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TRANSCRIPT OF PROCEEDINGS

O/N H-942253

MR B. WALKER SC, Royal Commissioner

IN THE MATTER OF THE MURRAY-DARLING BASIN ROYAL COMMISSION

ADELAIDE

10.01 AM, WEDNESDAY, 26 SEPTEMBER 2018

Continued from 25.9.18

DAY 30

**MR R. BEASLEY SC, Senior Counsel Assisting, appears with MR S. O'FLAHERTY,
Junior Counsel Assisting**

MR BEASLEY: It's 10 o'clock Commissioner. Before we begin can we acknowledge this land we meet on today is the traditional lands of the Kurna people and that we respect their spiritual relationship with their country. We also acknowledge the Kurna people as the custodians of the Adelaide region and that
5 their cultural and heritage beliefs are still as important for the living Kurna people today. We also pay respects to the cultural authority of any Aboriginal people visiting or attending from other areas of Australia present here.

10 Before I begin first of all, an apology. I accused the Senior Solicitor last week of running a North Korean regime at home. I have since had it clarified to me that the one and a half hour screen time my client is entitled to, does not include television time, and so I withdraw the suggestion that she should receive the supreme leader's prize for parent of the year. She is just – on behalf of all the Commission staff, I can say just a very, very hard task master. I mention the Victorian Government
15 yesterday and clarified my criticism of the Victorian Government Solicitor's Office as actually being a criticism of their client, the Victorian Government, in failing to notify you as to whether they intend to either answer a series of questions you posed to them or to either attend to be examined at a Commission hearing.

20 What I will do is – there are two letters from the Victorian Government Solicitor's Office. The first is a letter dated 14 September 2018, addressed to Joanne Masters the Senior Instructing Solicitor of the Commission. What that letter says is that they note your letter to the Premier of Victoria of 7 September 2018 enclosing those series of questions. The letter says the Victorian Government is presently considering the
25 Commissioner's letter and intends to respond next week. The following week, by a letter dated 21 September 2018, from Victorian Government Solicitor's Office, again addressed to the Senior Instructing Solicitor. The main part of the letter that requires your attention is notification from VGSO that "We advise that the Victorian Government is still considering its position in respect of the Commissioner's letter
30 dated 7 September 2018. We will provide a response to that letter as soon as possible". Presumably as soon as possible means before 1 February 2019, but who knows.

35 Also, this morning the office received a letter from the VGSO – I will tender those two letters, the letter from the VGSO to Joanne Masters of the Commission 14 September 2018 and the letter from the VGSO to Joanne Masters of the Royal Commission dated 21 September 2018. They can be tendered as the – under the one exhibit number, about 4900 now we are up to or something like that, isn't it? Then this morning, Victorian Government Solicitor's Office wrote a letter addressed to
40 you of 25 September 2018. I know you have only just been provided a copy, and so do you want me to tender that now or hold that off?

THE COMMISSIONER: I don't mind it being tendered now, but I will be dealing with it not immediately.
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MR BEASLEY: All right. I will tender that letter, too, and note that you will address its contents, if that's what you choose to do at a later time when you have had a chance to read it more thoroughly. So that can actually go in the same tender number. Don't create another tender number. So this morning, we have Ben Bruce,
5 Chris Morony, and Dr Theresa Heneker who are all from the Department of Water and Environment of South Australia. They need to be sworn or affirmed.

10 <CHRISTINE ANNE MORONY, AFFIRMED [10.06 am]

<BEN BRUCE, AFFIRMED [10.06 am]

15 <THERESA MICHELLE HENEKER, SWORN [10.06 am]

MR BEASLEY: Just before we begin, can I just check have you all got a folder of materials. My folder has actually got Mr Bruce's name on the front of it. Yes, okay.
20 Also, please – it's going to be – given there is three of you in the witness box at the one time it's going to be fairly obvious when Mr Bruce is answering a question but for Dr Heneker and Morony it might be useful if you identify who you are before answer a question. Also if I'm asking you questions, if I – assume it won't be by design, if I cut you off and you haven't completed an answer please let me know.
25 And please feel free to add in any further information you think is relevant to the Commissioner if I raise a topic that you don't feel as though I have raised it as thoroughly as you would like. Mr Bruce, your official title is Group Executive Director, Water in the Department of Environment and Water.

30 MR BRUCE: Yes, that's right.

MR BEASLEY: How long have you hold that position?

MR BRUCE: Approximately two years, it would be.
35

MR BEASLEY: All right.

MR BRUCE: I can check the dates, but yes about that time.

40 MR BEASLEY: And in the hierarchy of the Department of Environment and Water, where does that sit? Who do you report to; who reports to you?

MR BRUCE: It reports to the Chief Executive.

45 MR BEASLEY: Right. And part of your role, I assume, involves dealing with the Basin Plan, the implementation of Basin Plan, and I think you have a role on various committees, do you?

MR BRUCE: Correct, yes.

MR BEASLEY: Could you tell the Commissioner what they are?

5 MR BRUCE: Certainly. I'm a member of the Basin Officials Committee so the South Australian representative on that and support the Minister in Ministerial Council. Obviously, the Minister is the member.

10 MR BEASLEY: And have you been on that committee for the same amount of time you have been Director?

MR BRUCE: Yes, I have.

15 MR BEASLEY: All right. And prior to being Group Executive Director of Water, what – were you in the department before that?

MR BRUCE: Still in the department, yes.

20 MR BEASLEY: In what capacity?

MR BRUCE: I was Group Executive of Customer, Commercial, Group Executive Director of Customer, Commercial and Corporate which included the water licensing component of the business.

25 MR BEASLEY: Right. And can you outline your tertiary qualifications?

MR BRUCE: Sure. I have a Bachelor of Science in Biological Sciences. A Master of Science in Ecological Management and a professional certificate in management.

30 MR BEASLEY: All right. And they – were – the degrees from the University of Adelaide, or another University?

MR BRUCE: Undergraduate from Flinders and Masters from Adelaide.

35 MR BEASLEY: Right. Thank you. Now, Ms Morony, you are – your official title is Manager Murray-Darling Basin Royal Commission Response Unit. Is that right?

MS MORONY: Yes, that's correct.

40 MR BEASLEY: And I take it that means you have only been in that position since around January or February of this year.

MS MORONY: Yes, February, I think.

45 MR BEASLEY: Prior to that – I don't think there is a response unit in the Commonwealth, but we are very pleased that there is one in the State Government.

We haven't had an emergency yet, though. So what position did you hold before being the Manager of the Response Unit to this Commission?

5 MS MORONY: I held the position of Manager of Intergovernmental Relations in Water Policy. What that meant was that I provided the support to the national water policy committees, including the Basin Officials Committee and the Murray-Darling Basin Ministerial Council. So I organise all the meeting papers and briefs.

10 MR BEASLEY: All right. Now, I have been told you have an honours degree – sorry, a Bachelor of Agricultural Science degree with honours.

MS MORONY: Yes.

15 MR BEASLEY: And then what's written after that I can't read. So perhaps you can tell us what your – something to do with Fava beans, I'm reading.

MS MORONY: Yes. That's correct. I have a honours degree in plant breeding, and my thesis was - - -

20 MR BEASLEY: Plant breeding. That's what it is. Okay.

MS MORONY: And my thesis was on resistance to chocolate spot in Fava beans.

25 MR BEASLEY: Fantastic. I will ask you about that later, if there is time. You have also got a Master of Environmental Law.

MS MORONY: Yes.

30 MR BEASLEY: And a Master of Science in Public Policy and Management.

MS MORONY: Yes.

MR BEASLEY: You have spent 30 years in the public service about.

35 MS MORONY: Yes.

40 MR BEASLEY: Don't think that – that is only – that's – 30 years in the public service is equivalent to one year in a Royal Commission I can guarantee you. 10 years of that in agricultural research and policy.

MS MORONY: Yes.

MR BEASLEY: 10 years in biodiversity policy.

45 MS MORONY: Yes.

MR BEASLEY: 10 years in water policy. You are like the Basin Plan. 10 year reviews. Dr Heneker, you have a Bachelor of Engineering with first class honours?

DR HENEKER: Yes.

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MR BEASLEY: You have a PhD in Engineering.

DR HENEKER: Yes.

10 MR BEASLEY: Which was in hydrological model development and assessment for engineering design.

DR HENEKER: Yes.

15 MR BEASLEY: Joined the Department of Water Resources in 2001 as a hydrologist.

DR HENEKER: Yes.

20 MR BEASLEY: Correct. Principal hydrologist in 2009.

DR HENEKER: Yes.

MR BEASLEY: And you have done reviews of the Basin Plan modelling.

25

DR HENEKER: Yes.

MR BEASLEY: And is your current position involving work in relation to implementation of the Basin Plan?

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DR HENEKER: Yes, implementation, yes.

MR BEASLEY: Which includes the recent SDL adjustment assessment and implementation of sustainable diversion limits.

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DR HENEKER: Yes.

MR BEASLEY: Good. All right. That takes care of all that. I'm going to mainly just ask some clarification questions in relation to the State Government's
40 submission and in relation to the answers that you have kindly provided to two lots of series of questions from the Commissioner. And I won't direct – unless there is a very good reason, I won't direct the questions to any specific one of you. So whoever is the most important – appropriate person to answer, please feel free. I did
45 just want to ask some questions about what – whether the state government has done – has responded to a letter that the Minister here for Water, Minister Speirs received from the Federal Minister for Agriculture and Water, Mr Littleproud.

If you go to tab 11 of the materials, you will see there a letter from Mr Littleproud to Mr Speirs with stamp 2 July 2008. It actually attaches a document that we have described contrary to Mr Littleproud's view as a submission, and we have described it in that way because if it looks like a duck, it's a submission. But what I wanted to ask is, in paragraphs 16, 18 and 27 of the State Government's submission, the South Australian Government have set out its view in a summarised form about the construction of the Water Act and has resisted the notion that there is such a thing as a triple bottom line or that social and economic factors can take precedence in relation to the setting of the environmentally sustainable level of take which differs to some degree from the submission that's attached to Mr Littleproud's letter to Mr Speirs of 2 July 2018.

The first thing I wanted to take up though was the State Government of South Australia seems to have a different legal view on construction to the Commonwealth Government. The Commonwealth Government in the past has released one of its legal advices. Mr Bourke, when he was the Minister for Water, released an advice from the AGS in October 2010 concerning the proper construction of the Water Act. This submission attached to Mr Littleproud's letter contains, in effect, a legal submission concerning the construction of the Water Act which would have to be based on legal advice, either from the Department of Water, Agricultural and Water Resources or from somewhere else, but from some people within government with legal qualifications. In the third last paragraph of Mr Littleproud's letter to Mr Speirs he says:

The request by the Royal Commission for the Commonwealth's legal advices following the issue of summonses has been of great concern to the government.

I'm just wondering: has the South Australian government asked for the Commonwealth's legal advices concerning the construct of the Water Act?

MR BRUCE: Not that I'm aware of.

MR BEASLEY: All right. Is – and I take it then that Mr Speirs hasn't followed up this letter from Mr Littleproud saying the Royal Commission should be entitled to be given those legal advices?

MR BRUCE: I don't believe I have seen a copy of any correspondence.

MR BEASLEY: All right. It's just curious to us, given that Mr Littleproud asserts also in this letter that there is significant public interest in the Murray-Darling Basin Plan, as to why those legal advices haven't been provided, given they are only about construction matters of the Water Act. Does the South Australian government have a view as to whether it's appropriate or not for – whether it's not appropriate for the Commission and the public generally to be provided with these legal advices?

MR BRUCE: It's hard for us to comment on that. That is really a matter for the Australian Government.

MR BEASLEY: No. But does the South Australian government have a view that those advices should be made public and provided to the Royal Commissioner?

5 MR BRUCE: Our view very much is that transparency is a key and so we have tried to make all information where possible available and that is generally our approach to everything.

10 MR BEASLEY: But – I imagine you will answer yes to this, but if it's no please feel free. But the South Australian government would have a very strong interest in the Basin Plan being entirely lawful?

MR BRUCE: Absolutely.

15 MR BEASLEY: Yes. And if there are legal advices many prior to the advice released by Mr Bourke that suggests that – that might suggest that the way the ESLT has been determined is not in accordance with the proper construction of the Water Act, that would be an advice the South Australian government would want to see; correct?

20 MR BRUCE: We would – I guess we would have an expectation that the Commonwealth would do all in its power to make sure that the Plan was legal and enforceable and robust.

25 MR BEASLEY: Right. I'm sure that's right, but the South Australian Government would want to see those advices if they are advices that are more in accordance with the South Australian Government's view.

30 MR BRUCE: Sure. We would like to see as much as we can in the quest for greater transparency.

35 MR BEASLEY: All right. Well, can you pass on from me as Counsel – Senior Counsel Assisting to your Minister that we would be very grateful if he would write to Mr Littleproud and indicate to him that it's in the public interest that all those advices be released and that they be provided to the Commissioner as soon as possible. I just wanted to briefly turn to the submission that has been made that's attached to this letter. Mr Littleproud has indicated that because of the public interest in the Basin Plan this submission would be made publicly available and he says his – the whole – the reason for providing this – what he calls an "attachment" is so that Mr Speirs has an understanding of the Commonwealth view about consistency of the
40 Plan with the Water Act.

45 I just want to ask some questions about what the South Australian government's view is concerning some of the matters raised in this submission, although I think some of them are answered by the submission you have provided the Commissioner. If you look at the first page where it has got the grey box: 'Consistency of the Murray-Darling Basin Plan with the Water Act'. You will see in the third bullet point it's asserted that:

The Murray-Darling Basin Authority was tasked with determining an ESLT.

That's true.

5 *Determining an ESLT for the Basin as a whole is a complex task.*

No doubt true:

10 *It's an exercise which has been conducted consistently with the Water Act.*

That's an assertion. And then it says:

It has been informed by the best available information.

15 I take it the South Australian Government's view is that ESLT and other determination – relevant determinations under the Basin Act are not to be informed by the best available information. The requirement is that the Authority act on the best available scientific knowledge; correct?

20 MR BRUCE: Yes.

MR BEASLEY: Yes

25 THE COMMISSIONER: Could I just ask. If you go over two pages in relation to that subject matter that Mr Beasley has drawn to your attention, in paragraph 19 you will see that together with paragraph 20, whoever wrote this – and I assume it is someone with legal qualifications advising the Commonwealth Minister – whoever has this described as a misunderstanding of the ESLT the proposition that it is a single figure. There is no doubt that the SDL single figure is there?

30 MR BRUCE: That's right.

THE COMMISSIONER: It won't work as a maximum otherwise.

35 MR BRUCE: Correct.

THE COMMISSIONER: And there's no doubt that under section 23 the notion of the SDL reflecting an ESLT means that for all practical purposes the ESLT should be regarded as a single figure too, should it not?

40 MR BRUCE: It's a difficult one. So the – I guess the logic would say yes to that.

THE COMMISSIONER: Well, that's – that will do me, logic.

45 MR BRUCE: It's not how water resource management often works, though.

THE COMMISSIONER: Well, it may not be, but that may be a point of criticism or deficiency.

MR BRUCE: Correct.

5

THE COMMISSIONER: It strikes me as too silly for words that anyone would think that the hydrological or ecological considerations that inform the Water Act and the Basin Plan, both when it is made and when it is enforced could possibly, truly, in a concrete sense, be described with precision. If there were precision, for example, you would not have complete gigalitres. You would have fractions of gigalitres. So that's just childish. Not even a school child would make that point. So we know we are dealing in an area where estimation, projection – that is into the future with all its exactness and approximation – is of the essence. But because we are dealing with regulation where there is compliance or not – no grey areas, compliance or not – single figures are used. This is a familiar notion.

15

MR BRUCE: Yes.

THE COMMISSIONER: It is not true that it is safe always to drive at 60 kilometres an hour.

20

MR BRUCE: True.

THE COMMISSIONER: Nor is it true that it will always be dangerous to drive at 62 kilometres an hour in zones where 60 is the limit. But because we are talking about law we have a limit. I'm sorry about the civics lecture, but every time one rereads this Commonwealth material one wonders whether we are inhabiting the same intellectual universe. Well now if that is true, what I've just put about the ESLT and the SDL, the confidence levels are key to an understanding of compliance with section 23; isn't that right?

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MR BRUCE: Yes.

THE COMMISSIONER: The notion of reflection requires something in the nature of accordance or concordance between the two concepts, SDL and the ESLT. Is that as you understand it as an Official?

35

MR BRUCE: Yes.

THE COMMISSIONER: Yes. Now, in the grey box from the Commonwealth, to which Mr Beasley has drawn your attention, the fourth dot point, the assertion is made that the ESLT can exist as a range. What on earth could that mean within the context of the Act?

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MR BRUCE: It's an interesting question you ask. In terms of where the modellers and water resource managers would have come from, which is probably from a different spot than where your example in law would come, and I understand your

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description fully, look at it because of the different modelling and different approaches used such their ability that you referred to before, I think in a – in their practical sense – and I'm answering for them and, you know, I really can't do that – but as I said, depending on how you construct the argument you can end up with
5 different figures. Which is how water resource management and many other things, as you know, do work. I presume that's what they were referring to. I don't know.

THE COMMISSIONER: Yes.

10 MR BRUCE: But I understand the logic of your argument.

THE COMMISSIONER: It seems crystal clear that – to suggest that there is a uniquely correct answer which is precise and, even sillier, expressible as a round – as a perfectly rounded gigalitre figure is too silly for words. I can't believe anybody
15 actually believes that anybody else could possibly believe that. But in terms of section 23, if the ESLT is a range then you will reflect it in an SDL – if a single figure SDL – and the Commonwealth accepts that the SDL must be a single figure – if the single figure falls within the range. I understand that.

20 MR BRUCE: Yes.

THE COMMISSIONER: That makes critical, doesn't it, this notion of different levels of certainty and risk; isn't that right?

25 MR BRUCE: Yes.

THE COMMISSIONER: Because you could have a range that is expressed as embracing, at one extremity, a situation where – with 95 per cent confidence – the desired target will not be achieved.

30 MR BRUCE: Yes.

THE COMMISSIONER: Why would you put that as the extreme end of a range for an ESLT? That's a contradiction in terms, isn't it? It would not be answering the
35 definition of ESLT if you were 95 per cent certain the target would not be achieved; isn't that right? It couldn't possibly be correct, could it?

MR BRUCE: There is a potential explanation for this, which Chris is the best equipped - - -

40 THE COMMISSIONER: Please.

MR BEASLEY: But let me give Ms Morony the context. I think where the Commissioner is coming from is this there are statements by the Basin Authority.
45 For example, one example is in the technical part of the Guide which says the Basin Authority is confident environmental watering targets can be achieved with a high

level of uncertainty with a 3,000 gigalitre reduction, which sounds like the Authority doesn't think - - -

5 THE COMMISSIONER: It means the Authority thinks it won't be achieved, most likely.

DR HENEKER: Can I actually - - -

10 MS MORONY: Yes. Do you want to answer it?

DR HENEKER: A lot of – I will a lot of it relates to the nature of the modelling that's undertaken to actually determine the outcomes that you can get with water recovery. So within the models themselves there are a lot of assumptions that are made and model scenarios are just that: one possible scenario, one potential future
15 that could be achieved. So when you have a limited amount of water, say whether it's 3,000 gigalitres or 4,000 gigalitres what you achieve with that depends on your assumptions that you made in the model. If you have 3,000 - - -

20 THE COMMISSIONER: That's the nature of modelling. You may assume I'm familiar with that, thank you.

DR HENEKER: You do. You – if you change your assumptions for the same volume - - -

25 THE COMMISSIONER: That also is the nature of modelling.

DR HENEKER: Yes.

30 THE COMMISSIONER: So what has this got to do with the levels of confidence?

DR HENEKER: Because the more water you have the more likely that you will be able to overcome your assumptions in the model and deliver the outcomes that you profess to be - - -

35 THE COMMISSIONER: You don't actually overcome assumptions. Could you explain that differently, please?

DR HENEKER: Okay. So for example one of the limitations shall we say, in
40 modelling for the Basin Plan, was assumptions around the volumes of entitlements of different security that were determined and used. For example, some are high security, they get water most years; some in New South Wales and Victoria are less secure, they get water in years when there is more water available generally; and then in New South Wales they have supplementary access, so when the river is really
45 flowing people can access. Recovering different types of those entitlements provides different volumes of water at different times. The environment needs water at different times. Certain environments need it in dry times, certain environments

need it in wetter times. If you change those assumptions, you can have the ability to deliver to meet certain environmental water requirements.

5 THE COMMISSIONER: I'm sorry, I don't know what mean. If you change your assumptions you haven't changed the real world.

DR HENEKER: Yes. But you do. You - - -

10 THE COMMISSIONER: You mean if you make the assumptions good no longer is an assumption, but is fact. Is that what you mean?

15 DR HENEKER: No. What I mean is that so – okay – prior to the Commonwealth recovering water for the environment, requiring actual entitlements, we had – they had to make assumptions about what entitlements they would recover. If they recover entitlements in South Australia those entitlements provide water pretty much every year, and so you can use it in dry times or wetter times generally, but if you recover different entitlements in New South Wales or Victoria, that water may not be available to meet environmental water requirements when it is dry.

20 THE COMMISSIONER: Time place and volume. I understand, yes.

25 DR HENEKER: Yes, time place and volume. So if you change the proportion of each type that you recover, you change your assumptions, then you change your ability to make – deliver those environmental water requirements at different times.

THE COMMISSIONER: You mean when you change your assumptions the modelled outcome will vary unless the assumptions are immaterial.

30 DR HENEKER: Correct.

THE COMMISSIONER: Right. I understand that. That's in the nature of modelling.

35 DR HENEKER: Yes.

THE COMMISSIONER: So you are still not explaining - - -

DR HENEKER: No. Next step.

40 THE COMMISSIONER: - - - to me why the different levels of certainty and risk don't mean that first you need to find a range which answers the statutory description, namely will reflect an environmentally sustainable level of take, not will reflect a level at which most likely it will not be sustainable.

45 MR BEASLEY: If I can help, Dr Heneker, I think what the Commissioner is saying is you have got – the modelling has to – and the modelling results have to – meet up what the statute demands. So – just let me finish the question. So when the MDBA

says something like, “We believe that environmental water requirements for key environmental assets, and key ecosystem functions can be achieved, with a higher level of uncertainty, with a reduction in diversions of 3,000 gegalitres a year,” that does not sound like a scenario that fits within the definition of environmentally sustainable level of take which requires the level of take not to compromise environment assets and key and ecosystem.

THE COMMISSIONER: No. I really do want all three of you please to concentrate on this point which is quite at the heart, I would have thought, of South Australia’s interests in the architecture of the Basin Plan, and the lawfulness of the Basin Plan, and therefore the prospects of the Basin Plan achieving its objects, including in South Australia – critically in South Australia. This is not just a lawyer’s point.

DR HENEKER: No, not at all.

THE COMMISSIONER: what some people advising Commonwealth may think, it’s a public policy point of profound significance. And so I would be obliged if you would take as much time as you can, please, to engage with - - -

DR HENEKER: Yes.

THE COMMISSIONER: - - - my concerns, if I may say so. You are the most authoritative witnesses I am likely to get on this point. The Commonwealth has said:

The ESLT can exist as a range with different levels of certainty and risk attaching to numbers within that range. A spectrum of possible choices and impacts was therefore explored.

That’s the end of the quote from the Commonwealth. Now, we know what that refers to. Mr Beasley has read from one of the iterative stages in that process whereby different recovery amounts or reduction amounts were modelled. With or without manipulation – I don’t use that word sinisterly, but in the modelling sense – with or without manipulation of various assumptions, including as you have correctly and with respect clearly pointed out, assumptions concerning what I call the legal status of water which will in turn effect availability for, among other things, environmental use.

I understand all of that. I am sorry to be impatient, but I want to get to the point. I do understand all those aspects of modelling – I do understand those aspects of modelling. I’m sure I don’t understand all aspects of modelling. Well now, accepting for the sake of testing the idea that the ESLT can exist as a range, and that the SDL will conform with section 23 so long as it as a single value falls within the range. The extremities of that range, the outer reaches of that range, nonetheless surely themselves have to comply with the statutory definition of ESLT. That is, the outermost limits must – you must get an affirmative answer to the question, “This is a level beyond which there will be compromise of what I’m going to call environmental values.” Doesn’t that follow from the statute?

MR BRUCE: Yes.

THE COMMISSIONER: And that's not a black letter, technical, lawyer's point. That's a piece of profound public policy, which obviously this country should be
5 proud to have enacted the Water Act. I think it's about the only country that has an enforceable federal system to deal with a national river system where you start with a proposition that we won't take more than is necessary to prevent compromise of key environmental values. I would have thought, still a matter of great pride, so long as compliance with it is not ignored.

10

MR BRUCE: Yes.

THE COMMISSIONER: Well, that's – hence, if I may make this by of emphasis – hence my evident concern that there be very close concentration on what has
15 happened and then what should happen. Well, now, if it can be seen that the modelling – and perhaps more significantly the use of the modelling outcomes – that went into the ESLT process included, at its outer bounds, outcomes which are regarded as having a high level of uncertainty of the achievement of the environmental targets, isn't it obvious that those outer limits of range are illegal?
20 That is, to proceed to talk about achievement with a high level of uncertainty means a state of affairs where it is thought that achievement is improbable. Less likely than not. Doesn't that follow?

MR BEASLEY: Far less likely than not.

25

THE COMMISSIONER: Far less likely, yes.

MR BRUCE: I guess our point is we accept the legal argument of what you say.

30 THE COMMISSIONER: It's not a legal argument. It's a matter of English, isn't it? If someone says, "This might happen but I don't think it will."

MR BRUCE: I guess we're all - - -

35 THE COMMISSIONER: That would not be regarded, surely - - -

MR BRUCE: Correct. Yes – yes.

40 THE COMMISSIONER: - - - as a state of affairs where the environmental values are not compromised.

MR BRUCE: Correct. What we are - - -

THE COMMISSIONER: And that is available to laymen, not lawyers.

45

MR BRUCE: Yes, no.

THE COMMISSIONER: And one would have thought would also be in the skin of relevant scientists.

MR BRUCE: Yes.

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THE COMMISSIONER: They are used to dealing with uncertainties and risk assessments and very often highly sophisticated, to my mind, to my expertise, utterly opaque, mathematical measures of certainty and they do so to inform policy outcomes and actions, and none of those scientists would say that something I believe is possible but very unlikely to occur – none of them would say that doesn't compromise the environmental values. It's almost the definition of compromise that you think failure will likely happen.

MR BRUCE: And I guess what we were struggling with then was saying, well, we think we were moving to the fact where you overlay mitigation responses to that, whereas your argument – English or legal – is – does hold.

THE COMMISSIONER: Well, mitigation doesn't come into this, does it? Or, more to the point, where in the statute does mitigation come in?

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MR BRUCE: I guess it's the way we work, in essence, as you automatically think of the policy type solutions. So whereas you are coming at it from first principles which is quite correct.

DR HENEKER: And the construct of the Basin Plan includes the provision to undertake certain mitigation options.

THE COMMISSIONER: Where do you say that?

DR HENEKER: Such as, like, implementation of constraints.

THE COMMISSIONER: No. You mean relaxation or removal of constraints.

DR HENEKER: That's right. That's what I meant. Sorry.

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THE COMMISSIONER: Not – we've implemented quite enough constraints.

