mentioned, there are currently legal prohibitions both at a state level and at a federal level, not just to do this but to even explore it in much more detail. So one of the questions or one of the recommendations was that some of this legislation be repealed to enable a thorough and informed analysis of this, and to provide more detail that's clearly needed if we're to make an informed decision about whether or not to go further forward.

So just really quickly, I wanted to zone in on what it is we're talking about. This picture is a picture of the nuclear fuel system. In essence, if you look at the little yellow dot there, that's the fuel pellet that comes out of the enrichment process. That little pellet goes into a long, skinny tube, a zirconium-clad tube. By the way, that little pellet is about that big. So a lot of these little pellets go into this big, skinny tube. A bunch of these skinny tubes get put together into a fuel assembly, which is what's depicted next to the picture of a man there, and it's that fuel assembly that goes into the reactor to actually produce the heat.

20

JUROR: (indistinct)

MR WARD: Yes, this diagram is in the report somewhere, with a much more detailed explanation than I'm going to give you. But in essence, once those fuel assemblies have been producing energy and producing power for, you know, it could be up to two to five years, so there's a lot of energy in these things, and they last quite awhile - it's page 199 for those that want to have a look - so after it's been in the reactor for a significant period of time producing power, it starts to lose its effectiveness, and it's at that point that it's removed from the reactor and it's put into a pool of water which is literally adjacent to the reactor. So it's on the reactor side, which is what's depicted just down the bottom right-hand corner there.

35

This used fuel is very hot and it's very radioactive, so it's not stuff you want to play around with. It sits in that cooling pond for about 10 years to cool down. It's at that point, once it's sufficiently cooled, that it is taken out of those pools, it's put into canisters, and it's stored in dry casks, and we'll talk about that in a minute, for another 30-odd years. Over that period of time, it's both decaying and cooling down. After a period of, say, 40 or 50 years, it's then basically at a point where you could start to bury it below ground. There's a number of different configurations of these, but essentially that's what we're talking about here.

45

JUROR: Can I just ask a question?

MR WARD: Sure.

5 JUROR: Do you concede that having a low level and intermediate level
waste, and not having a high level waste operation, we produce very little high
level radiation in Australia and, at the moment, we wouldn't have a need for
that in this country? So is it going to be all or none, or are we going to have
low level, an intermediate level and then not? Is that a plan? Is that - - -

10

MR WARD: Well, there's two points there. Yes, Australia does have some
low level waste and some associated intermediate level waste as a result of the
reactor at Lucas Heights in Sydney. So we have a reactor clearly that does
produce some of this waste. Small amounts of it, though. And hospitals and
15 universities, and elsewhere, produce low level waste, but that is something that
the Commonwealth government needs to deal with and it is a process that
they're going through. For those that have been listening to the news, the
activity in the northern part of South Australia at the moment is largely around
trying to find a site to deal with low level waste, low and intermediate level
20 waste. What we're talking about here, though, is not that. So I guess in a sense
this is all or nothing, because without nuclear power plants themselves here in
Australia, we're not going to be producing this sort of waste.

25 So what we're talking about here is bringing used fuel in from other countries,
shipping it in and managing, storing it and disposing of it here. So in that
sense, we don't have to do this. So I go back to what I said before, this, in the
commissions' view, is an economic opportunity for the State. Now, whether
the State wants to do that and wants to pursue that, that's the question, I guess,
that you've all been challenged with.

30

So what was it that we actually modelled in this respect? If we look at the
diagram up here, basically, once the fuel had spent that 10 years in the pool at
the reactor sites in other countries, it would then be put into a large canister
and shipped to South Australia. So this is what we actually modelled in our
35 financial and modelling. So it would be shipped to South Australia in
purpose-built ships, would be delivered to a purpose-built, a new purpose-built
single use wharf somewhere in South Australia, would then be stored in these
large containers, which are about 150 tonne steel concrete containers. So we're
not talking about small, light stuff here. On large concrete pad, it could be
40 under cover, it could be out in the open, there's a bunch of different ways to do
it, not far from the port and it would be basically left there to continue the
cooling down, if it hadn't already cooled down sufficiently before it was
shipped out here.

45 Now, that would then allow us to generate revenue, because part of the deal

would be ship doesn't pull up until the cheque is in the bank. With that revenue, we would be able to fund the construction of a deep geological storage facility, which is the bottom right-hand picture there. In order to get it from the interim storage facility to the deep geological storage facility, there would be a dedicated rail system, so a dedicated rail line and track.

We've assumed in our modelling that this would all be new, it would all be dedicated, it wouldn't be used for any other purpose, and we did that to be conservative in our analysis. It's not essential, I mean you could leverage existing infrastructure if you wanted to, that might reduce the cost, but for our purposes we just assumed in essence the worst case the most expensive way that you could do this and it was all new stuff.

JOHN: I've just got a question from a juror who has requested not to be photographed, so I'm asking on her behalf. How much water is used for cooling down?

MR WARD: The first point is we probably have to ask the reactor sites because they're the ones that do the cooling. What we're proposing here is not having any pools, so there's no water required in that sense. If you actually have a look at page 91, you will see a picture of what it is, what it would potentially look like here at the interim storage facility in South Australia, so it's air cooled, once it gets here it's all air cooled, so we're not talking about significant water use.

JUROR: At what stage were you thinking that they would seal the high level waste in the synroc or glass or any of those things? Do people who are sending us the stuff have to pay for that or would we have to pay for that to do it for ourselves here, because nowadays those things are all in sealed glass or whatever, ceramic sorts of containers.

MR WARD: Just to clear one thing up, synroc or the vitrification, the glass process is the end result of a reprocessing process, so we're not talking about receiving stuff necessarily that's been through that process, we have assumed that it would come to us in the form that you saw in that diagram before-hand. so it would basically be contained in the assemblies in the form that it in essence came out of the reactor, just that it had gone through a period of radioactive decay and cooling.

MS JENKE: Sorry, Greg, we've got seven minutes.

MR WARD: Okay, if we've got seven minutes I'm going to power through a couple of other slides here and hopefully leave you one or two minutes for questions. The next line.

JOHN: Just while that slide jumps, I just had a follow-up question from that question. With regards to cooling down, it related to nuclear power generation and not the storage diagram, so could you address how much water is required in cooling down were you to pursue generation.

5

MR WARD: I suggest you have a look at the report because there is a discussion about what's involved in nuclear power plants, but noting that the commission did not make a recommendation that we should be building nuclear power plants here. It's probably more of an academic question than the one we need to focus on just at the moment. In very simple terms, it depends. You can use quite a lot of water, which is why you see some of those nuclear power plants built on the coast, but nuclear power is not something that we're talking about here for South Australia.

10

15 This basically underpins the principles, the safety principles that are important. In essence, safety is assured, and now I'm talking about deep geological storage here. Safety is essentially assured through understanding the geology, the barriers, and we'll talk about that in a minute, and to understand the radiological processes, and we'll talk about that too. As I said, very hot
20 radioactive when it comes out. Actually, before we get to that, before we go there, what we're showing up here in this slide is in essence the canister that these assemblies would go into to be buried in the ground.

25 The yellow canister there is a gas-tight, watertight canister, it could be five or more centimetres of copper with concrete and steel linings on the inside, and basically that's the form that it would be buried in underground. What we rely on here is the radionuclides which are still inherent in the used fuel is actually contained within that canister system. That canister is then buried below ground and is surrounded by bentonite clay. The purpose of that is to retard the
30 ingress of water to obviously, you know, try and prevent corrosion and the like of the canister, and if the canister is actually damaged or is breached or penetrated in some way that it retards the migration of the radionuclides out into the environment.

35 Essentially, the bentonite clay, a lot of these radionuclides stick to the clay so it doesn't pass readily through it. Finally, we provide an even greater barrier from humans and the environment by burying it 300 to 500 metres or so below ground. Even if it does get past the bentonite clay, it migrates over thousands and thousands of years very slowly out and disperses as it goes, and if it ever
40 reaches the top it's in trace quantities. That's the general concept of this multi-barrier system. The next line.

JUROR: When it's at port and you're just holding it at port, what are the risks involved with that?

45

MR WARD: Well, I guess it's on a slab, there would be some security risks, so it would be fenced off and secured in that sense. You wouldn't want people getting into it. Bearing in mind, this is in 140 tonne containers which they test, and there's some good videos on YouTube if you want to have a look. I mean,
5 one test was driving - sorry, they drive trains into it at 160 kilometres an hour and the train bounces off, they fire missiles into it, so these are inherently fairly secure in their own right, but that's probably the major concern.

JUROR: (indistinct) in those containers there is those canisters? Is that what
10 you're saying?

MR WARD: Yes, that's right.

MS JENKE: Five minutes.
15

MR WARD: Noting that I'm rapidly running out of time here. By the way, this is important stuff and I really recommend that you do spend the time understanding this and reading up about it, because this is what you really need to satisfy yourselves with. What this is trying to depict here is that in essence
20 when the stuff comes out of the reactor, as I said, it's quite radioactive, highly radiotoxic, it's nasty stuff, but it decays relatively rapidly. That's the nature of radiation.

After about 50 years out of the reactor, it's in the order of 80 per cent radiotoxic
25 than it was when it started. After about a hundred years, it's down to around, you know, 3 per cent, and, you know, by the time you get to about a thousand years and out to 10,000 years it's pretty damn close to natural background uranium that's already in the ground. Still slightly more radiotoxic but we're starting to get down to similar levels to what exist naturally.

30 The main point here is that's primarily in the first instance what those canisters need to guarantee, is that it can contain this stuff for periods of up to a thousand, ten thousand years to prevent - while they're still reasonably radiotoxic, from migrating.

JUROR: Sorry, at what point does it become high level to intermediate level?
35

MR WARD: No, what we're talking about here will always be high level - I mean after a thousand years or so you'd probably argue whether it's - but
40 technically this is all high level waste. Intermediate level waste that we're talking about is stuff like - it might be some of the concrete and the piping that was used to actually construct the reactor. So over time it gets irradiated and becomes more radioactive, clearly, than natural iron ore and concrete. That's the nature of what we call intermediate level waste.
45

5 The other point to note is the green bits there in those little circles are fission products. They're the really nasty things. Those fission products decay much more quickly than the heavier transuranics, they're called. After about three to five hundred years essentially pretty much all of those fission products have totally decayed, so they're no longer inherent in those fuel assemblies.

10 This is critical. This married with the engineering barriers married with the geology is what's used together to build the safety case to satisfy communities, regulators and others that this is safe enough to do.

JUROR: I was wondering the volume of waste. There's financial figures in here but to make this feasible, to make this a profitable project, how many thousands of tonnes are we talking?

15 MR WARD: What we modelled - this was the maximum capacity that we modelled - was at the completion and closure of the deep geological storage site, 138,000 tonnes of heavy metal. What does that mean? By the way, this would be 2090-ish by the time we were closing this. That would equate to in the order of somewhere between 6 and 13 per cent of the world's inventory of
20 nuclear waste. Why do I say 6 to 13 per cent is because we modelled or we assumed in our modelling that no more nuclear power plants would be built after 2030. So we only included an assumption that reactors that were currently in existence or were planned to be built between now and then were actually built and there was nothing after that.

25 The minimum, we did some analysis on that. We thought that you'd need about 15,500 tonnes at the price that we assumed we would get in order to ensure that the state wasn't left out of pocket here and there was actually a little bit of benefit to the state and the community. Much less than that, then you
30 wouldn't do this. You wouldn't even contemplate it. Clearly the other point is that if that's all you got, clearly the benefits that we're going to talk about in a minute would be smaller.

35 MS JENKE: Greg, because you asked so nicely, I'm giving you another five minutes.

40 MR WARD: Thank you very much, because I'm powering. Enough said about that one. Radiation: we talked about this earlier but basically the safety case that all these countries that are pursuing deep geological storage - Finland, Sweden, Switzerland, Belgium, et cetera, et cetera - all have to convince their regulators that at no point under a whole bunch of "What if" scenarios that a person standing on the top - - -

45 JUROR: (indistinct)

MR WARD: Sorry, I'm under pressure for time as well as - we will get to - there you go.

JUROR: 133.

5

MR WARD: 133. So what's this diagram trying to show? It's basically showing on the left-hand side there the background radiation levels which we talked about earlier. The far left, that's the range of background in the UK. The smaller dark blue one just to the right of that is Australia background radiation. The light blue one there is the amount of radiation you'd get if you go and have a chest CT scan. The dotted line is basically the regulatory limit that most countries set to say, "Listen, if you're in the nuclear space in some form or other, you should try and minimise additional exposure to the community to less than one millisievert," which is that dotted line. The ones out to the right are basically the sorts of levels that nuclear facilities around the world actually would produce over and above the background.

To put that into context, if the safety case for a deep geological storage site is .1 of millisievert - that's right over on the far right-hand side - it's orders of magnitude less than natural background radiation. The safety case, all these "What if" scenarios - "What if all the canisters are breached and are ruptured early on in the piece and they escape through the barriers and the like? Would the dose that would be received on the surface immediately above exceed that .1 millisievert?" Under nearly all, bar probably one example, it's in the order of hundreds of times less than that limit.

The exception or probably the worst case is if somebody with a drill rig managed to send their drill rig into one of these canisters and brought the core sample from the middle of the canister up, then clearly the operator of that drill rig is going to get themselves a much higher dose. That wouldn't be necessarily a good thing, particularly if it happened early on after it had been buried. Maybe less of an issue in 10,000 years' time.

But notwithstanding that, the impact on the environment still in a general sense remains that .1 millisievert. That's the sort of stuff that the proponents need to go through and prove to the regulators that this could be done safe. Once again, a lot more information in the book about that.

Economic modelling: we believe it's conservative. You do your own homework on that. In the order of a hundred billion in profits could be generated under what we believe were very conservative assumptions. On top of that, in addition to that, there was another 32 billion set aside separately to decommission and monitor this facility infinitum. If those profits were put into a state wealth fund, which we would recommend, which is sufficiently ring-fenced so that politicians couldn't get their greasy hands on them and that

it was invested in productive infrastructure or investments at a return of about 4 per cent, which is what we assumed - much like a lot of sovereign wealth funds around the world - our Future Fund, the Norwegian Sovereign Wealth Fund, Singaporean, et cetera. So at that return, if we left 50 per cent of that annual income in the fund so that it benefited from compound growth and the other 50 per cent was given to the Treasurer so that we could spend it each year, then in essence this fund would continue to grow in perpetuity for the benefit of not just our generation but generations for, in theory, ever.

10 Noting the time, I really can't go into much more of it, but there's a reasonably detailed discussion in the report about our assumptions. There's a couple of underlying reports, one done by Jacobs, a couple of other summaries, which go into a lot more detail. This is high level, it was conceptual. We did sensitivity analysis, you know, what if we don't get the price we want, what if we only get a fraction of the volume, what if - yes, appendix J is what I would point you to.

Under all that analysis, we still found that this was likely to be highly viable and beneficial. Okay? Next.