DR HENEKER: That's – you – that's what I mean, sorry.

THE COMMISSIONER: Sorry. Now, however, that has nothing to do with the final modelled outcomes producing the notion that achievement of the ecological environmental targets is an achievement with a high level of uncertainty. That constraint relaxation would have been built into the modelling in assumptions.

DR HENEKER: Not in all cases, no it wasn't. So the first lot of modelling that was done - - -

THE COMMISSIONER: Then in that case I'm afraid there is a problem, even more seriously, of process. Where do you find in the Act section 23 glossed so as to say that, "SDL must reflect an ESLT subject to optimisation about the relaxation of constraints"? Where does it say that?

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DR HENEKER: It doesn't say that explicitly. However - - -

THE COMMISSIONER: It doesn't say it at all, does it?

10 DR HENEKER: No. However it has to be considered in the context of how the Basin is actually operated and how water entitlements recovered for the environment will be delivered. It's not as simple as removing water from buying, whatever, water from consumptive purposes and then just leaving it sit.

15 THE COMMISSIONER: I don't think anybody thinks it is that simple, and I do hope you weren't suggesting I do.

DR HENEKER: No, no.

20 THE COMMISSIONER: This is not simply an add water exercise. Just move away from that. Waste of time to talk about it. Doesn't the model for the achievement of the several specified ecologically informed targets include consideration of, for example, time, place and volume of water delivery in light of the relaxation of constraints?

25

DR HENEKER: It considered – the secondary modelling considered the relaxation of constraints.

30 THE COMMISSIONER: Yes. Otherwise there would be no use thinking about the undertaking the expense of relaxing constraints.

DR HENEKER: No, you are right.

35 THE COMMISSIONER: If your modelling showed it doesn't matter how much you relax, you're still not going to have the desired effect. Or you could achieve the desire the effect at much less expense by other means, for example by extending the duration of the flow. What I'm saying is, it's not operation of the plan, these are all things that are necessary to understand in order to comply with section 23, isn't it?

40 DR HENEKER: Yes.

THE COMMISSIONER: You have got to do that.

DR HENEKER: Yes.

45

THE COMMISSIONER: Not just if you are a lawyer, that's my point. You are nodding.

DR HENEKER: Yes. I guess what I was trying to say it doesn't say explicitly that you have to do it, it is just implicit in the way the modelling is - - -

THE COMMISSIONER: Section 23 says explicitly - - -

5

DR HENEKER: - - - undertaken.

THE COMMISSIONER: - - - that, "The model must reflect an ESLT."

10 DR HENEKER: That - - -

THE COMMISSIONER: It says it quite explicitly indeed.

DR HENEKER: Yes. No, that - - -

15

THE COMMISSIONER: That's a quote.

DR HENEKER: I will shut up now.

20 THE COMMISSIONER: No, no, no. I want you to answer, because I – what I am struck by is by the willingness of too many people, if I may say so, of great acumen and goodwill – such as you three – not to pay regard to the really quite simple English of section 23, or the really quite simple English of the definition of ESLT. Why move away from it? Why not just keep that as the thing on a laminated placard
25 above your desk? It's the most obvious point of the Plan.

MR BEASLEY: You might end up with a figure that's a lot bigger than 2,750 if you do that. But anyway.

30 THE COMMISSIONER: Mr Beasley's comment is obviously where we are tending. He read from a passage where you will see that something considerably above 2,750 was regarded as capable of achieving the targets with a high level of uncertainty, of the most unworthy use of the English language. That means is considered not likely, by considerable margin to be achieved.

35

MR BEASLEY: It was 3,000. Look, in fairness to the South Australian Government, it has always maintained that 2,750 did not reflect – was not - - -

40 THE COMMISSIONER: I understand that. And that's something I'm going to get to pretty quickly. Now if – as I'm sure you now do, you appreciate my grave concern with the MDBAs willingness historically to express itself as it did in the passage quoted to you by Mr Beasley, what has been the response of South Australia to that approach?

45 MR BRUCE: In terms of the setting of the ESLT at - - -

THE COMMISSIONER: Yes. Was there any protest to the effect, for example, that you cannot premise a state of achievement on a state of affairs which you think is not likely to occur?

5 MR BRUCE: As outlined in our submission, certainly, the South Australian government has historically taken a view that 2,750 wasn't sufficient and that's where the strong argument for the additional 450 gigalitres came from and being contingent on South Australian Government agreeing to the Plan.

10 THE COMMISSIONER: Well, even if you add 450, you get to a point that – so far as the record reveals – no one has ever said is likely to be achieved.

MR BRUCE: I guess maybe we remain optimistic, but our view is we will achieve it, and there are contingencies within the Plan to ensure that it is one way or the
15 other.

MR BEASLEY: Just to help Mr Bruce and the other witnesses, it's at paragraph 45 of the South Australian Government's first primary submission to you, Commissioner:

20

South Australia has consistently maintained a level of take equivalent to water recovery of 2,750 gigalitres from the baseline diverse limit is not an ESLT.

And I think there were protests about that, there were calls for the modelling, there
25 were complaints that it wasn't being based on the best available science. This is all from South Australia.

THE COMMISSIONER: No. I'm very – I'm extremely familiar with that history, but it leads to this question: why has South Australia tolerated that position?
30

MR BRUCE: So I guess we didn't tolerate 2,750 because we pushed very strongly for 3,200. At the end of the day – and this is the great debate we have had all throughout this Commission – is we needed to reach an agreement where we move forward. We had done our analysis that 3,200 would give us significant
35 environmental benefits within South Australia at our sites.

MR BEASLEY: Beyond 2,800, or – yes.

THE COMMISSIONER: And I don't mean this disrespectfully, but that is an
40 approach that says something is better than legal compliance.

MR BRUCE: Yes. Yes. That's the approach.

THE COMMISSIONER: With respect, I can understand that as a policy position.
45 The difficulty is the legislation seems internationally unique and seems in a sense to be something the country could be proud of.

MR BRUCE: Indeed.

THE COMMISSIONER: Is not mere policy. It's law. And it seems to have at its
core a judgment, an assessment about which reasonable minds may well differ and
5 indeed reasonable scientific minds should no doubt continue to argue on what the
statute calls factual matters of – with a factual or scientific nature. Probably familiar
with the fact that that is a realm of judgment where the Authority is the immune from
Ministerial Direction. There are a number of places in the Act.

10 The Authority which is, generally speaking, subject to ministerial direction may not
be directed, and it follows as a matter of law, must not regard itself as being bound
by purported directions from a Minister of a factual or scientific nature. Now,
matters of a factual and scientific nature, if you like, is a phrase about which lawyers
can advise you of being an English speaker will do to understand its nature. You
15 don't have to be an expert. Doesn't it then follow that one simply asks whether a
determination of SDL and ESLT involves, indeed is probably confined to, matters of
a factual or scientific nature. Surely the answer is yes.

MR BRUCE: Yes. Yes.

20 THE COMMISSIONER: Doesn't it follow then that there is a lawfulness question,
if the Authority appears to have unaccountably considered as achievement a state of
affairs which their modelling tells them produces a high level of uncertainty as to
achieving it. The Authority seems on a factual or scientific matter then simply to
25 have gone wrong.

MR BRUCE: I strongly respond to that because I understand exactly where you
come from an English and legal perspective. However, as we do with many things,
when we implement management approaches in the natural environment, we do take
30 an adaptive approach to these things. So, yes, there is risk around those things, but,
inevitably, we are able to mitigate and manage and offset those risks as we go
through, and that's standard practice. Which is not – I know that's not where driving
I'm just struggling to - - -

35 THE COMMISSIONER: Well, it actually is. I'm coming to that in a moment.

MR BRUCE: - - - answer properly in that regard.

THE COMMISSIONER: Right. Well, I'm coming to that in a moment. Adaptive
40 management includes – and I must say I'm grateful to South Australia for what they
have both shown me in the field and in less formal sessions and in your written
submissions concerning adaptive management. So I'm drawing that hope. Adaptive
management in particular includes the notion of continuous monitoring,
reassessment, debate, trying to get best fit and all under the cloak of ignorance of the
45 future from which we all suffer. So it's all about projections.

MR BRUCE: Yes.

THE COMMISSIONER: That's before you get to particular aspects like climate change. But that is just an example of why adaptive management is surely the only way one can undertake resources management at Basin scale.

5 MR BRUCE: Yes.

THE COMMISSIONER: You are nodding, I think, because I think that's pretty much our core of the matter value for your department. Is that right?

10 MR BRUCE: Yes, that's right.

THE COMMISSIONER: Well, now, Mr Beasley and I from time to time at various sessions and in issues paper have raised the following concern, which I will try and compress. The legislated opportunity to adjust the SDL lends itself on a view that
15 has been taken by a number of people to the idea of adjustment now, that is, make water available now for consumptive use by an increased SDL, on the basis in particular of equivalent or enhanced environmental outcomes that have not yet occurred and are hoped for from the projects in question. Supply measures is an obvious example. In other words, permit present consumption because it is thought
20 within a future bounded by 2024, there will be enhanced or equivalent environmental outcomes. You are familiar, I think, with that view.

MR BRUCE: And the view you expressed, yes. Yes.

25 THE COMMISSIONER: Yes. And there is an opposite view which is that section 23 does not get suspended by the adjustment process and that you couldn't and shouldn't increase the SDL unless and until the enhanced or equivalent environmental outcomes are secured. And that is truly a legal question which I'm not going to bore you with. I want you to proceed on the basis that the former – the
30 idea of do it – get the water now, and by 2024 check to see whether that was justified. That seems to be the opposite of adaptive management in the sense that on that school of thought, it doesn't matter that the project is going disastrously, or indeed hasn't even obtained planning approval to carry out the works. You will increase the limit now and come 2024, you will have to reverse it all if the Act and
35 the Plan are still in effect, of course. That seems to be the kind of disruptive step change which is the opposite of the aim of – or one of the aims at least of adaptive management.

40 MR BRUCE: We probably take a different view on that.

THE COMMISSIONER: So what happens at 2024 if the Menindee Lakes demonstrably have not secured the required environmental outcomes?

45 MR BRUCE: One of two things. One is that the Commonwealth will have to acquire more water, so whether that's buybacks or by some other means or - - -

THE COMMISSIONER: Well, that would require a change in the statute, wouldn't it? It depends on quantity.

MR BEASLEY:

5

THE COMMISSIONER: There is only a little bit left in the below the ceiling for

MR BRUCE: In terms of the cap. Yes. The buyback, yes. So there are the
10 measures, other efficiency measures.

THE COMMISSIONER: Well, changing – I can't proceed on the basis of changing
the law and neither can South Australia.

15 MR BRUCE: I guess what we are saying is the Commonwealth has a number of
choices at that time so it can use – it can fill out the rest of any buyback cap that's
there. It can get the cap changed. So that can happy - - -

20 THE COMMISSIONER: Well, it needs a majority in both Houses of Parliament to
do that.

MR BRUCE: Which has been achieved on a number of occasions - - -

25 THE COMMISSIONER: From time to time, yes.

MR BRUCE: - - - on this issue. It can introduce efficiency measures.

30 THE COMMISSIONER: No. Don't misunderstand. Non-disallowance is not a
majority in both Houses of Parliament. Disallowance is by resolution in a single
house.

MR BRUCE: Sorry, yes. Yes. Sorry parties. Yes, yes, yes.

35 THE COMMISSIONER: I'm talking about a change in the law which requires - - -

MR BRUCE: Yes.

40 MR BEASLEY: It's not safe to assume you're going to get a change in the law,
though, for dealing with this.

THE COMMISSIONER: No, I don't. I am trying to point out that I don't think I
should be proceeding on the basis that - - -

45 MR BRUCE: And I'm not assuming.

THE COMMISSIONER: - - - the system works by getting a statutory amendment.

MR BRUCE: And I'm not assuming that will happen. I'm just saying that's one of the options.

5 THE COMMISSIONER: So there is a little bit left that can be brought. Yes. What else?

MR BRUCE: Yes. There's efficiency measures, or else you can introduce the entitlements the irrigators are able to extract which is the other options. So adjusting the water resource plans.

10 THE COMMISSIONER: So that's a change in reliability.

MR BRUCE: That's changing the SDL.

15 THE COMMISSIONER: Would that change the reliability of the allocations?

MR BRUCE: No. It would change the amount of allocation they have.

20 THE COMMISSIONER: Right. In other words, it's the – it's a change that would not bring in

MR BRUCE: It would reduce their share of the resource.

25 THE COMMISSIONER: Yes.

MR BEASLEY: It sounds like a brave thing to do.

THE COMMISSIONER: No. But that's what – but reduction of the - - -

30 MR BRUCE: We do it quite frequently.

MR BEASLEY: Yes.

35 THE COMMISSIONER: Reduction of the SDL is exactly what the statute envisages, isn't it, as occurring in 2024 - - -

MR BRUCE: It's one of the options.

40 THE COMMISSIONER: - - - if projections have not been fulfilled.

MR BRUCE: Yes. As part of the reconciliation process. So that's where we have some degree of comfort that if these projects do fail – and some also may overachieve. So there is some positives and negative. Yes.

45 THE COMMISSIONER: It's a net thing like the original contribution assessment. It has to be net.

MR BRUCE: That's right.

THE COMMISSIONER: I think everyone agrees with that.

5 MR BRUCE: That's right.

THE COMMISSIONER: Let me assume that there is not 100 per cent success.

MR BRUCE: Yes.

10

THE COMMISSIONER: Pretty safe assumption in the world. And that's in a net sense.

MR BRUCE: Yes.

15

THE COMMISSIONER: Depending on what amounts and political will, then it is likely to be purchase or reduction in SDL, isn't it?

MR BRUCE: Yes, that's right.

20

THE COMMISSIONER: The greater the disappointment, non-achievement, the less possible it will be to reconcile through purchase given the cap.

MR BRUCE: The cap – existing cap.

25

THE COMMISSIONER: So that the greater the disappointment or non-achievement, the more likely it will be that the SDL will have to come down immediately. Is that right?

30 MR BRUCE: Quickly, yes. However - - -

THE COMMISSIONER: Whereas adaptive management could see SDL as a concept altering more frequently up or down depending upon the improvement of science and knowledge, couldn't it?

35

MR BRUCE: It could. I guess we come from a slightly different angle, and if I use water resource management and how we deal with reductions in it allocations more generally. So this applies to the Basin, it applies to other regions of the state and certainly has been applied in other jurisdictions. We generally identify where our reduction is required. We work out how much is required, and then we generally have steps of reductions. So say a 20 per cent reduction is required. We might have three steps of just under seven per cent or, you know, two

40

THE COMMISSIONER: It's a kind of a – it's a smoothing designed to alleviate the social impact of disruptive change.

45

MR BRUCE: It's two-fold. So certainly, to enable the socioeconomic adjustment of communities to those and production systems to adjust to a reduced availability of water. It is also to apply the adaptive management concept. We review and model and monitor as we go to make sure that our original projections were right, and in
5 some cases, it may be that, actually, a greater reduction is required than first thought, or it might be that as we go along conditions recover, things weren't as bad as what we thought, and actually we don't need to implement, you know, the second or the third reductions. So the 20 per cent forecast reduction actually ends up becoming an eight per cent reduction, and that has returned the Basin or the resource to
10 sustainability. We don't want to impose an – we don't want to impose a penalty or disadvantage on a region if it is not actually justified. We do step that through. And that's what's envisaged. Whether or not it's well expressed is a different question, but that's certainly what is envisaged with the

15 THE COMMISSIONER: I will come to that in a moment. Part – what you have just described, partly captures what has been happening for a long time since before the Plan.

MR BRUCE: Yes.
20

THE COMMISSIONER: Indeed since before the Act. In terms of what I'm going to call – I'm trying to avoid the words that are used in ordinary parlance about this, but they translate to the concept of the amount of water you actually are allowed to enjoy under a nominal entitlement by whatever statutory expression. So that a
25 farmer who understands that in the old days when they were bundled together, his land came with 100 megalitres. He would not count every year on actually being able to flood his paddocks with 100 megalitres. It would depend upon the operation of understood rules which looked to the weather and forecasts. Is that correct?

30 MR BRUCE: Many probably back in the day they actually thought that they would do 100 megalitres all the time, to be perfectly honest.

THE COMMISSIONER: It's quite a long time ago now that they all learned differently and that they would from year to year get less than 100 per cent of their
35 allocation depending upon the grading of their entitlement.

MR BRUCE: Certainly interstate in South Australia, the experience was very much that they expected to get 100 per cent in the Basin. So – and, actually, most of our irrigation areas, to be honest, and we saw that through the Millennium Drought
40 where - - -

THE COMMISSIONER: You had seen across state boundaries that many irrigators were used to regimes under which they could not be assured of getting 100 per cent.

45 MR BRUCE: Certainly, yes. Absolutely.

THE COMMISSIONER: Now, with large Basin Plan level and the SDL, the Basin
SDL – why can't adaptive management be used to require adjustment more
frequently, and therefore less disruptively, than at the – I don't know, depends on
what period you are talking about– the five year interval between adjustments, the
5 SDLAM and the 2024 reconciliation?

MR BRUCE: I will have a go. I might need some clarification to your question
there, but I guess it is seen that if you end up in a position where you end up over-
recovering, and you have to return water back to irrigators at the end, then you
10 inflicted a degree of social economic pain that wasn't required when your adjustment
period is within the capacity of the resource to withstand.

THE COMMISSIONER: The converse is if you've - - -

15 MR BRUCE: The environmental side.

THE COMMISSIONER: If you have taken too much for consumptive - - -

MR BRUCE: Yes.
20

THE COMMISSIONER: - - - you have not only compromised you have actually
affected deleteriously the - - -

MR BRUCE: Environment.
25

THE COMMISSIONER: - - - key environmental assets.

MR BRUCE: Absolutely. I guess the difference is we are not starting from a
Greenfield site in that regard. We are where we are, and so if we had done the
30 reverse then we would probably do it that way where the environment had too much
water, but we started from a point of view where consumption has too much water,
so we are coming back from where we are now. So that's the reality: we are not
starting from there.

35 THE COMMISSIONER: No, quite.

MR BRUCE: And if we probably would have come back that way. So you do start
from where you are.

40 THE COMMISSIONER: Right. So that - - -

MR BRUCE: I guess the point I – and you've – you mentioned it to me before, but
the concept of – I find the concept of taking water away from the environment
difficult in a practical sense. I understand the concept at the moment, because we are
45 not really taking water away from the environment: it has already been taken. What
we are trying to do is put water back until we reach a point where we believe we are
sustainable.

THE COMMISSIONER: Exactly so.

MR BRUCE: Yes.

5 THE COMMISSIONER: Well now, your evidence and submissions to me say, of the Menindee Lakes for example, that South Australia was optimistic and is optimistic that, as a supply measure, it augurs well for the justification of an adjusted SDL; is that right?

10 MR BRUCE: Yes. We are confident that that project can return real water to the system. What we need to watch more on is for the environmental impact on our local area and then the cultural and other impacts of the site. You know, feasibility and things, but in terms of can it genuinely return water to the river? Yes, we believe it can.

15 THE COMMISSIONER: Now, although a single net effect is the proper approach to a supply contribution calculation, you don't net anything without having component figures do you?

20 MR BRUCE: No. I know where you are going, but yes - - -

THE COMMISSIONER: That's right, isn't it?

MR BRUCE: Usually, yes.

25 THE COMMISSIONER: I mean, if you want to resist logic, by all means says so, but then our conversation will be a lot shorter.

30 MR BRUCE: It's how the individual allocation of the amounts of each of the supply measures. I smiled because, for things like Menindee where you are looking at a defined project where there are evaporative savings that can be quantified, and that can be expressed as an entitlement or the equivalent to that, then you can provide a relatively – like, you say the component of it is X gicalitres. You know, plus or minus - - -

35 THE COMMISSIONER: Yes. Well, people have done that.

MR BRUCE: Yes. And then you can do - - -

40 THE COMMISSIONER: They have to do it in order to come up with an adjustment for the SDL.

45 MR BRUCE: We can do it with riverine recovery and some others that are separate, don't – aren't linked so much to the other measures. The trouble with a lot of the packages – and this is part of the debate that has been going around – is that a number of the projects interact so much that if you run a model and you nominally say, "This one is worth 10 gicalitres," you run that through and you put that in first,

it gets your 10 return, but if you switch the order of the projects around, and you put that last, it returns 1, because one of the other projects – so it is very hard to say, you know, “On average does it give you 5?”

5 THE COMMISSIONER: Well, an outcome can be overdetermined. You can have
- - -

MR BRUCE: Yes. So that’s why – that’s why you talk about the packaging. You
can’t really assign all the amounts to all the projects. You can say, “These projects
10 working together deliver you 605.” Within that, there are several that you can
absolutely - - -

THE COMMISSIONER: I’m very relaxed – I’m very relaxed about all of that.
When I say netting, I’m not talking about a simple in and out, and an adjustment or a
15 figure to reflect the difference. I understand that one activity at various levels of
abstraction will affect, greatly, the model as well as eventually experienced outcome.
However, what the statute positively requires is a single figure the
Commonwealth, to be reached in order to lift the SDL. That’s right, isn’t it?

20 MR BRUCE: At the end, yes, absolutely.

THE COMMISSIONER: Yes. That is the outcome of the exercise.

MR BRUCE: Absolutely, yes.
25

THE COMMISSIONER: And is a very important legal matter because it makes the
difference between lawful and unlawful use of water.

MR BRUCE: Yes.
30

THE COMMISSIONER: Well now, in relation to the Menindee Lakes project,
which has a reduction in evaporative loss as its driving justification.

MR BRUCE: Yes.
35

THE COMMISSIONER: Do you understand – from your experience for South
Australia in this area, do you understand that that project is required to demonstrate
equivalent environmental outcome?

40 MR BRUCE: I’m not sure I understand where you are going with the question.

THE COMMISSIONER: You understand – you are familiar with that expression?

MR BRUCE: Equivalent – yes, in terms of the SDL.
45

THE COMMISSIONER: Yes. If you go to the - - -

MS:

MR BRUCE: Yes, sorry. Yes.

5 THE COMMISSIONER: So if you to the Basin Plan, conveniently - - -

MS: Sorry to interrupt. Yes.

MR BRUCE: Yes. Sorry

10

THE COMMISSIONER: Conveniently, it's contained within 7.17(2) in the explanation of one of the so-called applicable criteria. The language is not exactly snappy, but that's what it says. One of the applicable criteria is called "equivalent environmental outcomes."

15

MR BRUCE: Yes.

THE COMMISSIONER: And it requires that the supply contributions to the proposed adjustments – and Menindee Lakes is one of those.

20

MR BRUCE: Yes.

THE COMMISSIONER:

25

...achieve equivalent environmental outcomes compared to the benchmark environmental outcomes.

Deceptively simple expression because, when one looks at defined terms, it includes quite a lot of notional matters, which means this is not a straightforward exercise.

30

MR BRUCE: Yes.

THE COMMISSIONER: That's not a criticism. It's a sophisticated exercise, there's no doubt about that. But what I'm inquiring is do you – with your experience of South Australia in this arena, do you understand that Menindee Lakes needs to satisfy that criteria?

35

MR BRUCE: Yes – yes.

40 THE COMMISSIONER: We found one reference in the documents. Mr O'Flaherty is about to draw your attention - - -

MR BEASLEY: Yes. That's the – you are talking about the Basin Authority's business case analysis, which is RCE51, which says that – On page 511 that the Menindee Lakes falls outside the SDLAM framework for testing environmental equivalents. We don't understand that.

45

THE COMMISSIONER: We don't understand that. One explanation may have been advanced to the effect that it's because there is lacking a suite of indicator sites or other ways of actually measuring things. That would seem to me to be a demonstration of shortcoming, rather than an excuse. That is, environmental
5 outcome does not depend on whether somebody has been bothering to measure it. Or, to put it another way, the environment doesn't cease to exist because somebody is not observing it.

MR BEASLEY: What's curious is that on page 1 of the MDBAs analysis it talks
10 about eligibility to be a supply measure and it says "must achieve equivalent environmental outcomes."

THE COMMISSIONER: Yes. I don't want to spend too much time on this, I was just rather hoping you might have, from your administrative experience from this
15 area among the three of you, some clue as to whether there really is a doubt about whether Menindee Lakes has to achieve equivalent environmental outcomes?

DR HENEKER: There is no doubt in our minds that it needs to. We provided an answer in our most recent questions - - -
20

THE COMMISSIONER: Yes, I know.

DR HENEKER: - - - to this. One of the reasons why it was outside of the framework in the initial assessment is because the ecological factors for the site
25 hadn't been defined appropriately. So that needs to happen.

THE COMMISSIONER: Yes. It doesn't remove it from the legal framework.

DR HENEKER: No, it doesn't. No.
30

THE COMMISSIONER: It means the legal framework can't yet be complied with
- - -

DR HENEKER: Correct.
35

THE COMMISSIONER: - - - because there is that fundamental - - -

DR HENEKER: That's correct.

THE COMMISSIONER: Underpinning to be carried out.
40

DR HENEKER: And through the assessment of the project there – some of the requirements that we have put in place, and for our agreement for it to move forward to the phase 3 implementation is subject to defining those ecological requirements
45 and then, once they are defined, looking at the operating regime again and determining can you actually get the same SDL offset from that project now that you know those ecological requirements, and if you need to provide more water to the

site, you cannot reduce the evaporation as much as you thought you could, then the SDL offset will go down and that will be done through implementation and at reconciliation.

5 THE COMMISSIONER: That's reconciliation in 2024.

DR HENEKER: Yes. It will come along the way. Like, we are involved along the way to check this along the way and that's the final safeguard when it may have to be remodelled.

10

THE COMMISSIONER: The "we" there is what.

DR HENEKER: South Australia.

15 THE COMMISSIONER: Is that – and that - - -

MR BRUCE: But - - -

THE COMMISSIONER: As made palpable at the Ministerial Council?

20

MR BRUCE: Yes. Certainly at BOC and Ministerial Council.

THE COMMISSIONER: BOC doesn't have a veto?

25 MR BRUCE: BOC has – on this one I would have to check – I would have to check.

THE COMMISSIONER: The Ministerial Council does I think. The Ministerial Council has to agree on these measures?

30

DR HENEKER: They do.

MR BRUCE: They do. Yes.

35 THE COMMISSIONER: South Australia does play a role.

MR BRUCE: Yes.

THE COMMISSIONER: By its literal and - - -

40

MR BRUCE: Veto power.

THE COMMISSIONER: - - - metaphoric place at the table.

45 MR BRUCE: Yes.

DR HENEKER: Yes.

THE COMMISSIONER: In such an important putative supply measure as the Menindee Lakes.

MR BRUCE: Yes.

5

THE COMMISSIONER: Talk about – which you have drawn that to attention in, I think, two of the submission you have made to me. Well, now, it's in that context then that I just want to explore further about Menindee Lakes. From your last answer, do I apprehend that South Australia takes the position that it's in order to wait and see, that is to give a tick to say yes to the Menindee Lakes project actually physically being constructed, and then observing in the period between now and 2024 as to two things in particular: (1) does it achieve the evaporative saving which is its *raison d'être* and, (2) does it provide equivalent environmental outcomes which is a prerequisite to it being a supply measure. Am I right that you will wait and see whether those two things have happened?

10
15

DR HENEKER: I wouldn't – it's not really a wait and see, I would say an active involvement in making sure.