20 MS BYERS: I might just talk for one minute, if I can, about social consensus, because I think it's a really important finding of the commission. Obviously there was a lot of technical analysis, a lot of economic analysis that went into the report. What surprised me throughout the process was the learnings around how important it is to not just understand the technology and the economics, but to bring a community along with any one of these types of proposals. We looked at a lot of international case studies where countries had attempted to cite nuclear facilities and waste disposal facilities, in particular. If they weren't paying as much, if not more, attention to ensuring they had community support at political, but also public levels, these things don't happen. They won't get off the ground.

You're obviously all living and breathing that right now, but it actually is fundamental to the viability of one of these sorts of projects to have your ongoing sustainable political and public support. If you don't have that, this won't happen. Obviously you're already aware that this is not something South Australia has to do. We have the choice. It's not a problem we have to solve; we have the choice. So we all have to think about: are we going to be better off? Are these benefits actually going to improve our lives going forward such that we would be interested in even looking at this further?

40 That's, I think, the fundamental question everyone has to grapple with. Unless our politicians are assured that the South Australian public is behind it in taking those further steps to further investigate it, there really isn't going to be anything further going forward around this.

45 MR JACOBI: I just want to add one thing, I'm sorry we've come to it last, but

I think chapter 6 is a very important chapter and, of course, I'm sure it's in part the reason that you're here, and that is that we cannot underscore enough the importance of social consent, both to the activity being undertaken, if that activity is to be undertaken that successfully, and also community consent that is from a community, were it minded to be interested in hosting a facility, and indeed that's the reason that we spent some time on this in chapter 6 and indeed in chapter 10.

I want to particularly emphasise in that respect with respect to both social and community consent, that means the whole community, and that meant that there was a need to talk directly to communities. Not only to you, but to the wider South Australian community, and to particular communities, as the commission itself did. And that includes talking directly to indigenous communities and talking to the members of those communities as, and I was present, Kevin did during the Commission process, and also our regional engagement person, John, did directly, and it will be an important feature of this process to go about having those discussions in conjunction with this, but I cannot underscore the importance of chapter 6 and chapter 10 together, and indeed I think it's what appears in about the second or third paragraph of the executive summary.

MR WARD: And I don't care about the program, so I'm going to steal another 30 seconds and click through a couple of things here. We did look at the impacts on our image and other industries. Clearly, read the report, have a look more at this, but we found, in summary, no evidence of adverse impacts. There's a bunch of other information there related to that. We looked at transport because clearly that's a concern of people in the community as well. Once again, we found that the risks associated with this, or the likelihood of some of these incidents are very small, and the consequences are fairly minimal or are manageable. So, once again, there's a lot more work that's been done on that, but we were quite comfortable that this is, in a transport sense, not a big issue.

We won't bother with the next steps. So, look, thank you very much for your time. I'm not sure whether we've run out - we don't have time for questions.

MS JENKE: Yes, I think let's do about three, if we can, and we can call you guys back for technical expertise if we need to. Okay, where are we, Iain?

MR WALKER: Just quickly, are there any other countries pursuing these types of underground facilities in which they don't actually produce the radioactive material themselves? So purely just for a financial gain?

MR WARD: The answer to that is no. However, some other countries have looked at it, but, no, there is no other country looking at this as a commercial

opportunity. However, clearly there are countries that are looking at it to solve their own waste problem.

MR JACOBI: I can just add that there are countries that have other concepts.
5 So, for example, the Russians, to support the export of their nuclear power plants, not only supply the plant and provide the finance, but fuel it and take back the fuel. So there are other concepts. There are other countries that, of course, reprocess fuel. Both France and the UK were doing that. The UK won't be doing that very much longer, but France will continue to do so. So
10 there are other countries that do engage in waste disposal activities associated with nuclear.

MR WARD: But to be very clear, not specifically what we're talking about. It is related to the selling of other products. So in Russia's case, it's a selling
15 point to sell nuclear power plants, for example. There is some work being done by a consortium of countries looking at regional waste disposal facilities, but largely to just manage, not necessarily in a commercial sense, you know ,the world's nuclear waste. Sorry, you wanted to disagree with me?

20 JUROR: No, he answered my question adequately.

MR WARD: Very good.

JUROR: I think I probably speak for many of us that we're extraordinarily
25 grateful for you and the team to have put in so much hard work in producing the report, and thank you also for distilling some of it for our benefit. However, you make it clear that the commission has no responsibility for education of the community at large. We're, as it were, a sample to be educated. Despite what Lucy said at the end, social and community acceptance
30 often comes in small print right at the end of your various things, which is appropriate for you. However, I believe our task is even harder than your task, and fundamental to that is the lack of adequate scientific knowledge which goes from school, up through university, up to adulthood. And I'm delighted that you're familiar with things like background radiation and can toss around
35 terms like isotopes and all that sort of terminology, but just think of what our job will be. Who is going to support and fund the necessary education of our fellow citizens, because I think it's fundamental to what we're - - -

MR WARD: Look, I totally agree. You have a far bigger challenge than we
40 had. We were dedicated, we had plenty of resources, and we had time as well. So you do have a big challenge, because you clearly need to inform yourselves to a point where you are comfortable enough to be able to make an informed decision. So it is a big challenge. It's a very interesting topic, and I think that you will - well, I would, I did anyhow, enjoy the process - - -
45

JUROR: (indistinct) six months (indistinct)

MR WARD: That's my point.

5 JUROR: (indistinct) highly motivated.

MR WARD: That's my point. So I had the advantage of doing nothing else. It is a big challenge that's confronting you, and I don't underestimate it. I guess the sooner you can get past the noise that you're going to be confronted with
10 and start to focus in on, you know, the real issues here and the real facts, the quicker that you will get to that point. Whilst it might be an interesting journey, I certainly agree you've got a great challenge, or a big challenge, and I wish you all the best in that. I'm sure at the end of the day you'll make the right decisions, or at least provide the right advice

15

JUROR: I have maybe one of the last questions that we'll have time for. With the main focus being economic and around the potential revenue that can be raised through storing the nuclear waste, I'm wondering how far along discussions have been or proposals have been put forward around what the
20 priority investments will be for the available revenue and how that will actually reach each member of the community?

MR WARD: We clearly gave some thought to how this money might be spent. It's not brought out in the report because at the end of the day we
25 decided that it wasn't our decision to say how this was spent or how those benefits were shared amongst the community, that's really for the community to determine. A couple of points that clearly we need to be very sure that those benefits will be real, that they will be used for the benefits of the community and not just this one but our future generations and that they are put to that
30 huge source of funds that will be available just sitting in that fund, not the bit that we're going to live off, are actually invested really smartly in - well, the world's our oyster in what the opportunities are, and I think that would be an interesting discussion to be part of. Chad just said to have a look at 106 and 107. I'm not sure why, but - - -

35

MS JENKE: Because he just likes page numbers, maybe.

MR JACOBI: I'm just trying to be fast. We did address the state wealth fund, we addressed the reserve fund which would need to be for managing long term
40 safety, we dealt with issues of research and scientific centres of excellence. I don't think, as a matter of democratic principle, it was appropriate for the Royal Commission to be telling the government how it might spend money where it minded to engage in the activity, but plainly they are issues that would need to be confronted by those that were minded to establish a fund.

45

I think the commission went as far as saying that there would need to be a statutory fund of some kind with statutorily created rules. The other thing it did say was that with respect to the community that took on being a host of such facility, but clearly funds would need to flow to it and there would need to be an appropriate range of benefits agreed as part of the discussion process that were it minded to proceed what the benefits would be and how they would fund future generations, and the community would have an interest in defining that for itself because of course it's for that community to decide what its values are.

10

MS JENKE: Okay, lovely, beautiful note to finish on. Chris, you stole my thunder, but what a wealth of knowledge. As I said, we've had a real sort have slam experience through what was obviously a really thorough one. Throughout the next three and a half days, we will have the chance to draw back down on that knowledge bank, so can you join me in thanking the Royal Commission staff?

15

MR WARD: Thanks for your time. All the best with the journey, I'm sure you'll enjoy it.

20

MR WALKER: Emily, can I get a late question in? It's just on behalf of someone who had a handwritten question?

MS JENKE: Sure. Yes, sorry.

25

MR WALKER: If I can just impose for two minutes? Again, it's on behalf of a juror choosing not to appear on camera. "Considering the huge expense in money and human involvement, during early world war two years in developing nuclear fusion has the commission investigated whether a similar expenditure in money and expertise could make it possible to reverse the process of enrichment and render waste relatively harmless and return it to the holes from where it came? If not, why not?"

30

MR WARD: Yes, we looked at advanced reactor technologies that touched also on where fusion was. It's been a great dream and hope for many, many decades, and I think, you know, whilst it was within the next 50 years, 50 years ago it's still within 50 years no. Yes, clearly technology will change over time, but certainly in the timeframes that we looked at, which are out over the next 50 to 100 years, I suspect that we're not going to see some of those technologies, but I don't know.

40

MS JENKE: Okay, good one. Thanks guys, good job.

ADJOURNED

[2.25 PM]

45

RESUMED

[3.34 PM]

MS JENKE: This is recapping, just in case you haven't done your job and you have to do it really quickly while you're waiting your turn. Recapping what we're doing here is trying to get a handle on who we need to bring into the room for you next Saturday. Not next Saturday because you will be voting in the election, the Saturday after. When I say "next Saturday", you know I mean the 9th, okay. The next time, the next Saturday we're together. This piece of work, and we'll have another look at this tomorrow because what we go through tomorrow with our expert eight might answer some of these questions, so we're going to have another look at it tomorrow and say, "Is that still right?" and then we'll get busy getting those people into the room.

One thing that we have done while you've been working is that we've talked to Chad and Lucy and Greg who were just here from the Royal Commission. What they've offered to do is, if you're comfortable, to be one of you on base camp and answer any questions that might emerge on base camp that you have of the Royal Commission, and they will just be there keeping a lookout on questions that they can answer. If you're uncomfortable with that, let me know. I think it was just going to be Lucy. Where's Madeline gone? Sorry, Geordan?

MR GRACKS: Lucy said that they're very happy to answer questions (indistinct) probably won't (indistinct)

MS JENKE: Posted and we'll direct them to them.

MR GRACKS: (indistinct)

MS JENKE: Excellent. Good. If that's okay, that might just help tick us along, and of course we can invite the Royal Commission team back into the room if we need them. The piece of work that you've just been doing is starting to think about witnesses, and I have taken the liberty of rewriting your themes in one word things, so I'm randomly going to select someone. I'm getting the really hard ones first. I'm going to select environment to go first because you've been ready for a while.

What I need is a special someone to give us a bit of a sense of the discussion and also who you're thinking of. Who is going to do it? Can you pass around the mic or hold it for (juror)? What I'll do is I'll capture it up here.

JUROR: Just recap what we've written.

MS JENKE: You can stand on the stage, if you want.

JUROR: Do you just want to recap what we've written?

MS JENKE: Yes, into the mic nice and loud because we're live streaming.
It's just a sense of what are the things that spring to mind for you about it, what
5 sort of questions do we need to ask and who would be a trusted witness.

JUROR: Okay, so our subject was environment, and the questions that spring
to mind are the dedicated infrastructure that they're talking about putting in to
10 carry the nuclear waste, I mean it's roadways, it's pads, it's various other things,
ports, specialised port facilities. What effect these may have on the
environment and the immediate environment and the long-term effects? Is the
radiation effects on flora and fauna, if there was some sort of accident or
accidental release of radiation?

15 The effects on agriculture as well, that would have to be considered. One of
the big factors too is the potential pollution of aquifers from the deep storage
of fuel, if there some leaks. The next question is what the community might
ask. I guess they would probably be asking exactly the same questions that
we've asked, so that made it a bit difficult to answer, but we came in addition
20 to that. What steps will be taken to reduce the risks and where will the dump
site possibly be located.

I know that's not something the Royal Commission covered, but I think it's
25 certainly going to be questions that the public are going to be asking. The next
one is if the witnesses - do you want that - - -

MS JENKE: Yes, so with the next bit Ilka and Geordan are sitting up here.
Just to give you a little bit of context before we do go into that, the list that we
provided you, which was sort have your starting base list to give you
30 something, was developed by Ilka and Geordan from two perspective. So Ilka
is from our team, so done a whole heap of independent research and worked
with stakeholders and also understanding what you guys had already identified.
So we've already been trying to find some people. Geordan's contribution has
been, I suppose, the subject matter experts who have come in from the
35 Royal Commission report. So there's this whole raft of really technical
expertise and we've joined them together, we've smashed them together - no,
we've artistically layered them together, as I learnt from one of our camera
crew the other day, to try and give you a balance between the two. So anything
you want to add before then - and we'll come back to you, (juror) - Geordan?

40 MR GRACKS: I'll just add one thing, which I didn't mention when I
introduced myself before, I work for the Royal Commission and I was brought
on to look at the social and community consent aspects in particular.

45 MS JENKE: Okay, good.

MR GRACKS: So I can help answer any questions about the witnesses that the Commission engaged that you might have.

5 MS JENKE: Great. The other thing to say is that all the people on that list have already given us their consent to be there and come and talk to you, so we've done a bit of homework to say, "If the jury called you, would you be willing?"

10 MS WALKLEY: Can I just give a bit more contextual information for the list?

MS JENKE: Yes.

15 MS WALKLEY: Is this the right point to do it, do you think?

MS JENKE: Yes, and then we'll come back to environment. Sorry, we should have done that before we started.

20 MS WALKLEY: Okay, you would like me to do that?

MS JENKE: Yes.

MS WALKLEY: Yes, okay. I think the first thing to say is I never imagined I
25 would have a former Premier of this State on my mobile phone contact list, so that's been a bit exciting for me in working to develop this list for you. Can I say, it is very much a work in progress. There's been a lot of input to this list. The most important input was yours as jurors through the survey, but that came relatively recently. So what we had to do at democracyCo is think, "What are
30 all of the things that are likely to be on your mind? Who are all of the people you may want to hear from, from a range of perspectives, to come up with a list that you can trust in?" Then we spoke with a whole range of stakeholders and said, "Who do you think are important witnesses that jurors should consider?" It's a very, very tricky balancing act for us because there's a sort of admin task,
35 which is to say might you be available, if called, on Saturday, 9 July, to 85 people who are in Finland, Sweden, interstate, living in remote communities here in South Australia who have their own families, their own professions, a whole lot of other stuff going on as well.

40 So we had to say, "Might you be available if the jurors want to hear from you?" So we have 85 people we've said that to and there is going to be a number that you are going to tell us to be in touch with. So tomorrow afternoon, I'm going to be calling people to say, "The jurors would like to hear from you." Say you want to hear from 20, we're going to have 65 who we said you might want to
45 hear from that may have a view about that, and then there's going to be a whole

lot of other people you might come up with. The only other thing to say is:
you asked for some people, and stakeholders asked for some people, who I
contacted and they opted out. And there are people that several of you asked
for with a very wide range of views who decided not to be involved in this
5 process. So you might say someone's name and I will need to say, "That
person decided not to be involved. We didn't exclude anyone, but people
might have decided to exclude themselves."

MS JENKE: Okay, great. Thanks, Ilka, really important. The other thing,
10 too, is that the list is not exhaustive, so we can draw on others who you think
can provide some input. Okay (juror) so back to you, what did you come up
with? Who was on your list?