20 THE COMMISSIONER: But you know from my exchange with Mr Bruce I am interested in this: what form of adaptive management is being undertaken if you are not going to actually do anything - - -

DR HENEKER: So - - -

25

THE COMMISSIONER: Between now and 2024 as you - - -

DR HENEKER: So - - -

30 THE COMMISSIONER: - - - I'm sure, assiduously check what is going on.

DR HENEKER: So what happens between now and 2024, and as the EIS process has to be undertaken as well, is that - - -

35 THE COMMISSIONER: That's a matter of domestic state law, yes.

DR HENEKER: Yes, it is, but what that has to do there is make sure that all of the ecological requirements of the site are defined. Based on that, we are involved in helping to develop the modelling requirements to be undertaken for the site to actually model that to deliver or not deliver those environmental requirements. The assumptions made in the initial modelling that Menindee Lakes is effectively just a node, a blob in the model, it doesn't have the ecological requirements. Once we put an operating regime to fill or not to fill Lake Cowandilla, we will – has no effect on the environment. That's the assumption in the current modelling. Once we have these ecological targets we can go back to the operating regime and say, "No, you cannot actually implement that therefore you have to implement something else."

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45

THE COMMISSIONER: This would happen before 2024?

DR HENEKER: Absolutely. There are also - - -

5 THE COMMISSIONER: No, that's fine.

DR HENEKER: Yes.

10 THE COMMISSIONER: Now, please forgive my ignorance. How would that happen administratively?

DR HENEKER: We have an – well, initially, we have an inter-jurisdictional working group that we are part of with New South Wales and Victoria and the Commonwealth to implement a work plan and part of the work plan includes all of these tasks of which conditional approval to go from phase 2 to phase 3 has been given subject to these tasks.

THE COMMISSIONER: Phase 3 is implementation, isn't it?

20 DR HENEKER: It is, but there's also a two stage implementation.

THE COMMISSIONER: Stages within – it's all right.

25 MR BEASLEY: Phase 2 requires - - -

THE COMMISSIONER: I did ask and I do want to know. So administrative - - -

MR BEASLEY: Phase 2 requires business cases - - -

30 THE COMMISSIONER: Yes.

DR HENEKER: It does.

35 MR BEASLEY: - - - to include an assessment of potential adverse ecological impacts.

DR HENEKER: It does. And they - - -

40 MR BEASLEY: This one says, "We will have to do an EIS. We are a bit worried about 23,000 hectares of Golden Perch habitat."

THE COMMISSIONER: Which is what I'm going to come to in a moment.

45 DR HENEKER: And I – and I - - -

THE COMMISSIONER: Mr Beasley has brought you to it. What's happening with the Golden Perch habitat?

DR HENEKER: So that will be investigated through – partly through the EIS process, but to determine these ecological – the ecological requirements. But if they can't be delivered with the regime that has been put in place, then the operating rules will have to change. They will have to be remodelled. The final - - -

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THE COMMISSIONER: So you have lost me there.

DR HENEKER: Sorry.

10 THE COMMISSIONER: Why do you say the operating rules?

DR HENEKER: The operating rules they have assumed in the model assumes that Lake Cawndilla will fill every so many years.

15 THE COMMISSIONER: Yes.

DR HENEKER: And then it will be empty.

THE COMMISSIONER: Yes.

20

DR HENEKER: That will obviously effect fish habitat and it will affect fringing vegetation.

THE COMMISSIONER: Well, in nature from time to time - - -

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DR HENEKER: You get - - -

THE COMMISSIONER: - - - we have acres of dead fish. Yes.

30 DR HENEKER: You do. But it depends whether making the changes that they are proposing makes the situation worse than what naturally - - -

THE COMMISSIONER: Quite so. It's one thing to have acres of dead fish every couple of years, or 10 years; it's another thing to - - -

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DR HENEKER: Correct.

THE COMMISSIONER: - - - have them for so long that there are never any live fish again.

40

DR HENEKER: Correct. So they have made an assumption within the modelling and within the proposal that this operating – the operating regime they have modelled will be okay. Going forward, we obviously have a lot of – we have raised in our review of this a lot of risks, you know, ecological risks. And not just risks at the site, but risks to South Australia, because Menindee Lakes is an important lake for delivering water to South Australia.

45

THE COMMISSIONER: Well, at the risk of being over grandiose, the word is “connectivity,” isn’t it?

5 DR HENEKER: Yes. It’s also – it’s also – it’s not just the – yes, it’s the connectivity.

THE COMMISSIONER: Connectivity is a pretty big thing.

10 DR HENEKER: It is. It is, but it’s also the nature of water that comes to Menindee is different to the rest of the southern Basin. So we have to – when there may not be water in Hume and Dartmouth, there may be water in Menindee, so it does actually provide more security for South Australia.

15 THE COMMISSIONER: Very much so, yes.

DR HENEKER: So not holding water there in the future may be a risk to us. So
- - -

20 THE COMMISSIONER: Well, now that – where does that – where does – I can’t find, at the moment, where that gets captured in the SDLAM process.

DR HENEKER: So we have captured that as one of our risks, and our requirement is to consider a myriad of South Australian indicators and requirements through the development of the operating regime.
25

THE COMMISSIONER: So that gets captured because South Australia might just say no if it is too much of what I’m going to call a prudential risk for the - - -

30 DR HENEKER: That is – that is the case.

THE COMMISSIONER: - - - I will call it the back-up supply to South Australia, which is a very important it - - -

35 DR HENEKER: Yes, absolutely.

THE COMMISSIONER: - - - contingent function of the lakes; isn’t it that right?

40 DR HENEKER: Correct. And there are also changes to the Murray-Darling Basin Agreement and other operating frameworks that need to happen as a result of this project and - - -

THE COMMISSIONER: So South Australia still has up its sleeve, does it - - -

45 DR HENEKER: Yes.

THE COMMISSIONER: - - - the capacity ultimately – the capacity still to say, not just in 22, for reconciliation, but well before then – and before building the project – to say no to Menindee Lakes?

5 MR BRUCE: Yes.

DR HENEKER: Yes, that's our view.

10 THE COMMISSIONER: So there's – on the one hand they are these statutory prerequisites.

DR HENEKER: Yes.

15 THE COMMISSIONER: And the statutory attribution of an amount, albeit as part of a netting exercise.

DR HENEKER: Yes.

20 THE COMMISSIONER: And on the other hand there is the – I will call it political – I don't mean in a sinister sense or a tawdry sense, I mean the relations between polities in the federation.

DR HENEKER: Yes.

25 THE COMMISSIONER: Decision by South Australia bearing in mind that, like Lake Victoria, the Menindee Lakes sit there as literally - - -

DR HENEKER: Water security.

30 THE COMMISSIONER: - - - reservoirs providing water security in case something goes wrong in the alps; is that right?

DR HENEKER: Yes. That is the case.

35 THE COMMISSIONER: And I understand your evidence to me this morning, combined with what you have written to me, being that the published suggestions of the critical importance as fish nurseries of the lakes will, of its – of their very nature be part of South Australia's both statutory and political consideration.

40 DR HENEKER: Yes.

THE COMMISSIONER: Thanks.

45 MR BEASLEY: Can I go back to ESLT. We have run off to the Menindee Lakes much earlier than I thought we were going to. I told you one year in this Commission is like 30 years in the public service. Can I go back to Mr Littleproud's submission or his department's submission and I just want to know – I just want to

confirm the South Australian government's view about this matter. Going back to the box that we asked you to look at, the fourth-last bullet point says – tell me when you've got it. Yes:

5 *Final analysis supported the view that a Basin-wide SDL of 10,873 gigalitres (representing a 22.50 reduction) reflected an ESLT.*

And that's expanded upon in paragraph 25 of the submission, in the last sentence there on page 5:

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Modelling showed that a basin-wide SDL of 10,873 reflected an ESLT.

I just want to know whether Minister Speirs has responded to that, because that is simply – first of all, it's not the South Australian Government's position, but
15 secondly it's simply not a truthful statement. There's – you are probably aware we have received in evidence a report by the CSIRO who was asked by the Basin Authority to review a 2,800 gigalitre reduction model, that's exhibit RCE 9, where the CSIRO expert panel looking at a 2,800 gigalitre reduction said, first of all, that
20 you are not going to – you are only going to meet 55 per cent of your environmental watering targets with a 2,800 gigalitre reduction plan, and even the 55 per cent, some of them are high risks of achieving it and some are low risks of achieving it. And their summary said:

25 *The modelling indicates that the proposed SDLs would be highly unlikely to meet the specified ecological targets –*

and it has got –

30 *even in the absence of future climate change.*

Which we will come to later. I'm just wondering: that evidence was reinforced by Professor Brookes, amongst others, who was one of the panel members for that report who gave evidence to the Commissioner. I won't read it out. It's transcript
35 961, that said, "No, 2,800 gigalitres is not an ESLT." And in some questioning from the Commissioner Mr Close, who is a modeller, also said based on his understanding of modelling, the modelling changes between the guide and the ESLT report weren't sufficient to make a 2,800 gigalitre reduction in an ESLT in his view. I'm just wondering has the – has Mr – has Mr Speirs written back to Mr Littleproud and said,
40 "Look, the submission you have made to me is just not right."

MR BRUCE: Not that I'm aware of, but I need to take that on notice.

MR BEASLEY: All right.

45 THE COMMISSIONER: In particular there's – in the bundle before you at tab 9 – a letter from the State Minister to me of 26 June 2018, enclosing the submission to me which really that is – that letter says nothing whatever about the historical

disagreement by South Australia with the 2,750 recovery to produce an SDL at all. It doesn't touch on it.

MR BRUCE: No.

5

THE COMMISSIONER: I think it's fair to say that by 26 June 2018 published statements by me and by this Commission had made it pretty clear that that was a concern of mine. Do any of you know of any reason why that would be not the subject of any comment by your Minister to me?

10

MR BRUCE: So this was the letter that covered our submission?

THE COMMISSIONER: That's right.

15

MR BRUCE: I would have to go back to our submission, but I thought our submission dealt with our view that 3,200 was required.

MR BEASLEY: It does. It does. But my question was really this is the Federal Minister in recent times – July this year.

20

THE COMMISSIONER: This is the State Minister to me. This is the State Minister to me.

25

MR BEASLEY: Yes. No, but my question was in relation to the Federal Minister – I understand your point, commissioner, but my question was the Federal Minister has said to the State Minister, only a couple of ago, "2,750 is an ESLT." The Federal Minister must know that the s CSIRO has told his department it's not. My question is, why wouldn't the State Minister now write back to the Federal Minister and say, "Why you are making that submission to me and why are you making it public when you know it's not truthful?"

30

MR BRUCE: So I can't comment on that. However, the South Australian position is very clear as – and this Government's position is very clear that 3,200 is required. So we have a different view.

35

THE COMMISSIONER: Well, there's obviously a doubt as to whether 3,200 is enough, given the material, including that which Mr Beasley has drawn to your attention. I don't think there is on the record, and I say this tentatively and subject to correction: I don't think there is on the record material that says that 3,200 answers the description in the Act of an ESLT, and so we are all using shorthand. That a recovery of 3,200 gigitalitres from the baseline diversion will produce an SDL that reflects an ESLT. That's largely because of the setting of ecological targets, the assessment including through iterative modelling of the prospects of achieving them, expressed as one requires in a risk assessment with a range of degrees of confidence.

40

And, for some reason, including as achievement outcomes that as a matter of English the decision-maker would have to regard as unlikely to be achieved. Now, there is

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room for argument about what the word “compromise” means in the statutory definition, but I have not heard anybody say that a state of affairs unlikely to be achieved means that what is likely to be achieved won’t compromise. We are not talking about 5,149 here, we are talking the language in question means it’s much clearer than that. It’s for those reasons that I would have thought that it’s not just a matter of South Australia insisting that the 450 gigalitre upwater must be there. Even then it seems to me that from the South Australian point of view 3,200 does not appear, on the basis of material of a factual and scientific nature, to be adequate. But I can’t find that reflected in your submissions.

10 MR BRUCE: I will just check. We are just checking because it was a little while ago.

15 MR BEASLEY: Do you want to take it on notice over the coffee break?

MR BRUCE: We can do that.

MR BEASLEY: Can I just ask one more question before the coffee break – you can take that and answer that over the coffee break, but I just want to – there are other aspects of Mr Littleproud’s – or his Department’s submission that are either – and it’s my opinion – are either erroneous, or misleading, or rather strange. Rather than taking you through them all, based on the answer you gave me as to whether there had been any pushback from the State Government concerning the assertion that modelling showed that 2,750 was an ESLT, I assume from that answer that there hasn’t been a response from Minister Speirs to this letter and submission by Minister Littleproud.

MR BRUCE: As I said, I will have to take it on notice, but I’m not aware of one.

30 MR BEASLEY: All right. Do we have the coffee break now, Commissioner?

THE COMMISSIONER: Yes, I just want to ask one question. I take at you are familiar with the draft Productivity Commission report?

35 MR BRUCE: Yes.

THE COMMISSIONER: Would you accept it is a fair paraphrase that it is not the optimistic about the achievement of the 450 gigalitres upwater, bearing in mind the prerequisite expressed for it?

40 MR BRUCE: I would expect the draft is. After we meet with them, I hope the final version will reflect something different. But yes. I would accept that.

THE COMMISSIONER: So the draft is not optimistic, but you think - - -

45 MR BRUCE: We hold a different view to the PC.

THE COMMISSIONER: I will start again: you are optimistic you can make them optimistic?

MR BRUCE: Yes. While we think there are elements of their rationale - - -

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THE COMMISSIONER: After the break we might return to that, and I would like a bit more elaboration on that. Thanks. Quarter to 12. Thank you.

10 **ADJOURNED**

[11.30 am]

RESUMED

[11.46 am]

15

MR BEASLEY: Thank you everyone. Behind tab 3 of the folder is a letter from the Minister – State Minister to the Commissioner enclosing a series of answers to questions the Commissioner asked the State Government, and I just wanted to ask a few questions of clarification about some of the answers and also whether certain

20 things have been done. I have noticed on page 3 of – you’ve – one of the answers of the State Government back in 2010 was expressing concern that the Authority’s own assessment of a return of 4,000 gigalitres a year would only restore the Murray catchment to a less than moderate health rating.

25

I would assume that’s a reference to the fact that the Guide originally said – I’m using round figures – but 3,900 gigalitres has a high uncertainty of achieving environmental watering requirements for the basin and 7,600 a low uncertainty of achieving environmental watering requirements, hence the comment by the South Australian government back then that even a 4,000 gigalitre reduction of water from

30 consumptive use is only going to restore it to moderate health.

MR BRUCE: That was based on the modelling at the time.

MR BEASLEY: Then there’s a discussion about modelling.

35

THE COMMISSIONER: Sorry. Before you move on to that.

MR BEASLEY: Yes.

40

THE COMMISSIONER: At page 2, the answer to the first question, which was, “Does the Government have a different view?” I should understand as being an answer in particular to the proposition that the term “high uncertainty” should be interpreted to mean that a reduction in diversion of 3,856 gigalitres is highly unlikely to achieve the environmental watering requirements set by the Authority. So the

45 question was, does the Government have a different view and the first word of your answer is “yes”. That means the Government does have a different view; is that right?

DR HENEKER: Yes.

MR BRUCE: Yes. To the strict interpretation there, yes.

5 THE COMMISSIONER: What in the interpretation advanced in the question is regarded as wrong by the Government? I only ask because it seems to me that the second part of that first sentence of the answer is a non sequitur, because it says, “The uncertainty being discussed is the confidence the ecological target will be met.” Quite so. That’s what the question raised.

10 MR BEASLEY: Well, I thought it was an agreement with the question.

THE COMMISSIONER: I just want – I just want – this happens from time to time, let me assure you, in oral cross-examination where a yes or a no is said and actually
15 the opposite is meant. Not usually because of the witness’s fault at all, usually because of the questioner’s fault.

MR BEASLEY: Sorry about that.

20 THE COMMISSIONER: And I am taking responsibility for this. I just want to know: does the Government have a different view to the proposition that the term “uncertainty” should be interpreted to mean that the relevant reduction is highly unlikely to achieve environmental watering requirements set by the Authority? In the answer, we find this statement:

25 *The uncertainty being discussed –*
that is the term “high uncertainty” –
30 *is the confidence that the ecological target –*
that is the environmental waters requirements –
will be met.

35 And that seems to be an acceptance that it’s referring to a high uncertainty translating as being, I presume, a low confidence that the ecological target will be met. Have I misunderstood your answer?

40 MS MORONY: I think I – so what we are trying to get – and Theresa, feel free to jump in any time, what we are trying to get to here is that it’s not that normal English view.

45 THE COMMISSIONER: But why not?

MS MORONY: In science – to tell you the truth I think everybody would have been really good if the Guide had never used the words “uncertainty” because it actually causes more confusion.

5 THE COMMISSIONER: Well, it has to do with confidence levels of achievement doesn't it?

MS MORONY: But it's - - -

10 THE COMMISSIONER: It's actually explained in the Authority's material.

MS MORONY: Yes. But it's not always – it's confidence limits, but it's not necessarily probability.

15 THE COMMISSIONER: I understand that. But may I say they are not utterly alien concepts one from the other.

MS MORONY: No.

20 THE COMMISSIONER: No. Right. Well, you may assume that I understand that.

MS MORONY: Yes.

THE COMMISSIONER: Now - - -

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MS MORONY: You might understand things - - -

THE COMMISSIONER: Well, we deal – we are dealing with English and regulation and policy. So this is, surely, no room for idiosyncratic use of language to disguise what is intended. I am asking what is it – by reference to as much technical material of statistical usage that you want to advance, what is it that is wrong with the proposition that the term “high uncertainty” should be interpreted to mean that a reduction of that level is highly unlikely to achieve? What does it mean for somebody to say, “this will be achieved with a high level of uncertainty”? You tell me that it means that there is a much lower confidence, a comparative. Which troubles me because it seems, with respect, to be evasive.

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MS MORONY: And it's not meant - - -

40 MR BRUCE: meant to be.

THE COMMISSIONER: Well, let me finish. Low uncertainty means there's a high confidence the ecological target will be met?

45 MS MORONY: Yes.

THE COMMISSIONER: Different language is adopted for the expression “high uncertainty.” Which, if you were simply proceeding one would have thought in similar fashion, high uncertainty would mean that there is a low confidence. Not much lower, it is no doubt literally much lower, but why I say it might be evasive: it
5 seems to suggest that though it is much lower there is still confidence that it will be. And, with respect, that is not what the material about high level of uncertainty shows, or more to the point, please show me where high “level of uncertainty” is explained to mean, for example, more likely than not.

10 MR BRUCE: It’s essentially where there is a great proportion that we don’t know and so what Theresa was trying to say earlier was where you have a lot more water then you can be very – have much higher confidence and there is much lower uncertainty – so you get a tick in - - -

15 THE COMMISSIONER: I understand all of that.

MR BRUCE: What we are saying is – and it doesn’t necessarily correlate to it’s not going to happen, it just means - - -

20 DR HENEKER: A bit more nervous.

MR BRUCE: We don’t know.

25 DR HENEKER: Yes.

MR BRUCE: We don’t know as much. But that doesn’t mean it’s not going to happen, it just means we don’t know as much.

30 THE COMMISSIONER: No.

MR BRUCE: So it’s not trying to be evasive. It’s just actually trying to represent the factual - - -

35 THE COMMISSIONER: No. I’m not suggesting that is evasive. I’m suggesting the language, high uncertainty means there is a much lower confidence, is that intended to suggest that it is nonetheless a view that it is more likely than not going to happen? No, I think is the answer. You can’t possibly - - -

40 MR BRUCE: Neither.

MR BEASLEY: Neither. Just to help the witnesses, Professor Williams gave evidence to the Commission, who is highly distinguished scientist, no one could possibly take a different view, when you Commissioner were asking him questions about this, he said “High level of uncertainty – “ I just read out from 276 of the
45 transcript, says, “That means we have got Buckley’s.”

MR BRUCE: So we disagree with that.

DR HENEKER: Yes.

THE COMMISSIONER: But the disagreement is that you are saying you can't say you have got Buckley's, because you don't know enough to know; is that right?

5

MR BRUCE: Correct.

DR HENEKER: Yes.

10 MR BRUCE: We don't know whether it is Buckley's or certain, there's just a greater amount of unknown.

THE COMMISSIONER: In which case isn't that an even more obvious case of compromising environmental values to fix a limit where you don't know, one way or
15 the other, whether it will endanger or not?

MR BRUCE: It certainly shows there is a greater need for adaptive management and monitoring evaluations.

20 THE COMMISSIONER: Nowhere does the Act say you can set an ESLT on the basis you will patch things up as you go along.

MR BRUCE: No.

25 THE COMMISSIONER: Nowhere does it say that?

MR BRUCE: No. I'm not arguing against that.

THE COMMISSIONER: Well, should I take it is the Government's view – the
30 South Australian Government's view where is ignorance of a kind that is a high level of uncertainty, as you have glossed that expression, there will not accordingly be a compromise of environmental values?

MR BRUCE: Does feel like a little bit like a Donald Rumsfeld moment in terms of
35 the known unknowns, but - - -

THE COMMISSIONER: And believe me, just that much lampooned comment I think has been unfairly lampooned.

40 MR BRUCE: Absolutely. It's very accurate. No, I agree with that.

THE COMMISSIONER: I entirely accept that, and I also accept that you are in that position. You may take it for granted that I am sympathetic with the notion, certainly, of known unknowns, but even more sympathetic with unknown unknowns.
45 We can put to the - - -

MR BRUCE: That's right. That's exactly - - -

THE COMMISSIONER: Put that category aside for one moment because the simple fact is we can't talk about it.

MR BRUCE: Yes.

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THE COMMISSIONER: But it represents, I agree, intellectual honesty to recognise its virtually certain existence, unless you are very dumb indeed.

MR BRUCE: Yes.

10

THE COMMISSIONER: Right. What we can talk about is known unknowns.

MR BRUCE: Yes.

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THE COMMISSIONER: And I think we are talking about known unknowns when we have this assessment of - - -

MR BRUCE: That's exactly right.

20

THE COMMISSIONER: - - - low or high uncertainty resulting from highly sophisticated statistically informed modelling techniques; isn't that right?

25

DR HENEKER: It's partly that, as well as there is uncertainty too in the ecological targets that are defined, and whether they will actually meet this range for those, whether they will actually meet - - -

THE COMMISSIONER: There is a cascade or, if you like, a set of Russian dolls of uncertainty, I accept. But that increases uncertainty, it doesn't reduce it, does it?

30

DR HENEKER: No, it doesn't. But if you have an – I just with illustration, if you have an environmental target that could be met between X and Y, it's that. So that you know the – you know that if you deliver Y you are going to deliver that target and I guess that feeds into the volumes as well about which part of the range of that target you are being – you are meeting, but also the uncertainty in that. Maybe you can meet it with the lower – maybe it is the lower, and we won't know until there is further investigation, because we – you know, we provided a range for a lot of the targets because we don't really know. It's the best available information that we have. But, yes, it cascades all the way down.

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MR BEASLEY: How does that fit in with ecologically sustainable development?

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THE COMMISSIONER: I was about to say. You are familiar, aren't you, with that aspect of what sometimes is called the "precautionary principle" that is legislated here? It's that aspect which doesn't require you to hold your hand in cases of doubt, it actually – I will start that again. It is not that aspect that says, "Don't do something if you can't be sufficiently sure it's not going to harm." It's the other aspect which is, "Don't refrain from doing something, simply because you don't have what is

laughably called scientific certainty that it will either work, or be necessary,” as the case may be.

5 When I view that with the use of the word “compromise” in the definition of ESLT, it does seem to me that even glossed, as you have explained to me, the high level of uncertainty of achievement of ecological targets is almost by definition a compromising of those values. That’s – to proceed in ignorance is to endanger, surely.

10 MR BRUCE: I guess each side works in this scenario. And it’s, I guess, like I was reflecting before and I was just thinking about as you were talking then, is that in the situation a la in some developing countries, or even if we were opening up a new area for development anywhere, again, you probably come at it from this way in terms of using a precautionary principle to say, “Well, you know, I’m not going to do
15 that just yet because I have got this environmental value here, and it’s here, and I am actually taking something away from it.” Where if you’re already starting from a highly modified, developed environment, and so you are coming back down, and it sort of changes the perspective of which you approach the problem and you apply that principle, versus Greenfields versus highly developed already. It’s an interesting
20 – it’s just an interesting - - -

THE COMMISSIONER: Section 21 reflects that - - -

25 MR BRUCE: - - - comparison.

THE COMMISSIONER: - - - because it says in effect this has been – and I paraphrase quite broadly, “It has been overused. We have to address that.”

30 MR BRUCE: Yes.

THE COMMISSIONER: And so I agree with you, ESLT is not a Greenfields exercise of asking how much can we consume without compromising the environmental values. It’s a related, but different, exercise where – which is saying how much do we need to restore – that is reduce consumption that in order that
35 thereafter it not be compromised. Now, content is given to it by English, the statute is all in English, believe it or not – not always easy English. But this expression “protect and restore”. I don’t know why it’s in that order, perhaps restore and protect might have been better, but it doesn’t matter.

40 MR BRUCE: Yes.

THE COMMISSIONER: Again, the notion of needing to make good, as opposed to trying to mitigate prospective harm, seems to be to the forefront. Now, it’s for those reasons that the notion of selecting ecological targets with that in mind, and then
45 observing that your modelling shows there’s a high level of uncertainty of achieving them, seems to me on any view of it – particularly with the gloss you’ve given, which is the high level of uncertainty reflects known unknowns rather than a

probabilistic forecast of success. I understand that difference, so again they are related by the way.

MR BRUCE: Yes.

5

THE COMMISSIONER: Even with that approach to it, it seems to me that you've definitionally demonstrated compromise.

MR BRUCE: It's an interesting one, because I guess that analogy I was using before is you tend to start from the state that you are already in. So there is always a compromise. So if you started from a Greenfields site - - -

THE COMMISSIONER: I don't mean compromise in that sense. I mean compromising the environmental values. I'm not talking about compromise of, "I will give me four if you give me three."

15

MR BRUCE: Sorry, that's not where I am coming from. You tend to start from the state you start, which is why I talked about Greenfield site somewhere, in a beautiful park or pristine park, native vegetation, you will be very conservative, or should be very conservative, about what you might do that would impact on those values.

20

THE COMMISSIONER: Nowadays you might be, but not if you were on a ship in 1788.

25

MR BRUCE: That's a very fair call. But I guess what I'm trying to work out, we're not there now. We are moving from this state to a future state. You tend to base your precaution – rightly or wrongly, but this would be my experience. You tend to base your precaution on the state you are moving from because you have already got those values there. So you are losing some values from there, maybe for the net benefit of the country, but you are losing some values from there moving forward. Similarly, if you start off again with a pristine environment. Now, in this day and age you would not want to compromise too much. You are very careful about moving forward. So, rightly or wrongly, but that does seem to be the way things work in practice.

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MR BEASLEY: Please take your time with this answer, but the broader definition you have given the commissioner about uncertainty, how does that – first of all the CSIRO, when it did its analysis of the 2,800 gegalitres it didn't talk about high or low uncertainty, it talked about high risk and low risk meeting, which to me sounds like - - -

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THE COMMISSIONER: Probabilities.

MR BEASLEY: Probabilities. But going back to that part of the submission I took you to on page 3 where the South Australian Government submitted that a 4,000 gegalitre reduction "Would only restore the Murray catchment to a less than

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moderate health rating". And noted that the Authority would not be fulfilling its obligations if parts of the Basin were returned to a poor or moderate condition under the part of the Basin Plan. That does seem to me to be like a high level of uncertainty meeting environmental watering targets at a 3,900 or 4,000 gicalitre reduction. Does contemplate probabilities, rather than the known unknowns you have been talking about.

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10 THE COMMISSIONER: They are related concepts, aren't they? They are not the same but, of course, they are related.

MR BRUCE: You described it well before. So this is under a different type of modelling scenario to what we are talking about now. So the figures aren't necessarily comparable.

15 THE COMMISSIONER: No, I understand that. I have called it, perhaps excessively politely, an iterative process. But, yes, I don't think there is anyone on earth who is fully on top of how much modelling and variance particularly the respective cogencies that ought to be given to these exercises. But - - -

20 MR BEASLEY: I should say Professor Williams also said he interpreted those words to mean – that is high level of uncertainty – means it has got very little chance of success.

25 THE COMMISSIONER: That's right.

MR BEASLEY: There was another witness that said that. Now, obviously we can't ask the MDBA what they meant by it.

30 THE COMMISSIONER: No, quite. No, no. They are choosing to be transparent so that we will judge them by their published words and the words delivered to them. Well now, as Mr Beasley has drawn to attention at the pointy end of the deals between the MDBA and South Australia concerning setting an SDL, which obviously was understandably of such significance to South Australia, the argument put by South Australia amounted to saying that 4,000 gicalitres per year was – did
35 not answer the description of an SDL.

MR BRUCE: You are referring to the page 3?

40 THE COMMISSIONER: Yes.

MR BRUCE: So that's in the Guide, so that's a different model.

THE COMMISSIONER: I understand that.

45 MR BRUCE: At that time, yes, we were saying more was required. Yes.

MS: Yes.

MR BRUCE: Based on the information we had.

THE COMMISSIONER: At the time you were saying 4,000 gigalitres a year was not an SDL.

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MR BRUCE: Yes. Based on the information we had.

THE COMMISSIONER: Among other things, if I may compress - - -

10 MR BRUCE: Yes, yes.

THE COMMISSIONER: - - - in order to reflect an ESLT.

MR BRUCE: Yes.

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THE COMMISSIONER: Whether you express an ESLT as a range or a point not mattering for those purposes.

MR BRUCE: No. That's true.

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MR BEASLEY: And then if you go to the bottom of page 5 of your submission you have made it clear that the South Australian Government's submissions to the Authority during the drafting of the actual Plan continuously submitted the SDL must be produced in accordance with the criteria of the Water Act, namely environmental considerations listed in the definition of ESLT and the international obligations, together with the best available scientific knowledge. Now, that – those sentences clearly indicate to me that at least the South Australian Government has read the Water Act. Then it has got:

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30 *This was particularly the case with respect to the proposed water recovery target of 2,750 and there was a notice of disagreement lodged.*

MR BRUCE: Yes.

35 MR BEASLEY: Then there's the response from the MDBA which says this:

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The Authority is satisfied that the proposed Basin Plan complies with the Water Act. We consider that a water recovery target of 2,750 on a long term average is the right starting point to return enough environmental to the Basin to achieve environmental objectives while also ensuring that social and economic effects are best managed.

Etcetera:

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Murray-Darling Basin management review operation proposed SDL adjustment mechanism, the constraints management strategy, will provide opportunities to take into account new information in any future reviews of the

Basin Plan. This includes any efficiencies gained through environmental works and measures as well as new science that contemplates –

THE COMMISSIONER: Compliments.

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MR BEASLEY: Sorry:

Compliments the current best available science. This means our numbers represent a starting point for an adaptive process that will allow further adjustments to be made in the future.

10

Now, none of that – let’s leave aside the fact that none of that even comes close to what the Water Act stipulates, but what I’m interested in at the moment is that the commission called a witness, Mr Bell who worked for the CEWH and then worked for the Basin Authority who gave evidence to the Commissioner that in relation to setting the 2,750, rather than it being based on the best available science, the word went around the Basin Authority that whatever the figure was – these are his words, “It has to start with a 2.” And that evidence was corroborated to David Bell by Mr Cosier who also – from the Wentworth Group – who also gave evidence to the Commissioner about at an early stage after the Basin Plan came out hearing that – and it was reported in a newspaper article that’s been tendered – that Victorian Government officials were going around saying the Plan would be a 2,100 gicalitre plan.

In relation to the evidence that is completely unchallenged from Mr Bell, who is a – was a credible witness, no reason not to believe him, no one came and challenged his evidence that he was not telling the truth about it had to start with a 2. And he gave evidence about the fact that it became a running joke in the MDBA about postcodes, that something to do with Mr Joyce’s postcode starting with a 4 at the time and that being preferable to using the number starting with a 2. In light of that evidence, has Minister Speirs contacted Mr Littleproud and asked for a clarification about this and whether it’s in fact true? Or has he contacted the Basin Authority and asked whether it’s true?

MR BRUCE: Not that I’m aware of, but I don’t know.

MR BEASLEY: Isn’t that – isn’t that evidence that it has to start with a 2 of fundamental interest to the State of South Australia?

MR BRUCE: I guess the State has taken the perspective – certainly the Department has taken the perspective - - -

MR BEASLEY: Hang on. It’s fundamentally important to South Australia that the ESLT was set lawfully, first of all; correct?

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MR BRUCE: Yes.

MR BEASLEY: Yes. And, secondly, that it was based on the best available scientific knowledge.

MR BRUCE: Yes.

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MR BEASLEY: You agree with that. And we now have a witness, unchallenged, saying rather than those things, for whatever reasons – perhaps the reaction to the Guide or for political reasons, the figure has just got to start with a 2. Which means, “Forget what the Water Act says, it’s just got to start with a 2 because that’s what’s going to be palatable.” That obviously is highly significant to South Australia, because South Australia would want the ESLT to be an ESLT; correct?

10

MR BRUCE: Correct.

15 MR BEASLEY: Right. So - - -

THE COMMISSIONER: That is starting with a figure – presumably at least starting with a 4.

20 MR BRUCE: Well, starting with a figure of what the ESLT should be.

THE COMMISSIONER: I’m just looking back at South Australia’s recorded position, “4,000 is not enough.”

25 MR BRUCE: But that was different modelling, so that’s not comparable.

THE COMMISSIONER: It was different modelling, but perhaps - - -

MR BRUCE: The figures – the numbers aren’t - - -

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THE COMMISSIONER: The difference in modelling doesn’t seem to me, on the record, to have produced an explanation of how one moves from say 4 to 2.

MR BRUCE: So - - -

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THE COMMISSIONER: Or 21, if you prefer the Victorian position.

MR BEASLEY: That was Mr Close’s evidence.

40 THE COMMISSIONER: That is, there is nothing on the record.

MR BEASLEY: Can I just put aside for a moment?

THE COMMISSIONER: You can – I just want to – are you three aware of anything on the record that explains how the – I will call it change in modelling – that probably requires lot of unpacking, but anyhow – the change in modelling between the time when South Australia was protesting 4,000 was not enough, and the

45

eventual promulgation of 2,750 following a view a view attributed to Victoria that, lo and behold 2,100, which is about where we are now, is the proper figure? I have not seen anything that explains, on the basis of the best available science, how that change – which is very considerable – came about. Are you three aware of it?

5

MR BRUCE: Yes. So Theresa can go through the difference in the modelling and why it changes. Whether or not that justifies a 2,750 figure or is a different question, but certainly why - - -

10 THE COMMISSIONER: Well, that's the question I'm interested in, though.

MR BRUCE: Well, I think the first bit of that understanding why two different numbers can be comparable or not - - -

15 THE COMMISSIONER: I wholly understand the changes in, let alone improvements in, modelling. And, again, improvements is a very loaded word when talking about this. I well understand how you produce figures which can't simply be compared with each other. I am not interested so much – I have seen and read explanations of that. What I am interested in is how does it justify, on the basis of
20 best available science and in order to avoid compromising environmental values, dropping from something which South Australia thought needed to be higher than 4,000, how much higher it doesn't say at the moment, to a position where 2,750 – that is less than 3,000 - - -

25 DR HENEKER: So South Australia - - -

THE COMMISSIONER: - - - is promulgated.

30 DR HENEKER: So South Australia's view when we looked at the modelling results for the Guide and we looked at the 3,000 and the 4,000 and the other runs that they did it, we looked what it delivered for the environmental outcomes, and based on that analysis is when we said that it wasn't enough. But the volume itself is linked explicitly to how the environmental water is going to be managed.

35 THE COMMISSIONER: Yes.

40 DR HENEKER: It's not necessarily just how it's modelled, but how it is managed. So you could have 3,500, for example, gigalitres of environmental water or water recovery reduction from extraction. How you deliver that in – you might deliver it in two completely different ways. In one way, you actually can deliver an ESLT, and other way you are not.

THE COMMISSIONER: I entirely accept that. Yes.

45 DR HENEKER: So the way the Guide was modelling, it wasn't – it wasn't actually any targeted delivery. So the environmental water requirements that are defined and the targets that are defined are based on the vegetation and animals plants that live in

the area. So they survive with, you know, certain flooding events and it could – and flooding events - - -

THE COMMISSIONER: Time place and volume. Yes.

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DR HENEKER: Time place and volume.

THE COMMISSIONER: And duration.

10 DR HENEKER: And duration. If you can deliver them targeted delivery of that water, then you can meet those requirements.

THE COMMISSIONER: Again, I – you are pushing an open door here. I understand all of that.

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20 DR HENEKER: The Guide didn't do that. So the Guide modelling didn't target certain events with held environmental water. So it was if there was water in storage, it did incremental delivery. It also delivered water. It just assumed that all water would be going to the environment if it was sitting there. So there are a lot of inherently not realistic assumptions, I guess is the best way to put it. In the – when we went to the Basin - - -

25 THE COMMISSIONER: So where is the material published that shows and explains the changes in modelling that supposedly produces 2,750? Where does one look for that?

DR HENEKER: So if I – that's - - -

30 THE COMMISSIONER: Where does one look for that?

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DR HENEKER: So in terms of that - - -

MR BEASLEY: You have set out a description of this, I think, commencing at page 4 of the - - -

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40 DR HENEKER: Yes, we have. I guess what happened then – once the guide was done, they re-evaluated how the environmental water delivery would happen through held environmental entitlements, and they had – it's a much more targeted delivery, and that is how the CEWH and the environmental water holder will work. This has the potential to allow you to achieve the same environmental outcomes or better with a lower volume of water. How they got the 2,800 we don't know.

45 THE COMMISSIONER: Well, except, the answer to my question – where does one find published the material that explains what I'm going to call improvement in modelling and justification of 2,750. Your highly informed answer is you don't.

DR HENEKER: The improved modelling?

THE COMMISSIONER: Is that right? You don't find it.

5 DR HENEKER: The improved modelling in outcomes for twenty-eight – well, it was 2800 originally – were – are contained in the MDBA's modelling documents that were produced at the time. We as well as the other Basin governments in May 2011 were provided with new model runs of – a new model run of 2,800. So we were given the outputs, and we were informed that this was the new model run.

10 THE COMMISSIONER: Outputs is not the same as being given the model.

DR HENEKER: No.

MR BEASLEY: Or the inputs.

15 DR HENEKER: No, we didn't have the model.

THE COMMISSIONER: Has it been published?

20 MR BRUCE: The methodology

DR HENEKER: The method has been published in one of the MDBA's probably 2012 reports on modelling for the proposed Basin Plan, how they changed the method. The justification for their assertion that what become 2,750 is an ESLT – that's in there. They use multiple lines of evidence. As Ben has already said, we 25 didn't believe that the 2,750 was sufficient, and that's why we pushed for 3,200. At the same time, as you have acknowledged that, you know, Victoria have been quite open in looking for a lower figure which is why they modelled 2,800 plus or minus 400.

30 MR BEASLEY: That lack of belief that you just expressed by the State of South Australia, that was on the basis of reviews were you involved in was it?

DR HENEKER: Yes.

35 MR BEASLEY: To work out what targets would be met.

DR HENEKER: Yes. So we did – there was a small team of us, I specifically looked at all of the lower lakes.

40 MR BEASLEY: Mr Higham, you - - -

DR HENEKER: And Ms Bloss.

45 MR BEASLEY: Yes.

DR HENEKER: Yes. And so we looked all of the floodplain targets. Firstly, what could be achieved based on what – the outputs that they provided. Then we looked

at the bottom as well. But we didn't just do that. We looked in a great lot of detail about what were the limitations with the modelling, what modelling – what was the risks of actually being able to deliver what they said that they could potentially deliver because a modelling scenario is just that, is just that. It is one potential future
5 with – underpinned by consistent assumptions.

THE COMMISSIONER: So is there anywhere a document of any kind – by reference to modelling or anything else – of which you are aware that includes a conclusion by the MDBA to the effect that with a low level of uncertainty, to use
10 their jargon, the ecological targets behind the environmental watering requirements will be met at 2,750 gigalitres recovery?

MR BEASLEY: The answer is no, isn't it?

15 DR HENEKER: No.

MR BRUCE: Not that I'm aware of.

MR BEASLEY: Because the ESLT report itself at the back where it has got all the various valleys has those yellow, blue and brown note ups indicating that at a 2,800
20 gigalitre plan, they are not going – on their own documents, they are not going to make the environmental water requirements.

THE COMMISSIONER: That's not an unexpected answer. However, what I'm wondering is this: isn't that what South Australia – the government would look for
25 in order to be content with 2,750 as the recovery necessary to achieve a lawful SDL?

MR BRUCE: Yes, except the South Australian government wasn't content and fought very hard to get the additional 450 because the runs we've done - - -
30

THE COMMISSIONER: This is not a criticism. I'm trying to work out the history.

MR BRUCE: No, no, no. I'm agreeing with you. We weren't content.

35 THE COMMISSIONER: Right. Now, nothing has happened since then which, as it were, has retrospectively vindicated that which might have been unjustified at the time, that is, we can all make guesses. Some people have probably become very famous as scientists by making guesses which later turn out to be fortunate. I think Louis Pasteur may have benefitted from a lot of that – doing things which would now
40 have him put in prison in terms of taking risks with experiments. No. I mean that seriously.

DR HENEKER: Yes. That's right.

45 THE COMMISSIONER: So after the event, it may turn out that a position taken by a person is, in fact, scientifically justifiable. It doesn't make their original position praiseworthy. It may still have been criminal in terms of medical experimentation,

for example. But the history of science is littered with retrospective validations of that which was wrongly heralded at the time as brilliant science. Which turns out simply to have been a fortunate guess. I can't see any suggestion or record which in any way suggests that's what has happened here. And do you agree with me?

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DR HENEKER: I agree with you.

MR BEASLEY: Can I just - - -

10 THE COMMISSIONER: Well, now, given it is now notorious that there are these doubts, shouldn't the Authority either of itself or by sponsoring science be looking for such a validation?

MR BRUCE: I think the pragmatic answer to that is that the Basin community has – I shouldn't say Basin community, MinCo and BOC and others, MDBA has said – obviously, we are talking about a quite linear type process. Obviously, this goes to Parliament, and an agreement has been reached, and I guess that's for the South Australian position of as much as I know you don't love it, but in full and on time has been looked – we have got this agreement. Let's go.

20

MR BEASLEY: You just sent a shiver up my spine.

MR BRUCE: I knew I would. I know how much you love it. But we have got to get this done, get the monitoring and adaptive management as we go and either demonstrate that actually it was okay or have a really strong body of evidence for essentially the next iteration of the Basin Plan that we need more, that we have a - - -

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THE COMMISSIONER: So there a kind of South Australian moment of "told you so" looming. Is that right?

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MR BRUCE: Potentially. But we want to have the evidence base in place so that that conversation can occur in a much better way than it occurred back when the original plan was formulated.

35 MR BEASLEY: It's one thing, isn't it for the State of South Australia to have a scientific disagreement with the MDBA, but coming back to Mr Bell's evidence, he said on page 61 of the transcript:

40 *At some point there was a clear understanding that the sustainable version of it had to be beginning with a number 2. Where did that come from?*

Mr Bell:

45 *My understanding is this was a decision of the board conveyed by senior management.*

Who said those words?

Mr Bell:

5 *Chief executive at the time Dr Rhondda Dickson. Dr Tony McLeod had a fair bit to do with the ESLT at the time. I can recall him talking about, and it was a topic of general conversation. To the extent that often happens in these circumstances, jokes would come. Jokes were made about it.*

10 Then at the talks about Mr Windsor having a postcode starting with a two and Mr Joyce, the recent author of ‘Weatherboard and Iron’ having a postcode starting with four. Now, as I said, it’s one thing for the State of South Australia as a government to have a scientific disagreement with the MDBA or the Commonwealth, but in light of that evidence, it would – it – surprising to me that Minister Speirs hasn’t contacted his counterpart and said “Is this true?”

15 MR BRUCE: I can’t speak for Minister Speirs.

 MR BEASLEY: What about the government of South Australia?

20 MR BRUCE: From my point of view my analysis would be that the decision has been made that that happened a good while ago. We have the pragmatic situation that we have what we have, and our objective is to make the best of it that we possibly can. And that why I - - -

25 MR BEASLEY: I understand that from a - - -

 MR BRUCE: And that’s why I would - - -

30 THE COMMISSIONER: - - - bureaucrat level, but surely a Minister would think, God, this is really, really taking the mickey out of South Australia if the figures just start with a two, and it’s not based on science. And surely, the current government would want to know whether that was true or not.

35 MR BRUCE: I guess where we’ve – the approach we have taken is to look at the monitoring - - -

40 MR BEASLEY: No, I know your approach, but my question is, surely at a ministerial level, the current Minister of Water in South Australia would want to know – even if it is part of history – has this Plan been done at a crucial level with a figure that just has to start with a two that’s not based on science. Don’t the people of South Australia want to know that?

45 MR BRUCE: I think he’s looking – so in – I think there is a difference between incredibly concerned that the figure is a suitable figure to return the Basin to sustainability. Absolutely. Because that happened so many years ago and with – the scientific knowledge has improved so much since then, I mean, to take the Commissioner’s point of view, it may well have been a bad methodology to arrive at

the figure, but if the science now says that's okay, and I'm not saying it is might I add.

5 THE COMMISSIONER: That's hypothetical because that hasn't happened.

MR BRUCE: Correct. But I'm just saying that I would imagine our Minister and our government is much more concerned about getting some good data now to work out - - -

10 THE COMMISSIONER: Thank you.

MR BRUCE: - - - how we are rather than going forward, and we are seeing significant improvements in the condition of the Basin already with the return of environmental water. It doesn't add to our argument but more is required, though.

15 THE COMMISSIONER: So in that – if you will forgive me, moving forward approach, does – do you, as three officers – do you take into account at all the annual Authority analysis under section 52A of the Act?

20 MR BRUCE: The new Act. We have an older version. Which is 52A, the Commissioner.

THE COMMISSIONER: The Authority must after the end of each financial year cause analysis of the Basin Plan's effectiveness to be conducted.

25 MR BRUCE: Yes.

30 THE COMMISSIONER: Etcetera, etcetera. A copy of the report must also be given to each other member of the Murray-Darling Basin Ministerial Council. Now, the Basin Plan's effectiveness – I think that is English, actually. No doubt as a lawyer I have to interpret it, but I think you understand it, effectiveness on any view of it includes contributions to protect and recover the environmental values which informs sustainability as a judgment. Correct?

35 MR BRUCE: Yes.

THE COMMISSIONER: Is that where this Commission will find the Authority's complete view from time to time of the Basin Plan's effectiveness?

40 MR BRUCE: Certainly will provide a component of that. I'm just reflecting on whether it will provide everything. But it is certainly - - -

45 THE COMMISSIONER: It's quite a strong word. I can't remember the last time I saw it in a statute that you must cause analysis to be conducted. Analysis is dissection, pulling it apart. Looking at the pieces.

MR BRUCE: MDBA certainly has done some comprehensive analyses. Without it in front of me, I'm just trying to - - -

THE COMMISSIONER: Review.

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MR BRUCE: They take it very seriously, and we take it very seriously.

THE COMMISSIONER: At this Royal Commission I should proceed on the basis that what I see and what I don't see in those reported analyses does represent the high-water mark, if you will forgive the expression. Yes. Is that right?

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MR BRUCE: Yes, it's a common trait, yes.

THE COMMISSIONER: And what about under – section 49A – I hope I'm not stretching – you have got section 49A?

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MR BRUCE: Yes.

THE COMMISSIONER: Before the end of 2020, there has to be advice given by the Authority again to the Ministerial Council hence my asking you three about it, on what's called the impacts of the Basin Plan.

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MR BRUCE: Yes.

THE COMMISSIONER: Again that's not a term of art, and you don't have to be a lawyer to appreciate its breadth. It's a very significant report.

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MR BRUCE: Yes.

THE COMMISSIONER: And furthermore, in subsection 2, that's going to be published. Those impacts would include, again, the extent to which operation of the plan has contributed to the protection and recovery to which I earlier referred.

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MR BRUCE: Yes.

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THE COMMISSIONER: Yes. And the impacts – that's a word also fairly precisely designed, given that long discourse politically in relation to the Basin Plan, to pick up socioeconomic matters as well. Isn't that right?

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MR BRUCE: Yes.

THE COMMISSIONER: And these are not – this analysis and this advice – these are not things that can be done the weekend before they are due.

45

MR BRUCE: No. And they are already being worked on now.

THE COMMISSIONER: So you anticipate me.

MR BRUCE: Yes.

THE COMMISSIONER: Are South Australian officers involve involved in that process? Because these are Authority obligations, you see.

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MR BRUCE: So in a number of the processes, we are.

THE COMMISSIONER: Yes.

10 MR BRUCE: So some we are intrinsically involved, and some we are consulted with by Authority.

THE COMMISSIONER: Intrinsically because you are the source of information.

15 MR BRUCE: Yes. Or there's joint committees or teams working on them. So joint working groups and some others. So there was some socioeconomic analysis done just recently which was quite interesting. You know, we were consulted with, but we weren't actually in the creation so to speak.

20 THE COMMISSIONER: Now, I know there are highly formal statutory junctures that reported the analysis and advice, but should I take it that the processes that you have just described by which South Australian officers are involved in the work necessary to precede performance of those statutory obligations, that's really the same kind of work that is involved in what you call adaptive management. So - - -

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MR BRUCE: You need it to do adaptive management, yes.

THE COMMISSIONER: - - - you are continuously monitoring and reflecting and presumably debating, forming judgments that may not lend themselves to uniquely correct answers?

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MR BRUCE: Yes.

THE COMMISSIONER: I see. Now, is there any reason, in the opinion of you three – and that may vary, of course – is there any reason why that shouldn't be done with close to full public disclosure as it happens?

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MR BRUCE: So as it happens – it depends what you mean by “as it happens”. But certainly - - -

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THE COMMISSIONER: As a record is made of frog spawning at such and such a swamp.

MR BRUCE: Yes. Yes, absolutely.

45

THE COMMISSIONER: Is there any reason why the public can't know that immediately?

MR BRUCE: No. In fact there has been considerable time spent at BOC and I think in MinCo – I think, certainly at BOC, on how we can get more of this information publicly available and get more on the websites.

5 THE COMMISSIONER: It's not hard to put things like that on the website is it?

MR BRUCE: No, no, no. No, it's people being busy and flat out doing stuff, and you actually have to be conscious about doing the - - -

10 THE COMMISSIONER: Well, I could be sardonic and suggest there is a lot of stuff that emanates from governments on the website that people have put on that doesn't have anything like the value of environmental reporting in the Basin.

MR BRUCE: That is an outrageous accusation.

15

THE COMMISSIONER: Yes, you are right. I withdraw it immediately. But yes, so that is a – I accept a question of priorities. But it doesn't seem to be a difficult one to overcome, does it?

20 MR BRUCE: No. And I think on reflection the view of most Officials would be that the wrong judgment and prioritisation was made and more effort should have been put into making more things available deliberately.

25 THE COMMISSIONER: Has anything been done to overcome that possibly acknowledged error?

MR BRUCE: Yes. So a lot of material, probably in the last 12 months I would say, has been put on the website that wasn't before. Certainly under the current leadership of the MDBA. And there has been a significant push to make more
30 transparent. So you have seen a big change in that period. They held a workshop with all key stakeholders to go through the SDL projects in Canberra, which I haven't talked to everyone who went, but a couple I have talked to who went in quite cynically came out very positive. So, I mean, my personal view is that should be turned into a road show and go around. We will see how we go with that.

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But most certainly a lot more effort has been put into making things publicly available. And the great irony of it is nearly all of it's incredibly positive material. So not only is it useful for the general public, it's actually showing how well the actions being taken are working. So it's actually in everyone's best interests to get it
40 out.

THE COMMISSIONER: What you call ironic, of course, includes this reflection: that it's the kind of material that justifies an approach being taken to this natural resource of national significance that might have dissuaded some of the hotheads
45 who thought it clever to talk about the position – the proper course being to “Zap the Cap,” for example. Or burning the Guide as an act of mature political contribution to debate.

MR BRUCE: The material collected to date certainly demonstrates the benefits that properly applied environmental water can have to the environment. Certainly many things have improved. Still a long way to go of course. It also has shown a lot of the touted socioeconomic impact of the Plan, in many cases, while there is certainly
5 impacts and certain communities hurting but in many cases it is not due to the Basin Plan per se or in full. So certainly has some impact, but not to the degree that it's being blamed for these broader socioeconomic impacts or factors that are driving those communities hurting which, you know, we need to fully acknowledge are hurting. There's no question of that.

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THE COMMISSIONER: Thanks.

MR BEASLEY: Page 8 of your submission where – question 2(c) there, you would all be familiar with the fact that – and please tell me if you are not, but you would all
15 be familiar with the fact that in the ESLT determination, published by the Basin Authority, in terms of its framework for determining an ESLT set out that, amongst all of the things it did it, factored in somehow social and economic considerations to reach the final figure of 2,750. And you have said in response to the Commissioner's question that the South Australian government does not have information that
20 specifies a volumetric impact that social and economic considerations had on the determination of the ESLT or the Basin-wide SDL.

20

Just before I come to that, the Commission has heard from a huge number of witnesses – and I'm certainly not going to go to all of the transcript, because that
25 would just be a waste of time – but on this issue – and all of these scientists are to some degree or another supporters of the Basin Plan, perhaps not its implementation or every aspect of it, but supporters of the Basin Plan, but Dr Colloff, Professor Williams, Professor Grafton, Professor Kingsford, Dr Steinfeld, Dr Thom, all gave evidence almost identical to the Commissioner that the 2,750 and the way it has been
30 determined, at least in the published work by the MDBA, should not be called science.

25

30

Because it simply can't be tested, can't be proved to be wrong or right. And they have through the course of their evidence expressed a high level of concern of that
35 lack of transparency to the scientific community to enable it to test the MDBA work in particular the determination of the ESLT. Can I just ask you – when you say the South Australian government doesn't have this information about how social and economic considerations were factored into the determination of the ESLT – have you asked and not been told?

40

DR HENEKER: So we were provided with a 2,800 run in May 2011.

MR BRUCE: Yes.

45

DR HENEKER: And we were told that that was the volume of that was determined by the Authority, the Authority Board.