JUROR: Well, we just took it from, you know, what was available to us there
15 and chose Dr Ian Chessell of the Goyder Institute.

MS JENKE: That was about water, wasn't it? That was about the water
interaction. I think you were - yes.

JUROR: Yes. And Prof Ian Lowe from Griffith Uni. Lisa van Camp, who's
20 an environmental scientist. And Dr Jim Green from Friends of the Earth.

MS JENKE: Don't mind my scribbling, but how does that look to the rest of
you? So you've got someone similar on your list? That's good. This is good.
25 But in general, think about this list, does that kind of - so Goyder Institute
about water. Ian Lowe, who you would know and have heard of, probably,
from Griffith Uni. Lisa van Camp, who is an environmental scientist in
Adelaide. And Jim Green from Friends of the Earth. Looking okay?

MR: Yes, a bit of balance.
30

JUROR: Just one other (indistinct) Friends of the Earth just so - - -

JUROR: That is why we - - -
35

JUROR: If that's - - -

JUROR: (indistinct) just going to be very negative.

MR: It's a case of balance.
40

MS JENKE: Yes, cool. And we'll see how we go. All right. So no major
objections, and what we end up with on the night will just depend on people's
availability, of course, but let's have a crack. All right, well done, good job
45 team 1. Okay. Right. Applause. You get applause. I work all day and get no

applause. Okay.

JUROR: There's one before you go.

5 MS JENKE: Thank you. Okay, safety. Safety with you guys. I'll grab you on mic. So just a bit of an overview and then - yes.

JUROR: So the things that we thought came to mind for us were risk management, site selection, so things to do with the seismic safety, the water safety, geological aspects, potential risk of terrorism, health risks and transport.
10

MS JENKE: The big one.

JUROR: So what we thought others in the community might ask about the topic, we tried to sort of take ourselves back to before we read the
15 Royal Commission report, and the first thing was, "How dangerous is it? What could go wrong and what are the consequences after something goes wrong?" Do I just go through the witnesses?

20 MS JENKE: Yes.

JUROR: Steven McIntosh we thought would be good to hear from for risk management. For site selection, we would like to hear from
25 Geoscience Australia or Dr Stephen Hill. For the terrorism, we thought John Carlson. For health risks, Dr Carl-Magnus Larsson. And for transport, Alastair Brown.

MS JENKE: Okay, I'm going to grab these off you, these sheets off you, so that we've got that detail. How is that sounding for you? That's a really big -
30 as I said earlier, safety is the biggest thing. Miss anything? Anything you want to add?

JUROR: Can we have Steve Hill?

35 MS JENKE: I've got him. Jepsen or Hill.

JUROR: Yes.

MS JENKE: Okay, I'll grab you a proper list; I'm just scribbling really, just to
40 do something. Well, then, okay. All right. So general happiness. And I really appreciate that you haven't had the chance with the other groups to think this through; that's why we're going to look at it again tomorrow. Next on my list is education. Education. So this was about: how do we give other people that experience that we've had and how do we start to educate? Yes?
45

JUROR: Yes. So our thoughts on the subject for education of the public and explanation of the fuel cycle, what are the tools, really, to be able to educate people? So our first question was: how do you best simplify topics for public consumption? Whether the group is also concerned about the education in schools, particularly stem subjects, so that people have the background to be able to make an informed decision.

MS JENKE: All these young people these days.

JUROR: That's a long-term sort of issue, but nevertheless. And also: how best to make information available on these specific subjects, whether that be uranium, radiation, risks. So what are the best tools available for public education? What questions might others in the community ask? Just on the broader side, what are the risks and benefits of the fuel cycle and nuclear products in general? Just to put radiation and health as pros or cons would be talking about that on the one side versus accidents and - - -

MS JENKE: Yes, okay.

JUROR: - - - negative outcomes on the other side.

MS JENKE: Yes.

JUROR: How to understand the management of risk in general, that's pretty – and again another generic topic but unless you understand the ideas behind that and the process behind that, you won't have much confidence in those who make the decisions about this because something is – has risks doesn't necessarily mean that it should not be done.

MS JENKE: Mm.

JUROR: So how to put that in the context I think was important. And also on the subject of education, where there is a lack of education that – that in itself breeds fear, so there are many fears in the community about this type of topic, so provision of information should hopefully allay some of those fears.

MS JENKE: Yes, okay. All right.

JUROR: And so on the subject of witnesses, I think it falls in to two categories. There's the content and the method.

MS JENKE: Mm.

JUROR: So our problem is education, we should have an education expert available to the witnesses and I don't think there are any examples in there of

that – that topic. And on the subject of scope, then the Commission representatives earlier had mentioned that was the head of ARPANSA had a specific knowledge about disposal or experience in the disposal field. His name might be Coates but I'm not sure of that.

5

MS JENKE: Geordan?

MR GRACKS: (indistinct) Carl-Magnus Larsson is the head of ARPANSA.

10 MS JENKE: Yes, okay. Appears on the other list. There was someone Coates; who's that Geordan?

MR GRACKS: The person we were talking about is a radiation safety officer -
--

15

MS JENKE: Yes, okay.

MR GRACKS: - - - for South Australia.

20 MS JENKE: Coates, was it Coates?

MR GRACKS: That was mentioned earlier by Chad, Banake from Geoscience

25 MS JENKE: Yes.

MR GRACKS: Or - - -

30 MS JENKE: I don't know. Someone Coates. Yes, all right. We'll follow that up. Okay. No, we don't know. So we'll have a look through that.

JUROR: So Coates education expert, disposal – disposal experts and I think there was – there are a couple of examples on the list there Oxonian.

35 MS JENKE: So is that people with experience in waste disposal?

JUROR: Yes.

40 MS JENKE: Is that what you're looking for - - -

JUROR: Yes.

MS JENKE: - - - there? Yes, okay.

45 JUROR: To identify what topics - - -

MS JENKE: Yes, all right.

JUROR: - - - are important to be educated on.

5

MS JENKE: All right, I'm going to throw to maybe Geordan for this. So what we've got on our list is people who can help us think about how to educate, so education experts which probably is not you and then people with expertise and experience in the industry who have gone through that education - - -

10

JUROR: Yes, exactly so.

MS JENKE: Okay, all right. Just checking if I picked it up right. Who have educated others.

15

MR GRACKS: Off the top of my head I'm not actually sure, so I might have to take that - - -

MS JENKE: Okay.

20

MR GRACKS: - - - question on notice and will come back to you.

MS JENKE: We can do some more – yes, all right. We'll do some more research. So is that heading in the right direction for you guys? It's a little bit – this is where it gets messy because it's not a particular person necessarily. Iain?

25

MR WALKLEY: Just if I can come in on this because normally we get given very ambiguous requests like - - -

30

MS JENKE: Yes.

MR WALKLEY: - - - that.

35

MS JENKE: Yes.

MR WALKLEY: My question for that table is, when you say an education expert, who is it that you would trust? Now are you looking for someone within the university sector who effectively trains teachers? Are you looking for someone within a government agency, such as an education agency? Are you after someone who runs community education programmes such as Quit Smoking? If you can put some time in to that, as long as you give us clarity as to type, then it's non-subjective for us to pursue. So consider that. On the disposal, we can reach out through some of the international agencies.

45

MS JENKE: Yes.

5 MR WALKLEY: So if that's a place where you think is it from another jurisdiction, what – give us some clarity about who it is you would trust and we can refine that through the afternoon. We just need a – no subjectivity, give us the type of person and we can make the person match.

MS JENKE: Yes.