MR BEASLEY: By the Board.

DR HENEKER: That's what the Authority staff said to us, that it was provided by the Board.

5

DR HENEKER: Yes.

DR HENEKER: That a different approach was being taken, that 2,800 had been – was determined to be the water recovery, the reduction in the SDL, and that the modelling was undertaken to determine what could be achieved with that.

10

THE COMMISSIONER: Isn't it the wrong way around?

DR HENEKER: And we questioned it - - -

15

THE COMMISSIONER: You use the modelling to find out what the SDL is.

DR HENEKER: Yes. In part - - -

THE COMMISSIONER: Not – you don't find out what a purported SDL will do.

20

DR HENEKER: In part there are difficulties due to the nature of the modelling platform and, you know, having the tools available to actually do that, but that was the way that they did it.

25

THE COMMISSIONER: It doesn't sound like - - -

MR BEASLEY: Just wait a second, the Commissioner's question was, "Isn't it the wrong way round?" The answer to that is?

30

DR HENEKER: Normally you would do it the other way.

THE COMMISSIONER: Is that a polite way of saying, "Yes, it is the wrong way around."

35

DR HENEKER: Yes.

THE COMMISSIONER: Yes.

MR BRUCE:

40

DR HENEKER: And I would say it's not the way that we necessarily would have done it. As an example, in our Eastern Mount Lofty Ranges, when we developed water requirements, environment – looked at water requirements there, we've actually looked at – first at the environmental water requirements and worked backwards. So yes, that is the way you would normally do it, and we obviously questioned that significant – significantly to try to find out what is it based on.

45

THE COMMISSIONER: Would it be unfair to attribute then to your – what you are recalling as the South Australian Governmental position then, as a protest that this was not best available science that proceeded in that fashion. Would that be unfair?

5 DR HENEKER: It's probably not unfair, no.

THE COMMISSIONER: By the - - -

MR BEASLEY: I mean, still relative to South – sorry, yes. Go on.

10

THE COMMISSIONER: By the way, just to get one thing clear, we are talking for example about 3,200 gicalitres or 2,750 gicalitres, in the jargon that one sees at the time, these are scenarios that might be with or without relaxation of constraints; is that right?

15

DR HENEKER: Yes. Initially the scenarios were all without the relaxation of constraints, so the constraints were all in there so the 2,800, there were constraints and the watering events or the – yes, the events determined to be delivered under that scenario all took that into account. And same with 32 and same with 24.

20

MR BEASLEY: And then the MDBA produced a report in 2012 which was on a relaxed constraints scenario; correct?

25 DR HENEKER: Yes. Then they relaxed the constraints which allowed the delivery of higher – some higher events.

THE COMMISSIONER: So that the achievement - - -

30 MR BEASLEY: We are still wanting for those constraints to be relaxed, but - - -

THE COMMISSIONER: So the achievement, whether it was low or high level of uncertainty of ecological targets through the meeting of environmental watering requirements according to the modelling, correct me if I am wrong, that is all posited – as I think the Productivity Commission notes in its draft report – on the relaxation of constraints; is that right?

35

DR HENEKER: Not all of the outcomes require the relaxation of constraints.

THE COMMISSIONER: A number of them.

40

DR HENEKER: Some of the higher flow ones do. You have more flexibility, I guess, is the key with the relaxation of constraints. But even if you don't relax them, you can achieve a lot without the relaxation constraints.

45 THE COMMISSIONER: I'm talking about achievement of targets though. Not - - -

DR HENEKER: Yes. Achievement of targets you can still achieve a lot without relaxing constraints. It just those higher ones, higher flow events that are critical for the fringing areas of the flood plain, to get those higher ones, but the Murray Mouth, in particular, is not as - - -

5

THE COMMISSIONER: Constrained.

DR HENEKER: Constrained by that and it's pure volume.

10 THE COMMISSIONER: Not as constrained by constraints. Yes.

DR HENEKER: Correct. And it comes down to – you know, timing is important and having higher flow events, but it's really about gross volume.

15 THE COMMISSIONER: Just while we're on that then, just to finish it off, the draft Productivity Commission report, I think it's fair to say, is pessimistic given experience of achieving relaxation of constraints by 2024; is that fair? Let alone by 2019.

20 MR BRUCE: The report, yes.

DR HENEKER: That's their view.

25 THE COMMISSIONER: Is that one that you have a project to alter their view?

MR BRUCE: So at the moment, certainly, there's some debate around some of the constraints but we are fairly positive on it for a number of reasons. One is that the eastern states, where the Productivity Commission is alluding to the – I guess reticence to participate is desperately wanting the 605 SDLAM. You can only the
30 deliver the 605 SDLAM in full if you deal with constraints. So - - -

THE COMMISSIONER: So you're really talking about here – is the 605 being illusory for the eastern states if it is going to have to be reversed in 2024. Is that
35 right?

MR BRUCE: Yes. Then you will go into the benefits we talked about earlier and
- - -

40 THE COMMISSIONER: But they will have – they will have had the benefit of the 605 in the meantime?

MR BRUCE: Only for a few years.

45 THE COMMISSIONER: Only a few years, but a few years of altering the status quo.

MR BRUCE: I mean, if we look at it from an ecological point of view, if you look back over time and how long there has been over-extraction in the Basin, five years is not really material.

5 THE COMMISSIONER: I understand that point entirely. I'm rather thinking about the difficulty, a common experience of Government, of taking back from the population what they have already been given.

MR BRUCE: There will be a lot of pressure on those Governments, because a lot of
10 the –particularly irrigation organisations in those states very much want the 605. Not the 605, not just for the offset, but because of the benefits that can bring communities in terms of many cases construction, in employment, a range of other things. So there is a lot of cash that comes with the 605.

15 THE COMMISSIONER: My point entirely.

MR BRUCE: So there's a real incentive - - -

THE COMMISSIONER: So once it has been enjoyed, albeit for a few years, it's
20 very much more difficult to contemplate - - -

MR BRUCE: A lot the cash.

THE COMMISSIONER: - - - it being taken away.
25

MR BRUCE: A lot of the cash is attached to constraints projects though. So if you get the cash, you are dealing with constraints.

THE COMMISSIONER: When you say that, do you mean the cash won't flow
30 until the constraints have been relaxed?

MR BRUCE: No, you need some cash to relax the constraints.

THE COMMISSIONER: That's my point, yes.
35

MR BRUCE: So in terms of the Commonwealth process, there is a two stage
process, one they will make some funding available initially to do the planning work
and pre-work, which is a sensible idea. And then the, then the bulk of the cash is
contingent upon you having all those plans in place and an implementation of that
40 and they will be gated with milestones. You don't just get the cash, you actually –
it's like a project implementation.

THE COMMISSIONER: The cash will not only go to the construction of what I'm
going to call shifted or improved infrastructure, a bridge in a higher place or a
45 stronger bridge or whatever, but presumably this idea of easements to flood and the
valuation of them in a consensual rather than compulsory process will involve a lot
of money. Is that right?

MR BRUCE: Potentially. I haven't seen the plans.

THE COMMISSIONER: But do you understand that is one of ways in which constraints can be relaxed?

5

MR BRUCE: Potentially. There are legislative ways too.

THE COMMISSIONER: And there is - - -

10 MR BEASLEY: The Hydro-cues supply measure is contingent upon relaxing constraints like that.

THE COMMISSIONER: And it's to be done consensually. That is, not by compulsory acquisition.

15

MR BRUCE: That's the current preferred.

MR BEASLEY: Which is why that is described as having a high level of risk of being achieved in the business case itself.

20

THE COMMISSIONER: Well, the Productivity Commission called in aid, if you like, one recent historical example and expresses – understandably – pessimism about these things being done by 2024, let alone 2019.

25 MR BEASLEY: I will go through that business case later, by the way.

MR BRUCE: Yes. I think there that dilemma, as I talked about, for particularly the eastern states – and we are dealing with them actively ourselves now, and we also have a stronger legislative backing to deal with those matters which - - -

30

THE COMMISSIONER: In South Australia, you mean?

MR BRUCE: In South Australia. So the River Murray Act gives us greater powers than what our interstate colleagues have at their disposal and the current legislative frameworks, but there is that thing, exactly, with Hydro-cues, as Mr Beasley pointed out, that contributes significantly to the 605. So if you want the benefit of all of that then you need to at least deal with constraints to a reasonable degree.

35

MR BEASLEY: Can I just – before we get to lunch can I – I am going to come back to the Hydro-cues and constraints Commissioner – I don't want to move on to climate change next, but – yet, until after lunch, but can I just finish with Dr Colloff?

40

THE COMMISSIONER: Yes, please.

45 MR BEASLEY: So one of the things the CSIRO was asked to do was prepared a report. It is called the 'Multiple Benefits Report', which was published on 28 March

2012, which was an assessment of the ecological and economic benefits of the 2,800 gigalitre reduction. And one of the CSIRO scientists that worked on that report, Dr Matthew Colloff, gave evidence to the Commission – as did Professor Lester, I think she is Professor Lester now. And Dr Colloff provided to the Commission a previous
5 draft of that report, and we had the final draft, and without going through the entire transcript, Dr Colloff gave evidence that at the – under pressure from the Basin Authority, there were significant changes to the report that he worked on with other scientists from the CSIRO that made the results far more optimistic than was the view of the team that had worked on the report.

10

He gave evidence to the commissioner at 169 that he complained to Mr Burns that – I think Mr Burns was actually at the Authority, maybe he was at the CSIRO. Someone can tell me that in a moment. But he said:

15 *I was extremely concerned at the way the whole process expressing our results was being manipulated and interfered with.*

He described it as the MDBA – he described it as “scientific censorship”. And he was told, “Well, bad luck. We don’t have a choice because we won’t be paid by the
20 Basin Authority unless these changes are made.” People were so unhappy at the CSIRO after this process that a mediator had to be called in. Now, I know – and this is new evidence that would now have been made available to the State Government through this Royal Commission. I know that you might give the answer, well, that’s in the past and we have to move forward, but I’m not sure it’s that simple in relation
25 to it has to start with a two or in relation to these unchallenged allegations that the MDBA is involved in what is effectively doctoring a report from the CSIRO because this current State Government, you would agree with me, in order to work with the Basin Authority, it has to trust the Basin Authority. Correct?

30 MR BRUCE: Yes.

MR BEASLEY: And my question is, how will the state – how can the State Government trust the Basin Authority in light of unchallenged evidence that it has to start with a two, and they doctor CSIRO reports? How is the working relationship
35 going to work between your Minister and the MDBA or the Commonwealth Minister without getting to the bottom of these – the evidence that has been given to the commission?

MR BRUCE: So it’s very difficult for me to comment on any of those behaviours.
40 Like you said, being - - -

MR BEASLEY: Sure, no, no, I understand that.

MR BRUCE: - - - so long in the past. But you are right in terms of trust in the
45 MDBA and trust in the integrity of the MDBA is fundamental to moving forward which is the position certainly our government has held for a long time. I think we’re also dealing with a very different MDBA. So while I can’t comment on the

details and culture at that time, I can comment on the current leadership. And I have great faith in the current leadership and the integrity of the current Chief Executive and the current Chair of the Authority. So we have had very good and productive discussions with them. They have taken that –

5

MR BEASLEY: That faith isn't shaken by the fact they are not willing to come to this Commission and answer questions?

MR BRUCE: As we all know that is not their decision.

10

THE COMMISSIONER: Was there a ministerial direction not to cooperate, was there?

MR BRUCE: Our understanding – so I'm only going on what has been in the public space, is that the Australian Government has said that they would not supply people. I can't give you any evidence of that other than that is what I've read in the public
- - -

MR BEASLEY: Does that shake your faith that the MDBA is not an independent organisation if they are taking direction from a Minister that they are not - - -

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MR BRUCE: Well, they are an Australian Government entity and so they will always have certain controls and directions around that, just like they are subject to the National Audit Office on a range of things which is a good thing. So - - -

25

MR BEASLEY: If you had a preference you would like to know from them what the answers are to it has to start with a two and whether they are interfering with CSIRO reports, wouldn't you?

MR BRUCE: Honestly, I have moved past it, to be honest. It's how we're going now. I want to know what the condition of the Basin is going now in a very accurate and transparent way and if things aren't going well how we're going to fix it and return the Basin to sustainability. So our focus is very forward, noting your concerns which are very concerning if they could be substantiated but they still are – they still are - - -

30
35

MR BEASLEY: You have got to stop there - - -

MR BRUCE: They still are in the past.

40

MR BEASLEY: - - - because these are people that have given – been prepared to come and give sworn evidence and no one has challenged them and no one has said they are not telling the truth.

MR BRUCE: Correct.

45

MR BEASLEY: With Dr Colloff he has got the draft report which has the significant differences between it and the final report so

5 MR BRUCE: So I am not passing judgment on the accuracy of anyone's evidence.

MR BEASLEY: No, no. I understand you're not.

10 MR BRUCE: I'm just saying that without a full inquiry of all of those it is very difficult for me to provide any comment when I have only heard one investigation and I'm focused on looking forward.

THE COMMISSIONER: Well, looking forward, of course will always – as I think I have understood your evidence, that could involve readjusting the SDL, couldn't it?

15 MR BRUCE: It could.

THE COMMISSIONER: Yes. Indeed that's one of the most obvious ways in which – whether in order to correct for past errors, or to adjust for current conditions, under adaptive management one would proceed. Isn't that right?

20 MR BRUCE: Yes. That's right.

THE COMMISSIONER: And may it be then that your description of yourself as being past that, and looking forward, in your mind that's justified because one way or the other whether looking at past errors or looking at current conditions, and present projections, there can be appropriate adjustments as necessary, to the SDL.

25 MR BRUCE: That's right. That's right. I think the point about the integrity of the MDBA as being fundamental is the fundamental point. As we have seen through a range of organisations through all of our work experience, I presume there are times we have more faith in institutions than other times. At the moment – and which is a different regime to what the events are you're talking about there I do have a high level of confidence, at least in the hierarchy.

30 MR BRUCE: That's right. That's right. I think the point about the integrity of the MDBA as being fundamental is the fundamental point. As we have seen through a range of organisations through all of our work experience, I presume there are times we have more faith in institutions than other times. At the moment – and which is a different regime to what the events are you're talking about there I do have a high level of confidence, at least in the hierarchy.

35 MR BEASLEY: All right. I'm going to move to a completely different topic that will take – do you want me to start now or - - -

THE COMMISSIONER: As you please.

40 MR BEASLEY: All right. The top of page 11 of the document behind tab 11, I just want to understand - - -

THE COMMISSIONER: Sorry, tab?

45 MR BEASLEY: Tab 3.

THE COMMISSIONER: Tab 3, page 11, yes.

MR BEASLEY: The Commissioner's question was:

5 *Is it the government's view that climate change protections from research organisations such as the CSIRO and the like are part of the best available scientific knowledge?*

And the answer given is:

10 *The South Australian government's submissions on the draft Basin Plan in 2012 submitted that the Authority had not used the best available science as the Basin Plan failed to take into account key factors such as climate change risks.*

And dropping down to the answer to the next question, about whether:

15 *What's the government's view about whether the ESLT or long term average Basin-wide SDL could be lawfully determined without incorporating climate change projections into the modelling?*

The answer is:

20 *The government's view at the time of development was that the draft plan did not take into account climate change in any meaningful way.*

25 Do I understand by saying – using the phrase “the government's view at the time”, or the government's submission back in 2012, has the State Government's view shifted now or is it still the same view?

30 MR BRUCE: So the building of the reviews into the process to take into account climate change has meant in our view that climate change is accounted for.

MR BEASLEY: You are going to have to explain that to me a bit more clearly.

MR BRUCE: Sure. Yes. So it's the same as - - -

35 MR BEASLEY: Let me just start with basics though. The plan that set out a recovery of water for the environment of 2,750, that was based on modelling that incorporated statistical data based on historical – the historical climate information from 1895 to 2009. Correct?

40 MR BRUCE: Certainly a period of time. I believe that's the right time.

DR HENEKER: That's right.

45 MR BEASLEY: And we have since simply had – not simply, but we have since had the SDL adjustment of 605 gigalitres in the Northern Basin review reduction of 70 gigalitres but nothing has been changed in terms of doing anything to incorporate into the modelling at least future climate change projections yet.

MR BRUCE: No.

MR BEASLEY: Right. And although under the Guide, I think there was a three per cent climate change projections lowered sustainable diversion limit. Sorry, yes,
5 lowered it by three per cent to take into account what was thought to be appropriate in relation to climate change projections at the time. You are now saying that climate change projections have been taken into account. That's the bit I need to understand.

10 MR BRUCE: Okay. No. Climate change, not necessarily projections. So as we have outlined in our submission – and this is how we treat climate change for all our water resource management plans across the state – is because of the timeframes over which climate change works over, and the timeframes that are reviewed, it's a bit like we were talking earlier about an iterative process. You need to factor in the
15 latest advice each time and see how the system has responded to any change up or down or it cannot even be up and down in the volume sense. It can be a changed frequency of flows or timing of rainfall. And then build that into your strategies going forward.

20 So it is not unforeseeable to see in decades time that we get significantly more water through the Northern Basin than we do now relative to the Southern Basin. Now, I'm not saying it is going to happen. I'm just saying because of - - -

MR BEASLEY: No. Because the science at the moment is that might happen a lot
25 more quickly than what you are talking about in decades.

MR BRUCE: But to adjust – the current Basin Plan, adjust it now to reflect that would not be appropriate because a) that may never eventuate and b) we are inflicting a change that isn't required to manage the system right now. Do we need
30 to factor it in as we go along and that's why the ongoing reviews – so some of the assumptions - - -

MR BEASLEY: Sorry, you don't factor in something that might not eventuate?
35 Why not?

MR BRUCE: Because of the reviews in between. So we have many opportunities over time to factor that in where we need to. And that's just good adaptive management. I'm not sure I understand why you would be concerned about that.
40 It's very sensible.

THE COMMISSIONER: Could adaptive management include, as well, if you like, an algorithm to produce an SDL within which all the WRPs have to fit by what I will call a moving average approach rather than a one hundred and whatever it is, 15 year
45 historical data set?

MR BRUCE: It's possible.

THE COMMISSIONER: Is that one way?

MR BRUCE: It's possible, I guess. I would need to take on notice whether that's a good idea or not. But I guess it is possible.

5

THE COMMISSIONER: The periodicity of changes under climate change is unknown.

MR BRUCE: Yes. And it's a difference between climate change and natural climate variation, too, which both processes are working through. So we need to be
- - -

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THE COMMISSIONER: We will all be dead by the time one can be confident scientifically about the role of climate change today.

15

MR BRUCE: Yes – yes.

THE COMMISSIONER: Well, I am pretty sure that's true. However, to make a statement such as:

20

Climate change projections were coarse and well outside the 10 year management outside the Basin Plan.

As you have in this answer - - -

25

MR BRUCE: Yes.

THE COMMISSIONER: - - - involves, inherently or implicitly, a view about – some view about the periodicity of observations that produce inferences about climate change.

30

MR BRUCE: Yes.

THE COMMISSIONER: Yes. And it's that kind of approach that I would – if you could take this on notice I would be interested to know what your response is perhaps to the idea of using moving averages, the period of which of course is a matter for judgment – they couldn't possibly be uniquely correct - - -

35

MR BRUCE: Yes.

40

THE COMMISSIONER: - - - in order to inform the operation of an SDL which alters frequently, rather than by step changes, at 10 year intervals.

MR BRUCE: Yes.

45

THE COMMISSIONER: That's something that I must say I'm interested in after some recent evidence.

MR BEASLEY: Probably also – because we didn't ask a question about this, so to think about it over lunch, whether it's possible to form a view, but part of the recent evidence has been that it's not the best approach to set an SDL on the basis of a long term average.

5

THE COMMISSIONER: You are familiar whether the stationarity is dead approach which would say using the 115 years is in fact perverse, because it's the one data set you know won't be reproduced. That's the theory.

10 MR BRUCE: Yes.

THE COMMISSIONER: I'm not espousing it one way or the other. I'm trying to capture ideas.

15 MR BRUCE: I think that's fair. And we have seen that – I mean, the Bureau of Meteorology has had the same problem with the changing climatic patterns in all of its models that it's - - -

THE COMMISSIONER: Yes.

20

MR BRUCE: We have reduced, as I understand it correctly – and I'm sure they will tell me if I'm wrong, but some of their accuracies actually dropped back a little bit because of the change in climate patterns where they based the historical record on it has created issues for them. They're doing a fantastic - - -

25

THE COMMISSIONER: That's the – I think that's the idea of moving to a moving average within an appropriate period because it decidedly eliminates what might be called the most remote and the least eliminated data, if you assume, and all this does assume that something in the nature climate change is afoot.

30

MR BRUCE: Yes. And I think what we will need to consider too is, you know, the theoretical basis of that and then how you would implement that in terms of a regulatory environment.

35 THE COMMISSIONER: Quite. Absolutely. I'm interested in - - -

MR BRUCE: Different people make different choices

40 THE COMMISSIONER: The problem I'm interested in particularly here is that at 10 year intervals, using the logic that climate change is occurring in a way that (a) we don't understand, and that (b) on time scales which exceed 10 years and on that basis you will never have to take account of it, because every 10 years you can stop and look, which doesn't seem to me to be - - -

45 MR BRUCE: Yes. You can take account of the change.

THE COMMISSIONER: Well, it doesn't sound to me would be very scientific you would close your books and only open them up 10 years later. The evidence to me seems to suggest that continuous monitoring is of the essence of the adaptive management approach that, like motherhood, seems to be something that nobody will
5 criticise. Every, everyone seems to say – they may have different views of it, but I don't think many people are willing to say, "I don't wish to engage in adaptive management."

MR BRUCE: It's their only choice, really, in an ecological system.
10

THE COMMISSIONER: The words seem to suggest it is pretty compelling to sign up to it, but it necessarily involves continuous monitoring, doesn't it.

MR BRUCE: It does. Yes, absolutely.
15

THE COMMISSIONER: Which means you don't wait for 10 year snapshots.

MR BRUCE: The trouble is – and maybe this

THE COMMISSIONER: That's right. You can't wait for 10 year snapshots.
20

MR BRUCE: No. But it takes a reasonable period of time to see a climate change signature. So obviously in that time responding very adaptively to climate variability and you will see that through the allocation – allocation frameworks.
25

THE COMMISSIONER: Yes.

MR BRUCE: So there's a difference between responding to climate variability.

THE COMMISSIONER: Entirely accept that. That's routine.
30

MR BRUCE: And seeing – enough time to see, "Is this actually a change or is this just noise in between." And so that's – and whether or not it is 7 year, 10 years we need to work out, but certainly then it can't – annually, you can't just manage for
35 climate change annually.

THE COMMISSIONER: I'm sure you can't.

MR BRUCE: You can't tell. So you have to leave a certain per period of time, so
40 you get – I guess – you develop a new baseline.

THE COMMISSIONER: That's why I think the suggestion of moving average has in mind, well, of course you can't do it day, week, month year, but is there a longer period nonetheless a lot shorter than 115 years which is a better way of setting that?
45

MR BRUCE: Yes. That's a fair question to ask.

THE COMMISSIONER: Even if you can't tell if something is climate change or variability, at least there is - - -

MR BRUCE: You are being attentive to it.

5

THE COMMISSIONER: At least you are adapting one way or the other.

MR BRUCE: That's a fair question.

10 THE COMMISSIONER: I would be obliged. Now, it may be that – if you can tell me about that this afternoon, well and good.

MR BRUCE: I wouldn't expect so.

15 THE COMMISSIONER: If you can write me a letter instead that will be good.

MR BRUCE: Require a little more thinking.

THE COMMISSIONER: Thank you. We will adjourn until 2 o'clock.

20

ADJOURNED

[1.06 pm]

25 **RESUMED**

[2.01 pm]

MR BEASLEY: Are you ready, Commissioner.

30 THE COMMISSIONER: Yes.

MR BEASLEY: So the question the Commissioner asked you to consider, if I can just give it some further context. First of all – and this may not be a proposition you disagree with, but again I won't go into all the transcript, but every scientist that was asked this question and has given evidence has said that climate change projections are not only part of the best available scientific knowledge now, they were at the time the Basin Plan was legislated. But secondly, to summarise in particular evidence given by Professor Pitman from the University of New South Wales, and Mr Alexandra who was an Executive at the MDBA who also gave evidence recently – yesterday, was it?

40

But they are both of the view that climate change projections should have been incorporated into the determination of the SDL originally, and their views are essentially because there is significant robustness, at least in the science behind the fact that the southern Basin in particular is getting warmer, and it's very – there is robust science behind a likelihood of reduction in run-off, and that decision-making based on just factoring in historical climate data – this is the stationarity point – makes, to use Professor Pitman's words, "makes no sense". And also that climate

45

change can happen very rapidly. Both of them gave examples of Perth in the mid-'70s, you are probably familiar with. And Professor Pitman expressed the view that CO₂ induced climate change is actually causing some fairly rapid changes to the climate that are becoming clear, at least in the southern Basin, now. So he said this:

5

So the science around temperature changes, the consequences of that on evaporation, the consequences of emerging new environments around heatwave, for example, the change in the seasonality of climate, warmer, clearer, drier, winter for instance, these things are really robust in the science, and to not take those things into account doesn't make any sense to me.

10

And then he said:

I think the reason that they are not taken into account is that politicians just don't want to hear what might be bad news at the moment.

15

You have obviously got a different view, that it's better to make any necessary reconciliations, if you like, to the Basin Plan at certain intervals. So giving you that context, you can respond as you like to what I have just said.

20

MR BRUCE: So we agree that the science, particularly now, has been very robust around that. We agree with the statements and agree that climate change, at least on the current evidence, will be the driving factor into the future of the Basin without no doubt at all. And all those matters you talked about, about changing rainfall patterns, absolutely we support. I mean, maybe it's a slightly rhetorical question, but when people say we should include projections, I'm not sure exactly what they mean in Basin Plan. If you were going to have one Basin Plan that lasted for 50 years, for example, then I can see why you would need to put projections over time in.

25

30 But that's not the case, and it may turn out that actually if we were to build – say it was a 50 year plan, and we were to build those projections in, then you might get to 50 years and find you are a long way out and actually you have done the Basin a disservice by that. So - - -

35 MR BEASLEY: I think their point - - -

MR BRUCE: So I'm a little intrigued about what they mean in a practical sense.

MR BEASLEY: I think their point is this: that first of all you can model climate change projections and incorporate in the modelling to produce a sustainable diversion limit, but I think in terms of a policy approach their concern – and the reason they say it makes no sense to not have incorporated that in the beginning – is that by not including climate change projections in calculating your SDL, you are putting off a difficult decision to another date, and you make it more difficult when you finally come to it.

45

MR BRUCE: Well, that implies there is always going to be just one decision in the future date. How – the practicality of water resource management is – is that we make decisions at every review period. So there will be multiple difficult decisions, and any reduction is always a difficult decision, as we have experienced in other
5 areas in the state ourselves. I mean, I think the fundamental question for me in a practical sense is using those climate projections to work out what is the appropriate review period? Is it three years, is it five years, is it 10 years, is it 20 years? I think that's where the projections can give you really material insight.

10 MR BEASLEY: I don't mean to be rude, but I understand. Yes.

MR BRUCE: Yes. It gives you meaningful insight how you factor climate change in. Otherwise you sort of end up with this moveable projection as to when. Are we factoring in a 2020 number, or are we factoring in a 2030 number, or are we factoring
15 in a 2040 number, and if it's a 2040 number why – and that means you need another 20 per cent reduction in the Basin – why would we enforce another 20 per cent reduction on communities in the Basin right now? That doesn't seem to make sense to me in a broader national policy setting. Do we need to have the Basin sustainable, absolutely. So we need to factor in those considerations that enable us to get a – a
20 sustainable Basin.

I think the point about Perth, really, the step change they observed there is very pertinent, and it's also why you do need to get your review periods right. But the other thing, even in spite of that, as we did really during the Millennium Drought,
25 when we had a sudden event, we got together and we changed the rules so that it coped with the event we were confronted with. So in the event that you were to get a dramatic step change in three years, and in fairness to Perth it happened quickly, but they didn't really realise it was step change until later – at a later time, even though it happened over a short period of time.

30 So I agree with the statements they were making in principle, but when we – our job is to turn, though, that science in a practical measure you can actually implement on the ground in real life. And I guess that's what my question throws back to how would you do it, and I think that's through the review period and getting that robust
35 and right.

THE COMMISSIONER: If we are talking about change we accept, don't we, that it may turn out not to be a graphically plotted as some kind of smooth or linear approach: it may turn out to be that you only get a line by best fit approach of things
40 which would be in themselves irregular in relation to each other. That would accord with variability, as constantly experience?

MR BRUCE: Yes. And that's the usual way. I think, as Mr Beasley, said, the Perth
45 - - -

THE COMMISSIONER: It may also be step change.

MR BRUCE: The Perth example, is – that – so yes, for most cases, but we do have to accept that a step change can occur at times. So we need to be aware of that.

5 THE COMMISSIONER: So that means, doesn't it, that – with respect – there's a lot of substance in your proposition that in year 1 to allocate water as between consumption and environment on the basis of what is projected, with all the uncertainty involved, is most likely to be true in year 40 would be extremely poor policy.

10 MR BRUCE: Correct.

THE COMMISSIONER: I would have thought. Politics with zero chance of success.

15 MR BRUCE: Also correct.

20 THE COMMISSIONER: Yes. I don't think anyone is proposing to do that. There are two things I – I think I have been told about in the evidence, the first is – because I have asked, out of genuine puzzlement a number of times, how do you take account of climate change? I think that might be your near-rhetorical question you thought – alas, I think it's a question that probably does need an answer, certainly at the policy level, and my best summary of the various answers I have got back is along these lines – that because there may be a drying – perhaps with a capital D, ahead of us, it may even be we are in early phases, though we can't yet tell the difference between variability and climate change – because there may be a drying ahead of us we should perhaps selectively decide which of the environmental values that could sustainably – alongside a certain level of consumption survive the drying. I don't mean as an end point - - -

30 MR BRUCE: No – no – no – no. Yes.

35 THE COMMISSIONER: - - - where we can – we're in the sunlit uplands or anything like that. I just mean survive in the sense of will not be lost as soon as the drying gets really bad. And sometimes the word "resilience" is used. Sometimes the expression "refugia" is used, different but related. And one explanation that strikes me is that it is a familiar experience to a home gardener that a plant in good condition is much more likely to survive a week of horrible scorch than a plant that is already on the way to withering.

40 MR BRUCE: Yes, absolutely.

45 THE COMMISSIONER: That is, no guarantees, but your chances – literally, your chances are better of your plant surviving if it is not already weakened or hardened. Now, if that's – and if that is the idea, then it is something – climate change is something that would at least justify thought now to defining your ecological targets so as to produce your environmental watering requirements, so as to inform your SDL and for that matter your WRPs. Much more important here and now to ensure

that everything is kept in a condition which it is thought will set them up for what may be more frequent and longer and more extreme droughts. Which is one way of describing an extreme version of the drying. Does that accord with what you understand to be an orthodox approach to taking account of climate change?

5

MR BRUCE: Yes. Certainly, in terms of ecological management. Your resilience analogy is right and we try to build environments to be as resilient as possible to resist shocks to the system, so what have you described in terms of preparing systems for climate change also applies to managing climate variability, because you can get severe shocks – as you saw in the Millennium Drought, which may or may not be large on the longer term climate change signature – but are certainly very large shocks at the time. So yes, we try and maintain or restore systems not just so that they are coping but so they can be resilient. We use that in all forms of ecological management. The other, broader question, which is not really something for now in some respects, but will confront us in the decades to come is at some point if the climate change projections keep going, will you have fundamental ecosystem transformation irrespective of how much water? Just because they will be temperature driven? Or like, something that won't matter how much water you supply - - -

20

MR BEASLEY: It will be too hot for too many days in a row for crops to survive.

MR BRUCE: Correct. Flowering won't happen, whatever.

25 THE COMMISSIONER: Not just crops, native plants.

MR BRUCE: Yes. Exactly, so - - -

30 MR BEASLEY: In which case water doesn't really matter, in that very hot, continuous scenario. Yes.

MR BRUCE: At some point we will need to have a discussion in the broader Basin community about, well, what is it? Because we are not going to be able to preserve status quo unless we do something material now. Now, that's not the situation now, so I'm certainly not advocating that at the moment.

35

THE COMMISSIONER: There are no data projections, I think, on the basis of which anybody is proposing that you now, as it were, start colouring part of the map black.

40

MR BRUCE: No – no, that's right. And the other thing is we talk – often we talk about all the negative impacts of climate change. There can be a range of positives as well in how those interact.

45 THE COMMISSIONER: Well, Greenland is going to be accurately named, as I understand it.

MR BRUCE: Yes. But in terms of rainfall, and rainfall intensity, and where the rain falls, we have – you know, we are just not certain enough of exactly what those implications will be. Our best guess is that it will be, you know, a broader negative, but the joys of climate change is that we – we don't know.

5

MR BEASLEY: Well, what – can I just get your view on this: what the CSIRO – because they did the Sustainable Yields Project, and did some climate change projections back in – which were published in 2008 and then there was some further research called SEACI that was done on the back of that. But in 2009, July 2009, the CSIRO advised the Basin Authority that collecting statistical data of historical climate data from 1895 and 2008 is useful, but you have really got to look more closely over the last 10 to 20 years and you also have to factor in future climate scenarios to enter your modelling to work out the best SDL.

10

15 And they again said a similar thing in 2011, where they said that if you – if you ignore the climate change projections, as you are, then you are taking a significant risk in the longer term and a smaller risk in the short term and if climate change impacts unfold as predicted then you are going to need lower SDLs. I suppose what they are really saying is that, by not factoring in climate change from the get-go, you say, “Well, there's a risk that too much water is recovered.” But, of course, it's the – there is the converse risk too. You are taking a risk with - - -

20

MR BRUCE: No, not – too much of it too early. That's what I'm saying to you in – you're applying a negative impact on society before it needs to be occurred.

25

MR BEASLEY: Right. But the - - -

THE COMMISSIONER: That was why I was asking about a moving average algorithm approach, whereby it's not until you have got whatever the best available science suggests is the most secure basis for this inference, some drying. So decrement in inflows normally, but also increment in evaporation, most obviously with heat. That there will be the reflection of the SDL. The SDL after all, controlling how much is removed for consumptive use, which the Parliament obviously considers to be very important because its effects are to be optimised by legislative command, which is why I have tended to think of the SDL as informed by an ESLT as being, as it were, the brink of a unsustainable compromise.

30

35

And the notion is that the Water Act and the Basin Plan enacts a view of the resource which is that it can, and perhaps should, be used by human society mostly consumptively and mostly for irrigation, right up to the point beyond which it would compromise the environmental values contained in the Act. That is totally different from the notion of recovering or replicating a so-called pristine or predevelopment state, which has got no footing in the Act as all as far as I can see. Now, if you took that view – and I'm not asking you to comment on that view, that's a matter of law.

40

45

But if one took that view, as I'm likely to, doesn't it mean that an SDL could by formula, based upon data which inform you what is happening – what is happening,

in terms of possible change – couldn't that it be a way of guarding against what you have warned against, which is the premature – perhaps never justified – sort of prudential cutback in consumptive use that turned out not to be necessary. Bearing in mind, as I say, the statute seems to be premised on it being a positive enacted
5 social good that irrigation be available for economic return.

MR BRUCE: If I'm understanding you correctly, it sounds not dissimilar to what we do in some of our water allocation plans in others regions of the state where shares of the resource – there are some formulas that talk about – I think
10 a groundwater example comes to mind, a recent groundwater example, where – basically how full the Basin is, and then you can allocate on that basis. So it's sort of – that's done on an annual basis because it's a small Basin, but – but that type of thing.

15 THE COMMISSIONER: So with groundwater obviously you have got – you have got projected periods of recharge, all of which can be put into a formula which will actually produce what people – a maximum beyond which people can't take from time to time.

20 MR BRUCE: Yes.

THE COMMISSIONER: But will alter with observations on what might be called a moving average basis. It won't always be moving average, but - - -

25 MR BRUCE: But that type of principle.

THE COMMISSIONER: Why is – what do you think about that as a model for an SDL rather than this 10 year revisiting?

30 MR BRUCE: It will probably require a fair bit of thought, that I would want to actually take on notice and think about a bit, but it certainly is something we would be quite open to considering. It's not something we would say no to. I mean, surface water is a little bit different because you don't have it in a tank; it's sort of here and gone. I mean, noting we do have a number of storages within the Basin that
35 might enable us to do that more than if it was just a stream in the Mount Lofty Ranges, for example. I guess the other thing to the question we are talking about, really, is with climate change, again, I wouldn't disagree with any of these statements made it's just that it's very easy for someone to say, "You should take – you should take climate change into account."

40 I mean, we have all been guilty of saying it, but you actually have to work out how you are going to do it in an appropriate sense.

45 THE COMMISSIONER: I don't claim to understand how I would say, yes.

MR BRUCE: And – yes, no, no. I do. Yes. And I guess then that's where I was putting forward the concept of using the projections to get the period of review right,

so you are not going too long. The other thing that is really important from a public policy point of view, you know, on balance we are fairly confident we will have a drier, hotter Basin – you know, just to use a rule of thumb, into the future. So what are we doing to prepare our communities and environments for a drier, hotter future?

5 So that's where things like the efficiency measures, while they deliver a particular outcome for us at the moment, are also making those producers more climate resilient.

10 For example, if you reduce evaporation quite a bit, you've cut it off, any increase in the evaporation rate into the future you are actually getting the gain already, because you have stopped it. And so there is a range of benefits. Some of the infrastructure, environmental infrastructure, we have built on the river, some of the projects we have done that enable flooding under lower – lower flow regimes give us more flexibility and adaptability into the future to manage against climate change. So it's

15 actually increasing the numbers of tools. When you've just – you need a certain amount of flows, don't get me wrong, you need water. But being able to have that water and have the tools at your fingertips to be able to manage that properly is actually worth more than just a lump more water. So there is a balance there.

20 THE COMMISSIONER: Sure.

MR BRUCE: Noting you do have to have enough water in the first place. So there is a minimum

25 MR BEASLEY: If you are taking it on notice, I think where it gets very complicated, the Commissioner pointed to the definition of ESLT about not compromising key environmental assets, etcetera, but we have to add on to that the fact that the Plan has to promote the wise use of water resources, promote the conservation of our RAMSAR wetlands, fulfil our international obligations, and we

30 know it has got to take into account the best available scientific knowledge. But all of the – all of the function, including preparation of the Basin Plan also have to require – sorry – the Authority to take into account the principles of economically sustainable development.

35 MR BRUCE: Sure.

MR BEASLEY: Which, of course, includes the precautionary principle, which might mean on one view that there needs to be, like, a buffer amount for the sustainable – for the amount of water required for the environment, which would

40 include a buffer amount that takes into account, in some way, climate change projections. Whether it's the median or whatever it is. So that's just something, I think, to think about. Did you want to add anything to that? No? All right. That's all I – I didn't want to ask anything more about climate change. On page 12 of the answers behind tab 3, the Commissioner has asked you what's the scientific basis for

45 considering what has been referred to as the 3,200 gigalitre Plan will achieved the enhanced environmental outcomes? You have said:

The South Australian government has not had access to the Authority's modelling to be able to confirm or refute whether the 3,200 gigalitre Basin Plan will achieve enhanced environmental outcomes in schedule 5 of the Plan.

5 Shouldn't that have been given to the government by the MDBA? I know have you done your own, but what's the reason the Authority doesn't provide the modelling to South Australia? I asked that in particular given that we all know the enhanced environmental outcomes are almost all in relation to South Australian assets. Take your time.

10 MR BRUCE: We are just clarifying the question.

DR HENEKER: So just to clarify the question. So you are asking why we didn't get the models themselves?

15 MR BEASLEY: Yes. Has not had access to the modelling to be able to confirm or refute. My question is, why haven't you been given access to the modelling so you can confirm or refute?

20 THE COMMISSIONER: I guess the first question is have you ever asked for it?

DR HENEKER: Yes.

25 THE COMMISSIONER: And it has been refused, has it?

DR HENEKER: We have always asked for everything asked for everything.

THE COMMISSIONER: It has been refused?

30 DR HENEKER: The model – sometimes yes, it hasn't been – it hasn't been provided. What has often been provided is the modelling outputs. So time series information. So we analyse the outcome.

35 MR BEASLEY: Sorry, just pausing there, though. Why is that – should the modelling be treated as though it is something to do with the Manhattan Project? Why is this so secret that a state government can't be given –

THE COMMISSIONER: Why is it secret at all?

40 DR HENEKER: I can't answer that question. That's a question for them. That's a question for the MDBA.

45 THE COMMISSIONER: Now, the change in attitude that you, Mr Bruce was referring to in the hierarchy, as you call it, in the MDBA, I should make it clear I don't necessarily accept that's true. But I have heard your evidence about it with interest and, to a degree, pleasure. If that was to have substantive content in the relations between the polities involved in the Basin, wouldn't it include the more or

less routine making available of information such as the modelling so as to enable South Australia to make its own inquiries or reach its own position that might inform what it does or does not do at the Ministerial Council?

5 MR BRUCE: I would have to go back and ask. Obviously these questions were asked a long time – like a long time ago with very different people involved.

THE COMMISSIONER: I do understand that.

10 MR BRUCE: The world has moved on a little bit from then. I guess I was just reflecting on your question, so even at the moment there is some work we are doing where it has been quite transparent. I mean, a couple of things we are disagreeing in a practical sense at the moment, but we are working through very collaboratively, we are being given material to assess. We are providing material to assess, so it's quite
15 a collaborative process and I'm confident we will reach a sensible outcome. So I guess in terms of are we providing information, and are they providing information, yes they are. Is it perfect, no. No, not yet. I never expect it to be.

MR BEASLEY: Pausing there, part of your answer to the Commissioner, you
20 mentioned some of this was a long time ago but if you look at page 19 of this document you have said the government of South Australia hasn't been provided with the underlying models for the 605 gigalitre reduction either which is relatively recent. So I suppose the question is reinforced again, why do the MDBA hold this
25 back as some sort of secret?

MR BRUCE: So Theresa and I are just talking.

MR BEASLEY: I mean, I'm asking do the MDBA – perhaps you can't answer that.

30 MR BRUCE: It's a fair question. I don't know the answer to it. I suspect – and Theresa can whack me if need be, but we find with a number of things - - -

MR BEASLEY: We encourage violence amongst witnesses. So go ahead.

35 MR BRUCE: As a white ribbon organisation we won't. We – sometimes things aren't necessarily escalated. And so like in all organisations through mid levels you often find there have been disagreements and things that are not being provided or not worked well with that senior management are quite happy to resolve very quickly. Of course it can happen the other way too, where senior management can
40 be a problem. But you do find that sometimes. So I can't answer that. I don't know. But I have not been asked to take that up with the Chief Executive of the MDBA.

THE COMMISSIONER: All other things being equal, should I take it that you
45 three would regard, certainly upon South Australian request, the provision by the MDBA of modelling or underlying modelling as an appropriate trusting relationship between the agencies?

MR BRUCE: Certainly provision of access to it.

THE COMMISSIONER: Access to it, yes.

5 MR BRUCE: I would defer to Theresa here because sometimes depending on the
platform and how it's all set up actually it's not practical to give us the model but
they should be able to let us sit with them in their offices and work it up. So we
should have full access to it, whether or not it means providing in a physical sense, it
10 may not always be physically possible but there shouldn't be any – you know,
Manhattan Project, type - - -

THE COMMISSIONER: It's not secrecy, but the feasibility of actually handing
something over that you draw to attention, but not secrecy so as to prevent full access
15 to an understanding.

MR BRUCE: That's right, yes.

THE COMMISSIONER: That has not been achieved in the past and perhaps may
still not be achieved as we speak. Bearing in mind what Mr Beasley has drawn to
20 our attention.

MR BRUCE: I hope that is changing.

25 THE COMMISSIONER: Right.

MR BRUCE: Yes. That would be my experience. Theresa - - -

MR BEASLEY: Do have you anything further on that?

30 THE COMMISSIONER: No, thank you.

MR BEASLEY: I want to take you now to page 18 of this document, the
Commissioner's question about the SRWUIP program – efficiency measures
35 program. You have said in the course of your answer that water recovered through
infrastructure investment helps strengthen and develop Basin communities and
industries while delivering the Basin Plan's environmental outcomes. I don't want to
be too critical but that does read like an MDBA press release. Then you say the
South Australian Government supports efficiency measures as a preferable means of
recovering water than extending the cap on buyback. The short version of my
40 question is why? But can I give you this context.

We have had a lot of evidence from hydrologists and water economists that have
raised the issue of – first of all, the issue of return flows that I know you are familiar
with and of course I know you make the point they are site specific and of course if
45 there is an efficiency measure a long way from a watercourse or a river or if the
groundwater immediately underneath is polluted or too salty then there may be
nothing in the issue of return flows but overall the evidence from a wide range of

experts, both local and international people is that it is something that should have been taken into account and it might mean that not as much water has been recovered as is thought.

5 But secondly, we have also had evidence from economists that efficiency measures are a very, very expensive way of recovering water. So in that context can you explain – please, feel free to answer as fully as you like – why is it that the South Australian Government supports efficiency measures above simple buybacks as a means of recovering further water. Including the 450 gigalitres.

10

MR BRUCE: Sure. And so as you said a couple of things there. I guess in terms of the economic analysis of water buybacks versus efficiency measures, it really depends how far you are extending your view and your scope. So if you look at, you know, per gigalitre of water acquired, certainly efficiency measures cost more than
15 buyback. Absolutely. If you look at a broader economic consideration, socioeconomic consideration, buyback will tend to have a negative impact on the communities you take the water out of because the water is gone. Often people have trouble dealing with that and you generally result in a reduction in production. It may not be linear but you will end up with a reduction in production.

20

Through efficiency measures you are aiming to increase production to at least the same level of what it was but generally and in our experience it has been too much greater levels. So – and you are also, as I said before, increasing the resilience of those production systems to drought and longer-term climate change which has
25 longer-term economic returns to the community. If I was to use an example in the Riverland at the moment through one of the efficiency measures projects we have where they have put netting over crops which has achieved a significant water saving through evaporation losses.

30 THE COMMISSIONER: Evaporation in the sense of transpiration.

MR BRUCE: Yes, transpiration more technically correct. So the benefit is we have got some water savings that are fine. The other benefits we have seen is that you are getting a better quality of fruit by managing the sun impacts. So they are selling that
35 fruit for a higher value per kilogram. They are employing more people. They also
- - -

MR BEASLEY: Sorry, why are they employing more people?

40 MR BRUCE: Because they are more protective and requires – you you've got the things about installing the netting, maintaining the netting. You've got an expanded production system so you're putting - - -

THE COMMISSIONER: More fruit to pick.

45

MR BRUCE: More fruit to pick. You have to grade it, class it, all those types of things. You are also seeing much better production levels in terms of better pest

management and disease management as a result. So you are getting a whole lot of net benefits to the community that are not being picked up in the simplistic economic analysis of dollar per megalitre of water. Now, I haven't done the analysis, I'm just saying these are broader impacts.

5

THE COMMISSIONER: These are the concepts that you have tried to capture in the paragraph on page 18 commencing with the two words "Cost effectiveness".

10 MR BRUCE: Yes. So what is your definition of cost effectiveness. So if you look at broadly, they are right.

THE COMMISSIONER: So the netting over an orchard as an efficiency measure, produces, doesn't it, a transfer of entitlement from that grower to the Commonwealth Environmental Water Holder.

15

MR BRUCE: Correct. Which is real water being put back in the river.

20 THE COMMISSIONER: And it's a transfer, depending upon choices made ultimately by the grower, of what might be part only of the calculated or imputed – it really means estimated saving. Correct?

MR BRUCE: Yes. And they wear that risk. The grower wears the risk in essence because we have got the water.

25 THE COMMISSIONER: Yes. Depending on the – how is the – how is the choice by the grower of how much of the efficiency saving to retain and how much to transfer to the CEWH, how is that recognised? By a differential payment?

30 MR BRUCE: There is a multiplier. So you get a multiplier per unit of water you transfer. So depending how much – you do that balance within how much water you transfer, you transfer less water you get less cash. You transfer more water you get more cash. It's a business decision that each individual will make.

35 THE COMMISSIONER: Are they always totally reimbursed for the expense of the measure?

40 MR BRUCE: I think the multiplier at the moment is 1.75 from memory. I would guess it depends on the project. I can't answer that precisely. But I mean, having said that, the grower would have to think they are going to do okay out of it to participate, I would have thought. I'm not sure that too many of them would be going into it to lose money, I mean to state the obvious. So - - -

45 THE COMMISSIONER: No, no. It's actuated by self-interest and I don't say that disrespectfully.

MR BRUCE: That's the whole intention. We want them to be motivated by self-interest.

THE COMMISSIONER: The same is true when somebody accepts a price on a buyback.

5 MR BRUCE: Yes. So to the individual – if you are a farmer who – you’re at retirement age, you were thinking of getting out anyway, a buyback is a wonderful thing. So there are many irrigators through the Basin who – and we have even been written to by some who say we want to keep more buybacks in because my elderly neighbours want to exit the industry and a buyback is a great thing to do. And often because irrigators in the main have great affinity for the river and do actually care for the river quite a bit, often they would – when they exit they would like to see their water go to the Commonwealth Environmental Water Holder when they still get paid for it. Whether they give it to another irrigator or whether they get paid for it, certainly there is others who have a different view and want to see it put back into production but - - -

15 THE COMMISSIONER: Are there not also some multiplier effects of the money received on the buyback?

MR BRUCE: Yes.

20 THE COMMISSIONER: Not all of them will be invested in beach houses for retirement.

MR BRUCE: Yes – yes – yes – yes. No, no. That’s right. In terms of if the person stays in the community, do they have a better superannuation type payment? Yes, they do. Are they better financially? Yes, they do.

THE COMMISSIONER: And that’s good for the - - -

30 MR BEASLEY: Well, the - - -

THE COMMISSIONER: And that’s good for the community as well.

MR BRUCE: No, no. That’s good. Yes, absolutely.

35 MR BRUCE: The evidence of Professor Wheeler was that – and others, was that the negative impacts of buybacks have been grossly exaggerated in that, first of all the ratio between an entitlement holder selling an entire entitlement and a partial entitlement is about fifty-fifty. So many people that sold water in a buyback didn’t leave farming, and kept some water, and then got innovative in how they used the rest of the water. The evidence of Professor Wheeler and Professor Grafton and others was also that, “There is no linear relationship between a reduction in water and a reduction in production. And you are looking at the wrong thing anyway, you should be looking at revenue.” But also that - - -

45 THE COMMISSIONER: The traffic is a good example of the – is the prevention of the scorched peach.

MR BRUCE: And the Basin analysis done by the MDBA, which I talked about earlier, would suggest that in terms of the impacts of the Basin Plan where I talked about communities were hurting, yes they are, but are the impacts of the Basin Plan what people make them out to be? In most cases – there are some exceptions, but in
5 most cases no, and the MDBAs own data would support that position.

MR BEASLEY: Yes. And also positive benefits of buyback like spending the money in the local community, reducing debt, low interest payments for people meaning they have got more cash to spend on their local community, etcetera,
10 etcetera. Now you might say, like I would say, that I have different qualifications to an economist, but your – your – the indication you are giving that the South Australian Government still prefers efficiency measures as a means of recovering water than buybacks is based on the work done by the Basin Authority is it? Or is it
15 South Australia's own research into the benefits of efficiency measures versus buybacks?

MR BRUCE: Well, I guess overall, if you looked at the Basin Plan as a whole, we see it as a combination. So buybacks are certainly part of that, it's just where we went – as a Basin we went hard early and now we are doing efficiency measures.
20 The experience of the South Australian programs has been very positive – efficiency measures programs has been very positive. Both for returns to the community. I think while I certainly accept the point that the buybacks put money into the community in the way as described, having a bit more money to spend down at the local shops is a bit different to employing more people, like, the benefit to the
25 community is different through those things. So yes, there are benefits to both. I personally don't think they are comparable.

But, again, it just depends – so not – many of the things you said that Wheeler had said, we would agree with. But we are probably looking at it, as public policy
30 people, through a wider lens than what their analysis is looking at. I think probably the other – the other question you asked about return flows is that, again, I mean to be blunt, we would argue that a very simplistic model of return flows has been put forward and the reality is quite different to that. So for example – I will give you a few examples, but one is if you take say areas covered by salt interception schemes,
35 so you have got groundwater pushing – salty groundwater pushing towards the river, there are salt interception schemes which extract that water to stop it getting into the river and pump it to a Basin out.

If you reduce – if you increase irrigation efficiency behind that salt interception
40 scheme, you are not going to change the inflows to the river. You are just going to change the amount of water being pumped to the disposal Basin, which is a good thing I might add, because reduced energy costs and anyway we didn't want the saline water going into the river. Now, that's – that only covers those air areas covered by SISs, I might add. But it just shows it's not - - -
45

THE COMMISSIONER: It's an example of why you need actual empirical data.

MR BRUCE: Yes.

THE COMMISSIONER: You need observations of actual places and the actual behaviour hydrologically. Isn't that right?

5

MR BRUCE: Yes. And it's very – so to it's very - - -

THE COMMISSIONER: We don't have that yet.

10 MR BRUCE: Not in all cases. It is very site specific, and so it also implies that all efficiency gains are going to result in reduced return flows to the river. So the example I just gave before about the netting, so you have got highly efficient, you know, drip irrigation already return flows – I don't know, but I would doubt are very big anyway. The efficiency measure you are creating is reduced transpiration, so
15 there is no impact on return flows whatsoever.

THE COMMISSIONER: I wasn't aware that the notion about return flows not having been accounted for proceeded on the basis that all efficiency measures will involve unaccounted return water. I understand your point and the netting is, with
20 respect, a striking example. I had rather gathered, however, that the main point is that we just don't have enough information. That it needs to be studied. Is that right or not?

MR BRUCE: You can always improve the knowledge base. I think we all agree
25 with that.

THE COMMISSIONER: The statute actually says that's what we need to do.

MR BRUCE: Yes. And we should – we should keep doing it. I guess what we
30 would - - -

THE COMMISSIONER: So does that mean yes, we should get more knowledge, because we need more knowledge on return flows?