10 MR GRACKS: I can add Emily, the Australian Nuclear Science and Technology Organisation has nuclear educators and we could go to ANSTO; there are some ANSTO people on the list. We could go back to ANSTO and say, who is one of your nuclear educators? Who engages with communities at their discovery centre? We can ask them if they can make someone available
15 to us.

MS JENKE: Okay.

20 MR GRACKS: For you.

MS JENKE: Maybe. All right.

JUROR: Look again, is not only about nuclear - - -

25 MS JENKE: Need a microphone Chris.

JUROR: - - - fuel cycle, the gap is also about elementary physics.

30 MS JENKE: Yes.

JUROR: And - - -

MS JENKE: So as you said this morning - - -

35 JUROR: Yes.

MS JENKE: So – which is – yes.

40 JUROR: Bringing more - - -

MS JENKE: Generational. Yes. So – and maybe that's part of the role for what happens between – you know, over this whole journey about how an education programme is layered in. Okay. Which brings me to the consensus group. You had the benefit of the international expert at your table, so I hope
45 that you've come up with amazing clarity, I suspect you haven't. No, I'm only

joking. Sorry. Not at you Kyle. (Juror)?

JUROR: We did appreciate Kyle your input, you helped us refine what we thought was pretty broad. The questions we are – we kind of came up with was, how do we make the whole consensus and consultation process or engagement transparent and inclusive? And one of the things that Kyle brought up was how do we measure the success of that community engagement? So we thought that was pretty good. Some of the other questions for the other communities, questions others in the community would ask as we were looking at the – how would the rural and agricultural community be engaged? Because there will be an impact at a site level and maybe a transport level and also how the Aboriginal community and the local communities are going to be engaged? So if the facility went ahead or if a new mine went ahead, the port, the infrastructure to get the stuff to and from - - -

15

MS JENKE: Yes.

JUROR: - - - the new thing - - -

20 MS JENKE: Okay.

JUROR: - - - whether it's a waste facility or a mine or whatever. So some of the witnesses we were thinking of was Gil McFadden from Community Centres SA, and Keith Thomas from the SA Native Title Services.

25

MS JENKE: Keith is in tomorrow. Got him.

JUROR: Professor Hank Jenkin-Smith, he's from Oklahoma, I can't remember exactly. He was engaged in the past in the US, so lessons learnt. So he was a professor of political science and the general principles of a nuclear facility siting and community engagement.

30

MS JENKE: Yes.

JUROR: So kind of been there, done that, lessons learnt, what worked, what didn't. The whole impact on future generations list which is Ann Bambridge, Ros Walmsley, Gil McFadden we've already mentioned and Simon Longstaff because it's the youth that are going to have to carry this along.

35

40 MS JENKE: Yes, and you've got Simon tomorrow as well from the Ethics Centre.

JUROR: Great. And then the impact on regions, which was Cecilia Woolford.

45 MS JENKE: Yes.

JUROR: And Kelly-Anne Saffin.

MS JENKE: And you've got Kelly-Anne too, look at that.

5

JUROR: And we thought Geordan as well because he would know, as part of the Royal Commission and engaging from that process, you know what worked for them to get - - -

10 MS JENKE: Yes.

JUROR: - - - the communities involved and to be informed and learn about it.

15 MS JENKE: I'm also wondering for that one, a thought that I had as I walked away was about getting some information to you, in some shape or form about what's planned for the next few months at least, so there's an Aboriginal engagement, Parry's gone. An Aboriginal engagement strategy being developed. There he is. Sorry Parry couldn't see you there. And so an – you know, what – what are those strategies that are being developed and designed
20 in order to tap in to some of those communities. That is only for the next little while but how you take that and use it forward. So it may be about giving you some information about that as well.

25 JUROR: Great. And also if someone was involved in Finland or France, in their waste management facilities and how did they implement, engage and how did it work? How did they measure it?

JUROR: I think we had one of them (indistinct)

30 JUROR: So we tried to do that – the last point, you know what choices do we need to make as a state about this topic is that it has to be informed.

MS JENKE: Yes. Okay. Really tricky and intricate element but really critical.

35

JUROR: If – well, as – who was the guy from the Royal Commission?

MS JENKE: Greg.

40 JUROR: Greg said, if you don't take them along, it ain't going to work.

MS JENKE: Yes, and the Premier said that to you too this morning, so good. Okay, so generally going in the right direction with that one. It could be at least getting a little bit of information to you, I think, which would help fill in
45 some gaps and also thinking through who could speak to some of these things

and revisit that again after tomorrow, because there was a couple of people - there's three people on that list that are in tomorrow as part of the expert eight.

JUROR: May I ask a general question?

5

MS JENKE: Yes, you need a microphone, though.

JUROR: How many people who are here today are from the country?

10 MS JENKE: There are 11.

JUROR: It's proportional to the percentage of country people in South Australia. There's 11.

15 MS JENKE: And you. All right, so let's keep going. So the next one is another hard one. I don't need that, why did I do that. It's trust.

JUROR: In terms of questions both by ourselves as well as the greater community, firstly, what would need to happen to be able to start debating at state and federal level to change the current legislation? How would regulation be enforced? It would be free of government involvement? And then to that then how could the regulators be regulators, particularly if you're talking this sort of money. Overall, how do you actually maintain that integrity.

25 MS JENKE: A citizen regulator. Here we go.

JUROR: In terms of trust, how could we trust future politicians to not change policies that may be put in place as part of this process? How could an independent regulator be free of government or industry intervention and then remain completely independent? Before I go through witnesses, I'll just jump down to choices as a state because I think it goes to the list of witnesses that we put together. First of all, obviously the federal position, as well state, both houses of parliament across all parties, so bipartisan support is mandatory for this type of thing to happen.

35

To review the processes from current countries that are actually putting regulations in place because there's already these types of thing happening particularly in Europe as well as the US, so we don't have to recreate the wheel, so there is a starting platform in terms of regulation. Probably the key point in terms of choices, of course, is there a need to actually change the legislation in the first place? Should the legislation in terms of the nuclear fuel cycle stay? But we also know that as a country we need to change our reliance on CO2 producing power stations, so what do we need to do to address that, or is this all just about money?

45

The witnesses that we've put down is Dr Mark Diesendorf, who is actually an economist that looks at renewable energy and compares it to nuclear options. So that goes back to this need of change, do we need to go down this path at all.

5

MS JENKE: Yes.

JUROR: Keith Baldry, who is a regulator of nuclear activities.

10 Rod Campbell, who is also an economist, and he actually looks at the benefits of a fuel cycle high level waste, which we've been talking about today.

Professor Haydon Manning, who has looked at the politics of uranium mining in Australia, and again he would have some insight in terms of how the policy makers work in this particular scope. And the last is Jack Dillich, who is looked at as an expert of regulation in terms of nuclear activities and also
15 transport of nuclear product, and that goes to sort have the regulation side of the process.

MS JENKE: How do I spell his name?

20 JUROR: Dillich.

MS JENKE: Yes, okay, good. Yes, thanks, I need a spell checker on the whiteboard. Okay, how is that sounding? Trust is this really nebulous thing, isn't it, but as soon as you start thinking about, you know, it's about decision
25 making and how we make them and how we keep track of that, you know, it's actually really central to this whole discussion. Anything missing from that, that would be on your minds? Have I nailed it? Look at you guys, doing well, good job.

30 MS WALKLEY: Excuse me, Emily, Ilka, over here.

MS JENKE: Yes, there you are.

35 MS WALKLEY: Yes, Ilka, remember?

MS JENKE: Yes, I've got you.

40 MS WALKLEY: I just wanted to check in with you because Geordan and I were asked to report back on behalf of a group where one member had to leave early and another member is a person who would rather have Geordan and I on camera than that person.