35 MR BRUCE: I would always have more knowledge. I think we manage a system better as – and we have talked about climate change, I mean, this is one of the things we are going to confront more and more. As systems – and this applies to water resource management everywhere – as systems become closer and closer to full allocation, or in this case considered to be over-allocated, the demands to have good
40 knowledge to make good decisions – because of the implications of those decisions – will grow dramatically. So – but I wouldn't stop us - - -

THE COMMISSIONER: I would have thought it was already an urgent question and the Parliament has actually recognised that in the Water Act.

45

MR BRUCE: We are already doing work to improve that knowledge. I guess my concern is some of the arguments being put forward about efficiency measures is it's

almost saying, “Well, don’t do them.” And what they do is return real entitlements that people are able to use to the Commonwealth Environmental Water Holder to use for good. And I mean, we – I think this last year we have seen 1100 – over 1100 extra gigalitres of water delivered to the Lower Lakes. If the theory put forward that
5 return flows mean that – reducing return flows means that you are wiping out the value of the extra water returned to the river, then how did these 1100 gigalitres of extra water get to the Lower Lakes? So - - -

10 THE COMMISSIONER: That’s an example of observational data.

MR BRUCE: Correct. We are seeing these programs having real positive effects on the condition of the Basin. Yes, we need to do more. We are not there yet by a long shot.

15 THE COMMISSIONER: In order to know value for money, preferentially, between buyback and efficiency measure you would need this kind of information, wouldn’t you?

20 MR BRUCE: It helps. And the other thing is, and we talked about the – I guess the societal/political implications. I mean, it’s all very well to say we should have more buyback, but if the community is in uproar and won’t support more buyback - - -

25 THE COMMISSIONER: What do you mean by the community? What fraction of the population of the country are we talking about?

MR BRUCE: I don’t know in numbers, but certainly you have seen vocal resistance by a number of areas along the river to more buybacks. That doesn’t mean it can’t happen. It just is another consideration for politicians in their decision-making.

30 THE COMMISSIONER: I don’t quite understand at the moment why the communities along the river could claim a political monopoly on their views.

35 MR BRUCE: No. I don’t think they do. I think it’s just a view expressed that governments – various Basin governments would take into account in their decision-making, and if society decides that it is prepared to spend X dollars more per megalitre to achieve a particular outcome because of this benefit, then that’s the government of the day’s decision and they will stand at the next election on how that is perceived. That’s the democratic process at work. So that’s fine. But that’s all about the choices that governments make every day in a public policy sense. So just
40 the most economically rational decision does not drive every public policy decision.

45 It should inform every public policy decision, decision-makers should be aware of it, but we do all sorts of things with the health system, the education system, everything that isn’t necessarily the most economically efficient approach, but it is considered – whether history proves it right or wrong – but it’s considered the best outcome for society at the time.

THE COMMISSIONER: The paradigm of that is the defence budget, no doubt. I mean that seriously. We hope we will never need it. We hope we never need the product of it.

5 MR BRUCE: That's right.

THE COMMISSIONER: Or any serious country does. Now, apropos your last answer, the 450 gicalitres upwater is to be derived from efficiency measures, but is to be – as real water – delivered only if, of those efficiency measures, either as a package or one by one, it can be said that there is no adverse social or economic impact.

MR BRUCE: Yes.

15 THE COMMISSIONER: That's how you understand the - - -

MR BRUCE: Well, neutral or positive.

THE COMMISSIONER: The political decision which was made about the upwater.

20 MR BRUCE: Yes.

THE COMMISSIONER: First of all, do you understand that to be as a package? That is the netting approach that applies with supply measures and environmental outcomes, or is it a one by one thing?

MR BRUCE: That's an interesting question, that's actually being debated at the moment, is how you reflect that in a real sense. There is a definition in the Act, as you have seen, which we as a Government support. We also supported getting a broader understanding. So wouldn't – you wouldn't want to see a perverse outcome come out of that where just because one individual had a mildly negative impact and a whole community missed out on something that was really good for the community, so we are just trying to work through, at the moment, how you - - -

35 THE COMMISSIONER: You have the rather harsh possibility of saying, "Well, yes, it will destroy those 15 identifiable jobs, but it will create 13 over here, and three over there, bingo."

MR BRUCE: Net benefit.

40

THE COMMISSIONER: Net benefit.

MR BRUCE: Yes.

45 THE COMMISSIONER: Which is hard lines on the 15 whose jobs have gone.

MR BRUCE: Correct. Unless they are suitable to be retrained.

THE COMMISSIONER: And I mean that really seriously, this - - -

MR BRUCE: No – no – no – it’s - - -

5 THE COMMISSIONER: is social disruption.

MR BRUCE: Absolutely.

10 THE COMMISSIONER: But social disruption of a kind that mechanising agriculture does continuously.

MR BRUCE: Correct. Yes. So we’ve seen these – I mean, this is – this is some of the work that the MDBA did that I referred to earlier about what is the impact of the Basin Plan and what is the impact of, you know, broader macroeconomic societal approaches? I mean, I often use the example that I played for three different football teams by the time was 19 and didn’t change clubs. I grew up in a rural area so, you know, those social changes in rural environments are happening all the time.

20 THE COMMISSIONER: As a matter of policy, why would we reward – by providing for depreciation allowances and tax deductibility – the destruction of employment by mechanising - - -

MR BRUCE: I can’t answer that.

25 THE COMMISSIONER: - - - but take a different view to the achievement of efficiencies of irrigation?

MR BRUCE: I can’t answer that.

30 THE COMMISSIONER: It’s a quite profound policy anomaly, isn’t it, for the Basin Plan to be governed to a degree by a supposed horror of social and economic change of a kind that adversely disrupts certain people’s lives and communities, where simultaneously we positively encourage them to reduce their workforce by getting bigger tractors?

35 MR BRUCE: I guess the – to flip a question around in some respects, in terms of the Basin Plan, is – and certainly the way we are looking at it, is here is an opportunity where we are doing an intervention to return the Basin to sustainability, but coupled with that we have an opportunity to revitalise a range of regional communities. So with some of those other projects there are communities that are suffering for a range of reasons that we can help. If we get it right, and send the right incentives, can actually turn some of the communities around. And we have certainly seen, up the - - -

45 THE COMMISSIONER: But there’s an air of unreality about this isn’t there? No town older than, say, 70 years old, in the country, formally grazing and dry land cropping – no town escapes this description: its size as to the number of houses and

shops derives from a time when the surrounding developed land, which would be as great an extent as it is now, they haven't reinvented land and more land and more land, was worked by people with oxen and horses.

5 MR BRUCE: Mmm.

THE COMMISSIONER: Nobody says it's a tragedy – well might think it, but purely sentimentally, I would have thought foolishly.

10 MR BRUCE: No. As a farmer's son, I am pretty happy with the fact I didn't have to drive an oxen.

THE COMMISSIONER: Exactly so. So my grandfather had a horse drawn plough, but I don't think he hesitated to get the Massey Ferguson. I'm absolutely serious. I
15 don't quite understand at the moment why it's a driver for the Basin Plan and the Water Acts to avoid changes that affect communities. And I agree there is a melancholy about going to deserted villages writes a poem about it. We all understand that. But are we not being self-indulgent in thinking that is an
20 appropriate response to achieving a sustainable Basin to say that you can't do certain things if it will, say, reduce employment? Because we are – we have positively welcomed, and governmentally encouraged, and socially applauded people who cut their costs and increase their profits in their agricultural pursuits. Which is always
25 by, among other things, reduction of workforce. At least reduction of workforce relative to revenue. You may increase your numbers, but you won't be increasing them relative to your output.

MR BRUCE: So as you see – as you would have seen, there is a range of views across the Basin. Some very much, I guess, almost a protectionist of trying to hang
30 on to what they - - -

THE COMMISSIONER: None of them are volunteering to hire three ploughmen and four more stockmen.

MR BRUCE: Absolutely. There are others of us who take a different view in terms
35 of where you look for the opportunity in this. And so just like we've seen in a range of regional towns across the country, my home town is very much the same, is that where you have had opportunities where people have been visionary in those communities, and taken opportunities when they come along, you actually see those towns revitalised. It won't work for all the towns, of course, no one is naïve enough
40 to suggest that. But if you approach these things with the right approach and about saying the status quo – and there's enough data around to show the status quo mean's lot of these places are in trouble, and there needs to be some sort of intervention.

I don't necessarily mean government, I mean just some sort of intervention, if they
45 are going to return to flourishing again. Now, I would argue that the opportunities on offer through the Basin Plan are quite, quite positive for some of those communities to grab that. That's all very well for me to say sitting here. When you are in one of

those communities it's much more difficult. But you do see those towns that do have those leaders and there are many examples across the country that can reinvent the future of the town. As I said, it won't work for everyone. I'm not suggesting that for a second, but I would look at it as an opportunity for some regional revitalisation through this process. Flip it on its head and say, "How do we revitalise it?" Not how do I defence - - -

10 THE COMMISSIONER: If you had buybacks coupled with a program of what I'm going to call social spending then what you've just described would be achieved, wouldn't it?

15 MR BRUCE: That would be a possible approach, yes. It's not the approach that has been agreed, but yes, it is certainly a – and it has been similar type programs have been done across regional Australia in the past where there has been social spending to accompany, you know, I guess other change.

20 THE COMMISSIONER: None of it seems to me to address – you know, if you treat it as a trope the notion that when you lose the only butcher shop you're probably irretrievable, in a small settlement. That's a function mostly of the fact that settlements were not spaced at intervals that provided for cheap, efficient automobile travel.

MR BRUCE: Yes, that's right.

25 THE COMMISSIONER: It seems to me decidedly bizarre to posit Basin-wide initiatives as being held up because there can be attributed to the loss of a butcher shop some fractional responsibility of a reduction in irrigation.

30 MR BRUCE: Yes.

THE COMMISSIONER: It seems extremely odd to me.

MR BRUCE: Yes.

35 THE COMMISSIONER: Yes. Where – buybacks, of course, would avoid all of that. Buybacks – have this view, that there is no bar to a buyback that it will hasten the demise of the butcher shop. That was part of the complaint.

40 MR BRUCE: Yes. No, I think that's why I was smiling.

THE COMMISSIONER: Well, that's right. It just seems to me that a lot of people got a lot of money and a lot of water was bought back and that has happened.

45 MR BRUCE: I think what you are also seeing, and in fairness to a number of those communities, as I said before, they are feeling genuine pain. But not all of that is due to buybacks associated with the Basin Plan. So we are seeing in a number of Victorian communities which are doing it tough have had significant water move out

of their districts, of which a large proportion has gone to other communities in Victoria. So the water is still being used for irrigation in Victoria, just not in those communities. And I guess it has been the – the Basin Plan has been a bit of a scapegoat for that.

5

THE COMMISSIONER: In fact water trade is the reason for most of that.

MR BRUCE: Correct; correct. Absolutely.

10 THE COMMISSIONER: Which predates and will postdate any Basin Plan.

MR BRUCE: Absolutely. But I think as public policy makers one thing I don't think we have done well, necessarily, is acknowledge that pain. So that community is hurting. Regardless of the reasons for it, it's hurting. And I think we do need to
15 acknowledge that, and then we need to have a mature conversation with those communities, well, what's the future look like? Like, is there some revitalisation we need to do? Actually, is the community going to finish up? My very local community town basically doesn't exist anymore and, you know, some of the leaders in that area made a decision that the church would close down, the various bus routes
20 would change and they got together and they own that decision.

I mean that's something that needs to happen but there is an honest conversation but often the – if you try and tell someone that no, no, it's not the Basin Plan when they are hurting and you don't acknowledge that pain first, then you are just not meeting
25 them on an equal term to start with. I think we do need to acknowledge that some of these communities are doing it pretty tough and be very mature about how we're going to deal with that. That's a broader public policy question, not necessarily a Basin Plan question.

30 THE COMMISSIONER: Right. Thank you.

MR BEASLEY: Just moving on to the Commissioner's questions about supply measures on page 22 of the government's answers. The government's submission stated that supply measure projects were subject to a rigorous assessment criteria,
35 etcetera, etcetera. And you then set out a discussion about the ecological elements assessment method being, which was developed by the CSIRO, independently reviewed by an independent review panel. And then later down on the page 22 you do accurately quote from that particular point – sorry, report or review – I don't mean this in an overly critical way or even a critical way, but I think we do need to put
40 on the record so that I can put to you the question I want to put, that that independent review of the SDL limits of change report is – whilst it does say what you have set out there, it's highly qualified in the sense that it talks about the fact that there is a huge range of uncertainties that affect the evaluation of the materiality of the ecological effects of breaching the limits of change within the SDL adjustment
45 mechanism and the uncertainties pertaining to issues of ecological knowledge, flow event characterisation, hydrological data, model performance, spatial representation, etcetera, etcetera.

And then the report says this collectively means that there is really a substantial error space here for this particular scoring method. So it's highly qualified, the report, in the sense that it – yes, you are right, it does answer the questions in the – it does say what you have said in the – in your submission but it is very highly qualified to that extent in relation to potential errors that can be made. Likewise, when Bewsher Consulting did an independent review of the hydrological modelling for the SDL adjustments, Mr Bewsher was keen to point out that – in the context of his review of the modelling for the SDL adjustment that hydrological models are only approximations of actual or proposed behaviour, the model representations of the individual projects are also approximations. As a result the modeller has to make subjective assessment of the level of detail included noting the typical – typically the law of diminishing returns applies, ie, increasingly greater effort is required to improve simulation accuracy.

Then noting that the vast majority of these supply measure projects will include physical works that the projects have not yet been in all cases designed or constructed. And that also leads to considerable uncertainty in evaluating the models. My point is this: that you would agree, wouldn't you, that the whole SDL adjustment process, first of all, it's brand new? It's a brand new thing to do. Correct? You are nodding.

MR BRUCE: Yes.

MR BEASLEY: Yes. And it can probably accurately be described as experimental on a number of levels.

MR BRUCE: Being new, yes.

MR BEASLEY: One, experimental as to whether the supply measures will result in an equivalency of 605 gigalitres of real water.

MR BRUCE: I think that varies between the supply measures. So for example some of them are almost completed and we have already returned the water - - -

MR BEASLEY: As a total package, as a 36-pack.

MR BRUCE: certainly across. Yes, absolutely.

MR BEASLEY: And also as an experiment as to what the ecological and environmental impacts might be.

MR BRUCE: Yes. Absolutely.

MR BEASLEY: Correct. So there is this level of risk in relation to the whole supply measure scenario.

MR BRUCE: Yes.

MR BEASLEY: This whole supply measure adjustment I should say.

MR BRUCE: The only thing I would just counter with that, just in the interests of balance, is we always talk about these things so we will do this work so we will put
5 these regulators in, and we will manage the floodplain in a different way, for
example which is one of the projects. It is always talked about as being the risk that
it mightn't achieve everything. It's never talked about that it might actually achieve
twice the benefit that we expected which is actually also the case as well. So in risk
works on upside and downside, and this conversation only ever tends to deal with the
10 downside, and scientists, including myself in a former life, tend to be incredibly
conservative about things. And that's a good thing.

But for us as public policy makers and people have to deliver it, we have to make
15 decisions and take action. And we don't have the ability to be quite as conservative
and sit back. So we are doing a lot of experimental, management by doing, you just
need to – as we have talked about before and you had the monitoring systems and the
research in place so you learn as you go, but there can be a lot of upside to these
projects too, and we shouldn't discount that.

20 THE COMMISSIONER: If you manage as you go then you are likely to be able to
capture the opportunities for upside as you go.

MR BRUCE: Yes. I'm not suggesting that will happen by any means I'm just
25 saying when we have this objective discussion we need to consider there is upside
risk as well as downside risk and it varies between the projects, of course. You
know, the upside risk is much more likely than others we say we are more concerned
about.

30 THE COMMISSIONER: I understand.

MR BEASLEY: Can I ask you about in relation to risk then, just some – whether
there is some more recent information on the operation of the Chowilla Regulator.
The Commissioner was taken out to have look at it and it seems to be that when it
has been operated, certainly the way it was explained to us, and what was shown to
35 us is that it has had a beneficial impact on getting water to trees that otherwise might
have died but in the business case for the Regulator it outlined a risk I think on the
back of a report that the South Australian Government had commissioned of which
one of the Commission's witnesses, a Dr Mallen-Cooper, had a part in the report
outlining a risk in relation to increased numbers of carp when the Regulators
40 operated and then it was operated and the observations were that in the floodplain
there was a huge carp breeding event and a lot less Murray Cod. I'm just wondering
whether that risk has been mitigated at all since or has that since it has been operated
subsequently had the same problems in relation to Carp breeding persisted?

45 MR BRUCE: I would have to take that on notice. Certainly we are aware of that
and it is a real concern that we are looking to manage and with any luck in a few
years' time we will have a virus that fixes all that. But as we all know there is a lot

of research and analysis that needs to be done on that before we are anywhere close to releasing it.

5 THE COMMISSIONER: Can I just understand something conceptually. It may be there is no simple answer to this. That's a Chowilla Regulator is a supply measure.

MR BRUCE: Yes it is. Yes.

10 THE COMMISSIONER: So it enables some of the understood effects of an overbank flow to be achieved in circumstances where we won't have as many overbank flows.

MR BRUCE: Correct, yes.

15 THE COMMISSIONER: And it seems, if I may say so, all good news in relation to trees.

MR BRUCE: Yes.

20 THE COMMISSIONER: Unless you are very demanding and you want, as it were, some predevelopment extant to be preserved, which is probably too late now. Do you, in order to understand equivalent environmental outcomes, have to go through the – to my mind bewildering notion of somehow weighing Black Box against Murray Cod or River Gums against Carp? I – they seem to be incommensurables in a sense, don't they? We have done great things for the trees but the poor old Murray Cod have 10 times more Carp to compete with.

MR BEASLEY: It's a scoring method.

30 MR BRUCE: We need to get the detail of it. I can't remember.

THE COMMISSIONER: It's not obvious to me that the statute enables me as a lawyer to understand the answer to that. It simply talks blithely about equivalent environmental outcomes.

35

MR BRUCE: Yes.

MR BEASLEY: My concern is that the whole thing is just too complicated.

40 THE COMMISSIONER: Well, the Plan does, yes. How does one approach that, say, with the Chowilla watering?

MR BRUCE: In terms of the scoring method or us as a general public policy position?

45

THE COMMISSIONER: No, not the latter. Because the latter is not obviously bound by the Act and the Plan.

DR HENEKER: The ecological elements score is based on how 12 chosen ecological elements, that is there is four water birds, six vegetation and two fish. So each of those is scored and added together. So if you have a negative impact on one, because of what you are doing, then that will actually reflect in the score.

5

THE COMMISSIONER: So the incommensurables are actually measured against each other in a netting sense.

DR HENEKER: Yes.

10

THE COMMISSIONER: That's all right. That answers my question. Yes, thanks. So that's information – the good sense and ingenuity of the officials have come up with a way of answering the impossible question, how do you consider the equivalence of a fish and a tree.

15

DR HENEKER: Yes. It's how each of those elements respond to the flow sequence and, yes, it's – yes.

MR BEASLEY: Dr Mallen-Cooper was a fish person so he's not going to like it. I guess if we had a tree person they would think the Regulator was fantastic.

20

THE COMMISSIONER: I think I shall never see a fish as lovely as a tree. I think that is what he meant.

MR BRUCE: Chris was just adding, if you step back to – we take a range of actions, some of the weir pool manipulation that we are doing will have benefits for fish, for example. That's what I meant from the broader public policy aspect, even if we have got all these measures, but we still think, some – one of these areas so the fish aren't doing as well we can have a look at our overall management of the system to take action, so then we will bring some actions into play that help fish, for example. So there is sort of a broader overarching view across.

25

30

MR BEASLEY: Without going back to the transcript or his evidence in totality, the difficulty that the Murray Cod seems to have as distinct from the Carp, for whatever reason, related to its biology is that a real flood sends certain signals and also the water moves in a particular way that is beneficial for the Cod as distinct from operating a regulator with an artificial flood, if you like, which the water moves in a particular way that means you have gotten the scenario where the – when the testing is done the floodplain has got 97 per cent Carp.

35

40

MR BRUCE: Yes. Which is why we need a range of flow regimes down the river and that's where some of the - - -

MR BEASLEY: And constant monitoring.

45

MR BRUCE: Correct. Yes.

MR BEASLEY: I just wanted to ask you, if you can help with the Hydro-cues business case, you will find that – no, you won't find that in the bundle you have, it's in a – I have got a bundle called the South Australian Supply Measures Business Case, volume 2.

5

DR HENEKER: We have a copy.

MR BEASLEY: You have got a copy. Can I just ask, out of curiosity, it says front page it says to be submitted by Victoria, New South Wales and South Australia.

10

THE COMMISSIONER: Which tab?

MR BEASLEY: In mine it's tab 10, but that doesn't mean anything for you. But let's just see if it's a miracle.

15

THE COMMISSIONER: It's a miracle.

MR BEASLEY: Fantastic. To be submitted by Victoria, New South Wales and South Australia but drafted by the MDBA on behalf of those governments. What was the reason that it was done that way?

20

MR BRUCE: Because obviously the MDBA has a strong interest in and is the manager of the river in terms of River Murray operations so they have a vested interest in there.

25

MR BEASLEY: The Manager of the dams, is that?

MR BRUCE: Yes, and the operation of the river. Because there is the three jurisdictions, as a co-ordinating body as well it made sense for them to provide that role. Equally, one of the jurisdictions could have taken the lead.

30

MR BEASLEY: Right. All right. Now, as I think we have already discussed at page – I suppose we better put on record that this supply measure is going – I'm quoting from page 1, '

35

A proposal to seek to improve the efficiency of environmental water delivery by more closely linking environmental water management and river operations to achieve environmental outcomes through a hydrological cues delivery strategy. This proposal is about improving the operational system to allow environmental water managers to do more, not about restricting what environmental water managers currently do.

40

That doesn't provide great assistance, but essentially that one of the fundamental things about this particular supply measure is that it's designed so that subject to various things being put in place when there's a natural flow event there can be a release of an environmental water on top of that to for example get an overbank flow at a beneficial time to, say, a wetland; correct?

45

MR BRUCE: Yes.

MR BEASLEY: Yes.

5 MR BRUCE: And you can then – I mean, the CEWH already – I mean, the CEWH has a number of graphs which we can probably find for you somewhere about the way it's using environmental water that it holds at the moment to extend the hydrograph. You know, maintain flows at different levels to achieve ecological outcomes that wouldn't have otherwise been achieved, you know, by judicious - - -

10 MR BEASLEY: All right.

MR BRUCE: - - - use of water.

15 THE COMMISSIONER: I'm sorry, just an added question.

MR BEASLEY: Yes.

20 THE COMMISSIONER: This document is, is it, a notification under 712 of the Basin Plan?

MS MORONY: Yes.

25 THE COMMISSIONER: So that – so I can read on behalf of the Government of Victoria, New South Wales and South Australia as being relevantly a reference to the Basin Officials Committee, can I?

MR BRUCE: The jurisdictions, yes.

30 THE COMMISSIONER: It's just 712 talks about the Basin Officials Committee notifying. So this is really a - - -

MS MORONY: Yes.

35 MR BRUCE: Yes. Sorry.

THE COMMISSIONER: This is a - - -

MR BRUCE: That's who own it.

40 THE COMMISSIONER: Yes.

MR BRUCE: And it was put toward – it was submitted to BOC, which then - - -

45 THE COMMISSIONER: Submitted to BOC by those three governments?

MR BRUCE: Correct. Which then notify.

THE COMMISSIONER: And Victoria and New South Wales and South Australia have quite a strong voice on BOC.

MR BRUCE: Reasonably, yes – yes.

5

MS MORONY: But we do have to have consensus agreement.

THE COMMISSIONER: Do they, though? I appreciate that. I wanted just to check, but then BOC would notify the Authority of this measure.

10

MR BRUCE: Yes.

THE COMMISSIONER: So that the Authority would be, in two stages, notified of something it had drafted.

15

MR BRUCE: Well, there's a difference though, and Chris makes it - - -

THE COMMISSIONER: I know it's drafted with comments from the states, over a month long period. That I'm told in the version control box.

20

MR BRUCE: Yes. So it's – I mean, this is where the term “the MDBA” is misleading in some senses. So there's two different parts, of the MDBA anyway. So there's the river operations area, and then there's the area that looks – well, there's several sections, but river ops are funded under the joint venture, is almost a separate entity from the staff that work on the Basin Plan. And then aside from that there is what also gets – the Authority itself, the Board of the Authority, which is different to the staff of the Authority. So there is some separation there and the MDBA gets used to cover all of it when actually there are different roles there. So from a perfect governance language point of view, probably, we need to be more specific about which is the Authority as Chaired by Neil Andrew, versus the staff of the Authority.

25

30

MR BEASLEY: So – sorry, did I interrupt?

THE COMMISSIONER: No, not at all.

35

MR BEASLEY: This supply measure, as I think we already discussed, is entirely dependent on a relaxation of various constraints, and it says so at both pages in 7, but if you go on particularly to – at page 21. Sorry. Starting at page 19, we have got the guiding principles for the – this supply measure, but when it comes to dependencies on page 21, constraints relaxation one:

40

...requires relaxation of operational policy constraints in a number of priority reaches in order to allow higher regulated flow limits and progressive implementation towards being able to inundate low to mid-level floodplain areas.

45

And then when it has got – it has got the heading ‘Mitigation of Third Party Impacts’:

5 *Recognise and respect the property rights of landholders and water entitlement holders.*

And where it says property rights of landholders, no doubt that’s a reference to flooding them out accidentally, but in relation to - - -

10 MR BRUCE: Not accidentally.

MR BEASLEY: Sorry?

15 MR BRUCE: Not accidentally.

MR BEASLEY: Not accidentally. All right. Flooding them out on purpose. Yes.

MR BRUCE: Yes. Very deliberate.

20 MR BEASLEY: Then – and what I’m coming to is how this supply measure, which I won’t take you to the document, take my word for it, there’s evidence here that it might amount to about 200 gigalitres of the 605 gigalitres, even though I know you have said the Basin Authority assesses this as a 36 pack. But that’s what some of the prior documents say in relation to what this supply measure might be as a percentage
25 of the 605 gigs. In the risk assessment section – and I’m coming to this particularly in relation to acting on the principle of ecologically sustainable development, the precautionary principle, it first of all is quite frank in saying on page 78:

30 *It is recognised that overall this is a relatively high risk proposal.*

And then it has got a series of boxes commencing at page 79. And then, without knowing for sure, I would imagine it’s these – the analysis in these boxes for the risk assessments at table 14, commencing at page 79, that has attracted the Productivity Commission’s concerns regarding supply measures that the first risk is failure to
35 fully implement the constraint measures which are essential. The likelihood is possible – I’m not quite sure what “possible” means in terms of percentages, but obviously it’s a possible risk, with the consequence being extreme and initial risk being high and the residual risk being high.

40 Then we have failure to fully implement the constraint measures, possible. Major consequence, initial risk high, residual risk moderate. Flicking over to 8, ‘Insufficient funding’ possible, risk extreme – sorry, consequence extreme, risk high.
45 15, ‘River operators unable to operate using the EEWD approach due to insufficient constraints, relaxation and legal protection’. That’s actually likely. Consequence extreme. Initial risk very high, subsequent risk moderate. You can go on and on in relation to each of these boxes, but it reads like – and you tell me if I’m wrong in the way I have read table 14, but it reads like this business case is saying this is, “This

supply measure we are putting forward will be fantastic, but it has got no hope of ever getting up.”