MS JENKE: Sorry, what group?

45 MS WALKLEY: On world perception.

MS JENKE: Okay.

5 MS WALKLEY: Would you like us to do it at the end of everyone else's or now?

MS JENKE: Yes, not yet because I've just stuck up future technology, so you're too late.

10 MS WALKLEY: I didn't see you do that, sorry.

MS JENKE: You're too late. Okay, so future technology, right.

15 JUROR: Good afternoon. As we went through the template that you gave us, we discussed other options.

MS JENKE: You have to put the mic close.

20 JUROR: Yes, is that better? What developing technologies might be available, e.g. new type reactors that utilise more of the fuel? What other power technologies are available and what new technologies could there be in the same timeframe that may reduce the waste products? What investment in current and future sustainable power technologies reap the same financial and employment benefits? And also keeping the public informed and up to date
25 about what future technologies are out there.

Questions. In the community, are the new types of technology safe in terms of the new types of reactors? The carbon and pollution aspects of any new technology? Considerations of timelines between developing a storage facility
30 and also what may become available in new technologies during that time making the storage facility void? The need for perhaps a national fuel waste and energy policy throughout the country? The witness we has asked for were Stephen McIntosh, Professor Ian Lowe, Anthony Thomas from Adelaide Uni.

35 MS JENKE: Was he the guy that went up to the moon? Astronaut?

JUROR: No, a different one.

40 MS JENKE: That's Andy Thomas, sorry.

JUROR: Andy, yes.

MS WALKLEY: Yes, she's not in charge of the witness list.

45 MS JENKE: No, I'm not, clearly.

JUROR: And Dr Leslie Dewan, D-e-w-a-n, who is not on the list. What choices do we need to make as a state about this topic? Do we really need to be a dump for everybody else's waste? Can we invest in other better technologies.

MS JENKE: Yes, good. Nice job. Apart from the witnesses, starting to understand those choices in front of is a really important thing, it's where really I think the richness will come out in this product that you guys produce for everyone else. How are we thinking about that? Are we on the right track in terms of future technologies? Anything surprising or missing?

JUROR: Cost.

MS JENKE: Cost, okay. It might be picked up in the economics bit. Okay, let's have a look at that because that might answer that question. Okay, economics, who was doing that? You guys? No? Who did economics? You guys did, okay. Well done future tech people.

JUROR: From an economic point of view, we've got quite a long list of questions.

MS JENKE: Yes, you have to hold that mic nice and close.

JUROR: We would be looking for a list or assumptions on the costs and the benefits, what's a guesstimate, what's data based, that sort have thing. How do we ensure that any future fund actually remains available for future generations? There's a bit of a history of knee-jerk reactions and short term spending.

MS JENKE: Yes, okay.

JUROR: Are we factoring in new technology? Are we burying any, I guess future opportunity, if there is a future value identified in any waste? Who's going to be taking the accountability and who will own or manage any storage facility, whether it be public or private? Just a comment on the economic evaluation that a four per cent cost of capital is quite optimistic. So more questions, how much disaster management has been factored in to the economic evaluation? How much taxation will be taken at a federal or state level? How can the MPV of a disposal facility be broken down in to a language that a common person can understand, I guess, including the understanding the relative scale of any benefit, so some – you can pretty much just put it in perspective. Have we factored against any – or have we factored any cyclical financial recession challenges in the economic modelling and if we were to go in to a contract with another country, what happens if they go

bankrupt? And just skipping the witnesses for now, the choices we need to make as a state, is the business case of any storage facility sufficiently stress tested to give confidence of a long term economic benefit and why not present a range analysis detail against the low range estimates rather than just the nominal?

The witnesses we've listed, so Professor Richard Blandy - - -

MS JENKE: Blandy.

JUROR: Blandy. It's Dr Sammy Hautakangas or – Hastakangas - - -

MS JENKE: No (indistinct)

MR GRACKS: Hautakangas.

MS JENKE: Say it again.

MR GRACKS: Hautakangas.

MS JENKE: Yes. Anyway, you know what that is. We'll pick that up later.

JUROR: We've got Rod Campbell.

MS JENKE: Rod Campbell again, yes.

JUROR: And Professor Paul Kevin – Kerin. Kerin.

MS JENKE: Rob Kerin.

JUROR: Paul Kerin.

JUROR: Paul Kerin.

MS JENKE: Paul Kerin. Okay. How's that looking to the rest of you? It's a big list; don't look at the size of the list. Yes.

JUROR: Just one other area on economics is the labour side of it, go the - - -

MS JENKE: The workforce stuff, yes.

JUROR: Yes. There's a lot of work in there in terms of the amount of money that we can generate from taking somebody else's waste and disposing of it but the amount of jobs that can be created and you assume it would come somewhere out of the iron triangle area which is devastated at the moment with

the mining and everything else.

MS JENKE: Yes, okay.

5 JUROR: So that could be an option – that’s something to be factored in to the economics of the whole thing is the generation which (indistinct) and everything else that can support it.

MS JENKE: Right. I’m going to ask you a follow up which might come to
10 you or the room, who – an idea of the kind of person or group that could talk to that? Is this a union’s thing? Is it – what is it? Ilka, any insight?

MS WALKLEY: John Spier.

15 MS JENKE: John Spier, yes.

MS WALKLEY: Spier, Spur.

MS JENKE: Spier.

20 MS WALKLEY: Spier.

MS JENKE: Yes.

25 MS WALKLEY: Spier, sorry.

MS JENKE: He was on our –

JUROR: Yes, yes. One question we do, you know have around us this was
30 that you know how we will build that nuclear capability or the skill set in our workforce because at the moment if you look at our - - -

MS JENKE: Yes.

35 JUROR: - - - (indistinct) structure, it is just missing. But the thing is that if you start going down that path there will be a good long gestation period, so hopefully we can change that but then of course it all needs to fit in to that programme of work, how we create the right skill sets so we achieve that.

40 MS JENKE: Yes. So that capacity building - - -

JUROR: Yes.

MS JENKE: - - - element for society, which links a bit to the education stuff
45 to.

JUROR: Yes, I – absolutely.

MS JENKE: Yes. (Juror)?

5 JUROR: I just think - - -

MS JENKE: He turned it off on his way to you.

10 JUROR: I was just thinking a futurist, this is – we’re looking at decades in to the future. Someone with a futurist mind set to give us some context and also include the lotto numbers.

MS JENKE: No, let’s not get a psychic. Okay. Just take it to a different

15 place.

JUROR: So there’s some futurist - - -

MS JENKE: Yes, be good.

20 JUROR: - - - people that - - -

MS JENKE: Yes.

25 JUROR: - - - could put something I guess.

MS JENKE: Yes.

JUROR: (indistinct)

30 MS JENKE: I know (indistinct) (juror) offered. Anyway, I will just put all good, because I know him. Okay, good. All right. So starting to nail that a bit about some of the economics and the – so the business case around it then the workforce development end and then the futurist. Okay. Good. All right.

35 Impact on Aboriginal communities. Okay. Are you taking the lead (juror) or someone else?

JUROR: Well - - -

40 MS JENKE: She’s got the microphone.

JUROR: Our group – yes, well once I’ve got it – yes. Anyway, our group was a bit halfy halfy black and red lanyards, so - - -

45 MS JENKE: That’s okay.

JUROR: Help me out black lanyard folk. So what are some of the questions that spring to mind? Just want me to read those questions out?

5 MS JENKE: Yes. Yes. Okay, just give us a bit of a sense of the conversation?

JUROR: I was only here for half the conversation you guys. Okay, so we wanted to know – there was a lot of questions around like the – or in existing
10 experience in South Australia of Aboriginal peoples with the nuclear radiation, I suppose from - - -

MS JENKE: History, yes.

15 JUROR: Yes. So that some of those questions are around what is the exclusion zone around the site? The main – what are the main concerns about living adjacent to a storage site? What risk mitigations should be put in place? The direct benefits and disadvantages and advantages to communities, Aboriginal communities. There was also a discussion when would the question
20 that was put forward that it's not just – we put in there especially Aboriginal communities but also a broader question about all remote communities but in particular – or especially Aboriginal.

MS JENKE: Yes.

25

JUROR: So when we were choosing our witnesses, we also wanted to add at least one person Cecelia Woolford - - -

MS JENKE: Yes.

30

JUROR: - - - who had the broader rural, regional communities' expertise.

MS JENKE: She's the chair of the Outback Community Authority.

35 JUROR: Yes.

MS JENKE: Yes.

JUROR: So we put her on there and then - - -

40

MS JENKE: Yes.

JUROR: - - - the rest we've put Eunice Marsh, Wanda Miller and Mimeth Mart also because we knew Keith and Karina are coming tomorrow.
45 And then we had an idea of putting Bob Watts on to hear about an international

experience and perspective of indigenous peoples in Canada as well.

MS JENKE: Yes. Good.

5 JUROR: What else? So some of the other questions that I put – we put
forward afterwards is would a waste facility affect your ability to practice your
law and culture? How does your past experience with the nuclear – with
nuclear radiation influence your current views and decision making? What are
the deal breaker considerations for you; either for or against? What strategies
10 are proposed to manage the cost to future generations of any clean up and
relocation of whole communities; which is an already existing experience in
South Australia as well? And then my concern that I put particularly but I
think is covered very well in the Royal Commission report is the issue of free
prior and informed consent - - -

15

MS JENKE: Mm.

JUROR: - - - for Aboriginal people. And the values and protection of
Aboriginal heritage, including sites, cultural practice and environmental
20 heritage.

MS JENKE: That is amazing, really great questions I think. Really I'm just a
bit astounded at the level of questions that you've got to so quickly as a whole
group, because I think it just shows the thought that you've done coming in to
25 the room, so well done on that – that list. Is anything – any gaps or is there
anything missing? Yes?

JUROR: (indistinct) quick one. (indistinct)

30 MS JENKE: Sorry.

JUROR: (indistinct) Yes, I was tossing up whether to sit on the educational or
future (indistinct) but one of the things that I suppose was – that sprung to
mind for myself and I've just had a quick look through the witness list is the
35 basis moving in to the future, centralised versus distributed systems. With a lot
of people potentially going off-grid, is there anyone in this witness list that
potentially offers some insight in to battery storage because – I'm sorry?

JUROR: What's the relevance (indistinct)

40

JUROR: If in 50 years' time the majority of people are using solar and battery
storage, the requirement for a storage facility for nuclear waste might not be as
high.

45 MS JENKE: Okay, we can add it up to the list and have a look, and see some

of the conversations tomorrow might reach into that area. And if they don't, we'll pick it back up again. All right, good. Thank you. So we've got one more to go, which is Ilka, about global perceptions, which is not Ilka.

5 MS WALKLEY: It's absolutely not Ilka; it's Ilka on behalf of a huge team - - -

MS JENKE: Of two.

10 MS WALKLEY: - - - of two; one of whom who will be listening to keep me honest here. So what Geordan and I understood from how your fellow jurors explained to us, they said that there's probably - they saw two main issues in terms of world perception of South Australia, if there was an expansion, and
15 the first was about our clean, green image and exports, agriculture, also tourism, and the other was about - I think it was described as lots of people don't know a whole lot about South Australia, know a lot about other states, but if the wrong people - there was some language used, which I'm not going to repeat - the wrong people started to know about Australia for the wrong
20 reasons, it's a matter of security and safety, and potential for terrorism, is how it was described to us, with different language. And so the questions that others in the community might ask, "Will we be known as the world's dumping ground or will there be a perception about the safety of our food and produce?"

The witnesses that this enormous group requested were Darren Thomas from
25 Brand SA and also his own business on the witness list. Someone from the economic development board. The chief executive of Tourism SA. And a person from the armed forces and/or police. Have we got anyone left outside we could bring in for a minute?

30 MS JENKE: Okay. How did we go? Anything that you would add? So some are overlapped there about security, is what I picked up there, but that's okay. Yes, here comes a microphone; Iain is earning his keep.

JUROR: I'm going to ask a dumb question here.

35

MS JENKE: Beautiful.

JUROR: What is the object of our exercise for these four days: are we
40 presenting a pamphlet, as you showed earlier in the day, to hand out to show the public? Because if we're going to put up all of those things that are on the board there and cover all of those aspects there, we're going to have a sheet that's bigger than a percent of elections in New South Wales and Victoria. To me, there's a number of things up there which do not make something that should be on that sheet. For example, future tech. I mean, it's a pie in a sky.
45 Why should we be discussing future tech when we're trying to explain to a

17-year-old or 18-year-old kid who's about to vote on something or other, who's got very little knowledge of anything in this regard, what is the point of putting all this stuff, a lot of that stuff up there in that particular sheet? Because, to me, it's pointless.

5

MS JENKE: Yes, and I won't talk about specific things, but that's absolutely part of my brutal simplicity. That was a great quote this morning; I wrote that down from the Premier. But our challenge is to say: how much do we go into this and how much do we just say, "We need to talk about it." So what I'm
10 going to propose to you is that, overnight, I put this together for you into something that makes sense, and we'll have a look at it tomorrow. We'll actually have a look at it a couple of times, because what you are about to do tomorrow is hear from eight people who can probably cover and meet some of these questions that you've got, and you're day one into four days of your time
15 together, but it's actually something we need to resolve by the end of tomorrow around how deep do we go, so, therefore, how many witnesses do we really, really need, and, you know, what's the scope of what we're trying to do?

While we have a general picture, it's exactly what the purpose of developing
20 this over a couple of days is to do, to ask some of those questions, so I'm really pleased that you've left that in the room for us to ponder overnight. If that's okay, I'm going to set you your homework for tonight, which is to think about that exact question: how much do we need to go deeply into the topic in order to help the community talk about this stuff? Is that okay? It's a little bit of a
25 thought piece over dinner and a very well deserved glass of red wine, South Australian of course.

We're kind of getting close to time and I just thought we might finish the chunk
30 of work there for the day. There's lots of questions, we'll put this in a document for you to have tomorrow morning. There are a couple of things that we need to do, but the main one is, and I've got a couple of little notes for you, the main one is to have a short conversation about how you went this morning coming into the building and how we're going to do that tomorrow, and, yes, just your general comfort with the process and reflections. Ilka?

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MS WALKLEY: I did have something. Geordan and I both had something to say about the witnesses. We could save it until tomorrow, if you want to go straight into that debrief.

40 MS JENKE: If it's quick, yes.

MS WALKLEY: It's very quick.

45 MS JENKE: Yes, go.

MS WALKLEY: On behalf of Dr Geordan and myself, I just really wanted to share with you how pleased so many of the potential witnesses that we contacted were to be contacted, how interested they are in this process, how pleased they were to know how engaged you already were with the issues by the survey and who you might want to hear from, and we have people who are going to be at family weddings in Paris who have made themselves available for you. We're all going to go to Paris, has anyone told you that yet?

And we have people who are leaving other family things in order to be available. People we very, very keen to be participants in this process and give you the chance to ask some questions, so we just wanted to say that.

**MATTER ADJOURNED AT 4.27 PM UNTIL
SUNDAY, 26 JUNE 2016**

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