MR BRUCE: So we disagree with that.

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MR BEASLEY: Yes. Right, okay.

MR BRUCE: Not that it’s potentially fantastic, because we think it is potentially fantastic. But - - -

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MR BEASLEY: All right. Tell us if I have misread.

MR BRUCE: No. It is high risk and certainly at the moment, because they are right at the start of the Constraints Management project. So we would hope that that risk drops dramatically over the next year or two but right at the moment, an honest assessment, it is a high risk. Yes, it is. And would we do a whole range of things - - -

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MR BEASLEY: Why is it appropriate then for this supply measure to be used as part of a package that reduces the amount of water that increases the sustainable diversion limit?

20

MR BRUCE: Well, again, I guess it’s the point I raised remember is that we’re not – it’s not – we’re taking any water away from the environment at the moment, it is slowing the rate at which it is being returned, which is a different concept. But we see the benefits of this as being quite significant and it’s worth the investment, so where have you - - -

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MR BEASLEY: See, I’m not cavilling with that. It may well be worth the investment. All of these supply measures may be worth the investment, but should they – the question is, if they are considering the statutory requirements of the Water Act, and bearing in mind it is the Water Act and it’s largely an Act based on statutory facts to acknowledge there has been over-allocation, that special measures are needed to restore the environment and most of its objects related to environmental protection or restoration of some kind, and fulfilling international obligations and setting an environmentally sustainable level of take, etcetera, etcetera, and that the decision-makers have to take into account at least the precautionary principle. My question is really with such a high risk supply measure, yes, invest in it because the upside could be great, but why is it appropriate that it be part of a package that increases the SDL until it has been – it’s up and running, if you like?

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35

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MR BRUCE: Well, I guess is the – somewhat difference of opinion we have had all along is that our view would be that a five year, six year transition period to that is a perfectly acceptable and best practice approach to water resource management in all resources. Not even a Murray thing. So we see that adjustment approach as being well worth it. We have a reconciliation process in place. If this doesn’t deliver in full or in part then we will have to work out how we get the water in a very timely

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manner so the environment by, you know, 2024, 2025, will get the water it needs. So we are looking at that. One way or another, we think this – the upside of this is worth trying first, to get there, if it doesn't get there we will have to do something else, because we have still got to get the water one way or another. But this is seen
5 as the preferable way to do it. It can deliver many more benefits for us than just getting the water alone.

MR BEASLEY: Is there a distinction though, do you think, between a more certain supply measure, for example – I mean, there are some that have already been built,
10 like the regulators, and one like this? Should this one be one that you park it in terms of adjusting the sustainable diversion limit, because it is so risky, but you still invest in it?

MR BRUCE: Well, the trouble is if you did it – so say, to take an extreme, 30
15 June 2019 you went into the market and about 200 gig, just say you could, as the sort of null hypothesis to it, and then you found out later on you didn't really need to buy that water, you would have impacted on these communities in a way that you didn't need to over a time period of adjustment that we assess to be a reasonable time
20 period for adjustment. So why would you incur that negative risk? We would also argue that if we get this to work, we may well deliver more benefit than having the actual water in a jar, so to speak, because of what we can do and the benefits we can achieve. So our view would be this is quite an exciting project that we are looking quite forward to implementing.

25 As I said, you know, and because of the – we keep talking about 2024 which of course is the ultimate decision point in some respects, but there are a whole range of reviews and adaptive management going on in between then, that MDBA will be reporting to us on a regular basis on how we are going with this. It's not going to get to 2024 and suddenly be a surprise of, "oopsy daisy, we didn't quite get there." We
30 are going to know well in advance that things are in trouble, if they are, and to give us time to take action to offset that. A surprise at 2024 is in no one's best interest, least of all the Basin itself.

THE COMMISSIONER: I'm not at all confident I completely understand this
35 Hydro-cues project. I'm looking at page 4 of the document at tab 10, under the heading 'Specific Outcomes', the first and second dot point is – they use language which is redolent of the Basin Plan, particularly 717(2)(a). Have I understood correctly that the whole idea is that held – some held water can be released from regulated storage to coincide with observed – I will call them natural pulses of inflow
40 - - -

DR HENEKER: That's one aspect.

THE COMMISSIONER: Is there any other aspect?
45

DR HENEKER: Yes, there are. I mean, there's – so we have got the business case, there's also an addendum to the business case, but we have actually – it is more than just building on unregulated flows.

5 THE COMMISSIONER: Could you just see whether you can explain that to me.

DR HENEKER: Yes. So it's actually – it's effectively a step change in river management that we are looking at on ground technical and monitoring innovations to try and better align the release of held environmental water with both regulated
10 and unregulated flow events to try and create that stronger ecological stimulus. So it's not - - -

THE COMMISSIONER: The stronger ecological stimulus comes – ecological stimulus comes from the higher pulse, the stronger pulse, does it?
15

DR HENEKER: But it's not just stronger pulse. It can try to be provide water during drier periods as well when you have got different climate signals. The environmental water requirements of certain areas in dry times are actually quite important, and that was taken into account in this modelling as well. It is also about
20 trying to coordinate across the tributaries. So particularly for South Australia, we often require higher flows, we're the downstream of the confluence of all of these different tributaries so trying to align all of them can be problematic given travel times of a month or more.

25 THE COMMISSIONER: This is alignment so as to produce higher water in South Australia than would otherwise be experienced.

DR HENEKER: Yes. Correct.

30 MR BEASLEY: Have a look at – tab 11 might help you.

THE COMMISSIONER: Tab - - -

MR BEASLEY: Tab 11 of the South Australian supply measures business case
35 volume 2.

DR HENEKER: Yes.

MR BEASLEY: That's what you are referring to here. Yes.
40

DR HENEKER: Yes, yes. So with that - - -

MR BEASLEY: I don't think the Commissioner has – he has just got it now. Yes. Go on. Yes. He has got it.
45

THE COMMISSIONER: It's all about making sure that by coordination - - -

DR HENEKER: Yes.

THE COMMISSIONER: The greatest impact of high levels, in particular, of water, relatively higher levels of water can be achieved, and I completely understand why
5 you talk about it being a step change. I mean, it's a – at one level, it's a sophisticated improvement of the operating rules specifically to achieve environmental outcomes.

DR HENEKER: In part. It's also providing confidence to environmental water
10 holders that they can take a punt, I guess, and release water knowing that you have got all this forecasting that you have undertaken that if they release water, they are going to get an outcome. You know, we have had a lot of environmental watering trials, and Environmental Water Holders understandably want to get the best environmental outcome ecological response, but - - -

15 THE COMMISSIONER: The virtue is that it will reduce the speculative element that makes it a punt.

DR HENEKER: That's it, but it also gives them confidence that, yes, if I – I might
20 not have all the information that I need, but I'm pretty sure given these tools we can release water, and we are going to have a positive outcome, that they are not going to hold on to the water until they know for sure by which time it could actually be too late.

THE COMMISSIONER: Thank you. So it's – in answer to the description of a
25 supply measure, because – and please pick up my language if I get it wrong – it gives the Environmental Water Holder the opportunity to top up what is coming from elsewhere, not from their entitlements, to achieve environmental outcomes.

DR HENEKER: Yes.
30

THE COMMISSIONER: So that that in particular environmental outcome needs
less held environmental water than would otherwise be the case.

DR HENEKER: Yes.
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THE COMMISSIONER: Now, the logic there – I just wanted to ask this. Why are
we doing that comparison if the Environmental Water Holder would not have tried to achieve what can now be achieved with a topped up natural flow because he or she didn't have enough water to do that all on his own?
40

DR HENEKER: I guess this project is much – as much about providing the tools to
– is providing the tools to get the best environmental outcomes, the best flow delivery through, you know, the regulated system as well as unregulated – during unregulated events. It's about that coordination as much as – and the forecasting and
45 the monitoring as much as anything else. I guess the thing is, too, that without that coordination and with only held environmental water, the Commonwealth may not be able to achieve that anyway.

THE COMMISSIONER: Quite so. That's all right.

DR HENEKER: So they may not have - - -

5 THE COMMISSIONER: I can understand the merits, if I may say so, of the exercise. I was just wondering, maybe unnecessarily, about how it fits the rather fussy definitions of supply measure.

10 MR BEASLEY: Well, that's what I was going to come – perhaps if we go to 7.15 of the Basin Plan, because this was a point made by one of the witnesses before the Commission that it is not actually a supply measure, and she referred to 7.15(2) and the definition of unimplemented policy measure, which is sometimes, for some reason, called prerequisite policy measure.

15 DR HENEKER: Yes.

MR BEASLEY: And in particular, where it says means and anticipated measure consisting of a policy 2 and I think the relevant part is:

20 *...or (b) allow the call of held environmental water from storage during unregulated flow events.*

The query being, why isn't this proposed measure actually a – an unimplemented policy measure as distinct from a supply measure. I'm not sure I understand. So
25 perhaps you're going to tell me why – what I don't know.

DR HENEKER: So the prerequisite policy measures require us to put in place the ability, to, to call those – call held environmental water during unregulated events and to re-credit return flows. Once we have those mechanisms in place, they need to
30 be in place to implement the Hydro-cues framework so that then we can have other things in place with the monitoring, forecasting to actually make use of those prerequisite policy measures once they are implemented to better target environmental outcomes, to better line up the delivery of water from different parts of the system. And this isn't just to get, you know, at the South Australian border
35 80,000 event, or, you know, 70,000 event. It could also be during sort of, I guess, drier times to try to achieve even like a 40,000 event by coordinating a whole lot of flows from different systems.

THE COMMISSIONER: Now, the prerequisite policy measure is a renaming of the
40 – what the Plan calls the unimplemented policy.

DR HENEKER: Yes. They're the same.

THE COMMISSIONER: Well, who renamed it and why?
45

MS MORONY: I think it might have been the MDBA at some stage.

MR BRUCE: I have no idea.

THE COMMISSIONER: Well, an unimplemented policy measure is defined in 7.15.

5

DR HENEKER: It is. I guess - - -

THE COMMISSIONER: Mr Beasley's question to you which I'm still - - -

10 DR HENEKER: Yes, yes.

THE COMMISSIONER: - - - waiting for an answer is why isn't - isn't the Hydro-cues just that? I don't know the answer to that question. I just want to know.

15 MR BEASLEY: Isn't it - it's a call of held environmental water from a storage during an unregulated flow event. Doesn't it fall within that definition?

DR HENEKER: No, it doesn't. It's - the this is a framework to actually deliver outcomes - - -

20

MR BEASLEY: Just - what's a framework?

DR HENEKER: The Hydro-cues - - -

25 MR BEASLEY: Right.

DR HENEKER: - - - becomes a framework that includes a whole lot of more monitoring, forecasting ability, that you can then target environmental outcomes at certain sites and facilitate the delivery. To do that, you need to have the ability already to call water from storage during an unregulated event.

30

THE COMMISSIONER: Do you mean the Hydro-cues is not a policy?

DR HENEKER: It - - -

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MS MORONY: It could result in changes to policies.

DR HENEKER: Yes. It could result in changes to policy, but we need to have - we need to be able to call held environmental water from storage during unregulated events. We need to be able to - - -

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MR BEASLEY: So, but is - that's not part of Hydro-cues, or is - - -

MR BRUCE: So just - I think - - -

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THE COMMISSIONER: Isn't – doesn't Hydro-cues mean an approach, to use a general expression, by which you can have held environmental water called from storage during unregulated flow events.

5 MR BRUCE: To separate it out, PPMs are providing a foundation for the implementation of the Basin Plan. There are certain things that need to be in place that provide the foundation. Any works and activities you do on top of that are not PPMs. So that puts your baseline in place, Hydro-cues is - - -

10 DR HENEKER: Decision-making framework.

MR BRUCE: - - - a decision-making framework on top of that. So that's all in place. Moving forward tick PPMs are done.

15 THE COMMISSIONER: Why do you call them PPMs? Do you mean UPMs?

MR BRUCE: I think PPM is a better acronym than UPM.

20 THE COMMISSIONER: It almost certainly is. In which case, let's the Basin Plan, but I'm a lawyer, and I've got to use the language that Parliament has approved.

25 MR BRUCE: I have no idea, Commissioner. Obviously, around the table and through the MDBA, PPMs are used. So we use that, but if you want to use UPM, that's fine.

30 THE COMMISSIONER: Perhaps you shouldn't. In any event, I mean, it could – might get you into trouble, that's all, by misleading. That's all. You still haven't explained to me, by which I mean I don't understand, how I look at something which is called a mechanism and which is submitted as a proposed measure is not capable of being an unimplemented policy measure.

35 MR BEASLEY: Go back to the addendum that we were looking at which was behind tab 11 which says the business case key elements include aligning the release of held environmental water with unregulated flows to shape, etcetera, etcetera. That just seems exactly what is said in 7.15b of the definition of unimplemented policy measure.

40 THE COMMISSIONER: Perhaps we need to go back one step. It's a measure – describes itself as a measure proposed by the three governments to the officials and from there to the Authority.

DR HENEKER: Yes.

45 THE COMMISSIONER: So we know it's a measure, and it is capable of being described as a supply measure if it ticks the boxes.

DR HENEKER: Yes.

THE COMMISSIONER: Well, at that point, we simply come then to – in the calculation formula that one sees in 7.15 – one of the integers is unimplemented
5 policy measures because they need to be removed. And a concern has been expressed as to whether the Hydro-cues project answers the description of a supply measure.

DR HENEKER: We think – we obviously think that it does. But the baseline
10 modelling or what we call the benchmark modelling for the SDL adjustment mechanism already includes those prerequisite policy measures. So it already allows – or unimplemented policy measures. It already allows held environmental water to be called on top of unregulated flows. It allows the crediting of return flows or environmental water to flow from upper storages all the way down through to the
15 bottom instead of being re-regulated, which would normally happen under the current rules, if possible. Adding in the Hydro-cues framework allows more targeting of – it's about how you make the decision of when to release, not the ability to release.

THE COMMISSIONER: Don't get me wrong. It all sounds excellent and desirable
20 sophistication, but this may be terribly pedantic, but it is legal. I'm just trying to understand, not challenging, just understand why is this within 7.03 and why – or how does it not, as it were, fall foul of itself under 7.15?

DR HENEKER: Does the distinction of implementing or making sure the
25 unimplemented policy measures – that allows you to release water from storage on top of an unregulated flow. It doesn't tell you when to release. The - - -

MS MORONY: I'm wondering - - -
30

THE COMMISSIONER: So why does it answer the description of 703 - - -

MS MORONY: Can I have go?

THE COMMISSIONER: Please. So

MS MORONY: Sorry.

THE COMMISSIONER: Could you – would you mind starting with 703. If it's a
40 supply measure, it is only a supply measure because it answers the description in 703.

MS MORONY: Yes. So I was - - -

THE COMMISSIONER: Now, I've had trouble in the past with 703. Like many
45 people, I suspect I read the note rather than the text because the text baffles me, and I think I understand the note. However, call me old fashioned. I would like to try and

understand the text. Ignore the note for the moment. Why does this answer the description of being “a measure that operates to increase the quantity of water available to be taken in a set of surface water SDL resource units compared with the quantity available under the benchmark conditions of development”? I don’t know
5 about you. At that point, I just think I have no idea where I am. What is – what does that mean?

DR HENEKER: If you can target your environmental outcomes with less water, which you do through the Hydro-cues framework, then you don’t need to recover as
10 much, and that’s what it allows you to do.

THE COMMISSIONER: So that is the – your – the meaning you’re giving to the expression “that operates to increase the quantity of water available to be taken”.

15 DR HENEKER: Yes. Reduce the water recovery, increase the water available to be taken for consumption.

THE COMMISSIONER: Thank you. And I don’t have a problem at the moment then with why you say Hydro-cues is a supply measure.

20

MS MORONY: So in terms of 7.15, unimplemented policy measures are there because this is talking about the determination of the - - -

THE COMMISSIONER: The supply contribution.

25

MS MORONY: The supply contribution, and if they are not going to be implemented, then the Authority needs to take them out.

THE COMMISSIONER: I’m not quite sure I understand that. What does that
30 mean?

MS MORONY: So when they made the determination - - -

MR BRUCE: Taken out of the modelling.

35

MS MORONY: They had to make – one of the things they had to do was make an assessment on whether the unimplemented policy measures were going to be implemented by 2019.

40 THE COMMISSIONER: Yes.

MS MORONY: If they were of the opinion that they were not going to be implemented by 2019 then, when they did the model run, they had to be removed. That would have resulted in it less of a – have I got – less of a – less of a supply
45 measure.

MR BEASLEY: Yes. Not as much as 605 gigalitres. Yes.

MR BRUCE: We understand it. Quite clear no one else does.

MR BEASLEY: We will read the transcript after.

5 DR HENEKER: But I guess it – just to go back to the point that I was making before that is that - - -

MR BRUCE:

10 DR HENEKER: I am just going to make this – that the PPMs give you the ability to release water. It gives – it allows you to do it within the operational framework. It allows river operators to do – to release water. It doesn't tell you when you should release it. And the framework through Hydro-cues is designed to help you make the decision about when, and by improving your decision about when to release water,
15 you can get much better environmental outcomes.

THE COMMISSIONER: I think I'm actually persuaded of that. That's what I describe as meritorious and sophisticated and a good thing, all of that – and I do apologise, it is very much a lawyer's concern. I'm – I don't think, and I apologise – I
20 don't think I fully understand – I don't think I understand – the operation of 7.15(1)(b)(ii). Now, I realise that the – when you go to the applicable method - - -

MS MORONY: Yes.

25 THE COMMISSIONER: And if it happens to be the default limits set out in schedule 6, and I think it is, then the benchmark conditions of development have to be punched in?

30 DR HENEKER: That's right. If they – if the Authority were of the opinion that the unimplemented policy measures would not be in place by 2019 then they would have to be removed from the benchmark run.

THE COMMISSIONER: They are in benchmark conditions of development because - - -

35 DR HENEKER: Because that was assumed for the Basin Plan modelling, the 2,750 Basin Plan benchmark run to deliver the outcomes that the Basin Plan has the potential to deliver, you require those things to – these unimplemented policy measures to be done.

40 THE COMMISSIONER: When I go to schedule 6 and to and to the method, it's set out in S6.02. Is that right?

45 DR HENEKER: The benchmark model, yes, it is. Yes.

THE COMMISSIONER: And so that's the thing – that's the thing that will refer to benchmark conditions of development which are to be modified or not; correct? Under 7.15.

5 DR HENEKER: No.

MS MORONY: So - - -

10 DR HENEKER: This was the benchmark – hang on a second – these – this defines the benchmark model. It defines it as the model that was done at the time the Basin Plan was - - -

THE COMMISSIONER: I do understand that.

15 DR HENEKER: Yes.

THE COMMISSIONER: I really do understand that. Can we just - - -

20 DR HENEKER: But these are the

THE COMMISSIONER: I'm sorry, just slow down.

DR HENEKER: I'm sorry.

25 THE COMMISSIONER: Take it a step at a time.

MR BEASLEY: It is 3.47.

30 THE COMMISSIONER: 7.15(1) requires all this to be calculated in accordance with the applicable method. Do you see that?

DR HENEKER: Yes.

35 THE COMMISSIONER: Those aren't innocent words. That's a defined term. The applicable method is the default method set out in schedule 6 unless something else is agreed.

DR HENEKER: Correct.

40 THE COMMISSIONER: The default method is what's found in schedule 6, as 6.01 – S6.01 says in what is laughably called the simplified outline.

DR HENEKER: So – yes. Yes, sorry. Yes.

45 THE COMMISSIONER: I don't understand it. Anyhow, I then come to the method. Part 2, S6.02 Benchmark Model. Do you see that?

DR HENEKER: Yes.

THE COMMISSIONER: Now, I'm asking a question: where do I find there a
5 description of the benchmark conditions of development in which there may be
unimplemented policy measures which, depending upon the decision made as to date
of implementation, will need to be removed? You can only remove something that is
already there.

10 DR HENEKER: Yes. So it is already - - -

MR BEASLEY: 3(b).

DR HENEKER: So if you look under 6.02.

15 MR BEASLEY: 3(b).

DR HENEKER: Yes, 3(b). These policy settings, creating of environmental return
flows, and ability to call held environmental held water, they were included in the
20 benchmark model. The model that showed the outcomes that 2,750 could provide
included these settings even though, in reality, they currently are not possible or they
weren't possible at the time.

THE COMMISSIONER: So what I may previously have read as an assumption or a
25 question in (b), I should read as being an assertion of fact that there are policy
settings included in the bench model - - -

DR HENEKER: Yes. So - - -

30 THE COMMISSIONER: - - - of the kind that would provide for, I suppose, the
ability to call held environmental water from storage during unregulated flow events.

DR HENEKER: Yes.

35 THE COMMISSIONER: Right. And -

DR HENEKER: So back in.

40 THE COMMISSIONER: I'm just wondering why we needed 7.15(1)(b)(2), bearing
in mind on that reading S6.02(3)(b)(2) already requires you to take it out.

DR HENEKER: It doesn't. It - the benchmark model - so in S6.02 it defines the
benchmark - the basis of the benchmark model is model run 847. That includes in it
45 these crediting of return flows and the ability to call environmental water. So these
are actually in there - yes. Okay. I know what you are saying, where are you going
now.

THE COMMISSIONER: I mean, I am sorry. I - - -

DR HENEKER: It's probably not very clean drafting.

THE COMMISSIONER: Drafting? Really?

5 DR HENEKER: And so if they are not implemented we have to take them out but
- - -

THE COMMISSIONER: Thank you. So does it get taken out or not?

10 DR HENEKER: No. They are left in. The MDBA in their assessment were
confident that the unimplemented policy measures will be implemented by 1 July
2019. Therefore they remain in the benchmark and the SDL offset is determined
relative to the model run that includes them.

15 THE COMMISSIONER: It's critical to this, though, that constraints are relaxed or
certain constraints are relaxed?

DR HENEKER: To the Hydro-cues project, you mean.

20 THE COMMISSIONER: Yes.

DR HENEKER: Yes. To about half of – probably we – our estimate, you know, is
probably around half of it is critical for the – for those physical constraints. Do you
mean physical or policy constraints?

25

THE COMMISSIONER: I don't care what constraints they are.

DR HENEKER: Okay.

30 THE COMMISSIONER: Whatever they are, they are critical to a very material part
of Hydro-cues.

DR HENEKER: Yes, absolutely.

35 THE COMMISSIONER: And could we really sit here this afternoon and seriously
contemplate they are going to be all relaxed by the middle of 2019?

DR HENEKER: The policy constraints are the only bit that have to be relaxed by
2019. So these policy – you know, the implementation of the unimplemented policy
40 measures have to be done by - - -

THE COMMISSIONER: Why do you say that?

DR HENEKER: They have to be done by 2019.
45

THE COMMISSIONER: And why do you say only them and not physical
constraints?

DR HENEKER: Because the physical constraints aren't unimplemented policy measures. They're part of the SDL supply package, and so they – the relaxation of them has to be done by 2024. And the Hydro-cues project requires the PPMs to operate, to allow you to make the decisions to release water, but the benefits that you get from the project are increased by having the constraints relaxed.

MR BRUCE: Physical constraints.

DR HENEKER: Physical constraints relaxed, because they allow you to deliver the higher flows.

THE COMMISSIONER: So in 7.15, definition of unimplemented policy measure, you are calling my attention to the notion that the measure is not expected to, or did not, come into effect. And that it will – that this measure will come into effect and is expected to come into effect by 30 June, notwithstanding the criticality of constraints, because it comes into effect even though the cued events can't happen until physical constraints are removed – are relaxed.

DR HENEKER: Yes. Some of them, yes. Some of the cued event, yes.

THE COMMISSIONER: So in what sense does something come into effect which can't happen?

DR HENEKER: So it's the same as all the – it's another supply – I guess it's another supply measure that will be implemented over time, but to undertake the determination to potentially give to – for the project to contribute to the supply contribution, the PPMs have to be addressed and assumed to be addressed. So as they are addressed, then, as the project is implemented then the benefit from the project is realised over time as the constraints - - -

THE COMMISSIONER: But for 7.15, I wouldn't have any trouble with anything you have just said. Not least because it is learning by doing. However, if these cued events require the relaxation of physical constraints which are as much social and legal as physical, in other words, "Can I flood farmer Joe's floodplain?"

DR HENEKER: Yes.

THE COMMISSIONER: Otherwise, am I telling him that's why it's called a floodplain? And it's critical in the sense that, but for that constraint being relaxed or removed, you can't have the cued event; correct?

DR HENEKER: Get the full benefit from – yes – yes – yes.

THE COMMISSIONER: Well, you can't do it at all. You can't - - -

DR HENEKER: You can't get those high events, yes.

THE COMMISSIONER: You can't get the high water to - - -

DR HENEKER: Yes. You can't get those high events.

5 THE COMMISSIONER: - - - drown his beasts.

DR HENEKER: Yes.

MR BEASLEY: Yes.

10 THE COMMISSIONER: Right.

MS MORONY: But there are some events that we can do with just these.

15 THE COMMISSIONER: Yes, I know. But we are not talking about partial implementation we are talking about the whole, I'm afraid. If you want to supply a contribution.

20 DR HENEKER: But it's no different than an environmental works project that doesn't get the benefit of it until you actually build a structure. So in the same way we get the benefit from this project as the constraints are being relaxed.

25 THE COMMISSIONER: This may only be highlighting the great weakness of the SDLAM, that it proceeds on a basis that you may well know, well, before 2024, that there is no hope - - -

DR HENEKER: And that's why we have reconciliation.

30 THE COMMISSIONER: No. That is a really bad reason to have reconciliation in 2024. If you know by 2020 - - -

MR BRUCE: Yes.

35 THE COMMISSIONER: - - - that something is not going to happen - - -

DR HENEKER: That's what you mean. Yes – yes.

40 THE COMMISSIONER: - - - because construction would be illegal and permission has been refused, excuse me, I don't understand how you can sit here as a - - -

DR HENEKER: I didn't mean – that's not - - -

45 THE COMMISSIONER: - - - public servant and say, "That's why we have reconciliation."

MR BRUCE: No.

DR HENEKER: I didn't mean it. That's not how I took your question.

MR BRUCE: We have a series of reviews. The MDBA has committed to give us
- - -

5

THE COMMISSIONER: Well, it would then need to be reversed there and then, surely, before 2024.

MR BRUCE: Absolutely. That's why the MDBA has a whole range of reviews that
10 will have – be reported to BOC on a regular basis on the progress towards these, so that if anything looks like it is failing we can take appropriate early action to mitigate it.

DR HENEKER: Yes.

15

THE COMMISSIONER: I can't see anything here at all, including in South
Australia's Governmental position, which contemplates giving up on an impossible
supply measure before 2024. This was my point earlier, about the fact that once you
20 have given more consumptive water, taking it back is very difficult. And we are here talking about giving something in advance of the pretext for doing so – justification, if you prefer – and waiting until 2024 even if permission being denied to build something means that it will never happen.

MR BRUCE: So a bit different - - -

25

THE COMMISSIONER: And permission may be denied for some of these projects, say, by 2020 or 2021.

MR BRUCE: I guess where we have a difference of view to what you described is –
30 and I understanding it why you are saying it this way, but in terms of giving the water - - -

THE COMMISSIONER: You realise what I'm suggesting it all sounds like a lurk.

MR BRUCE: Yes – yes – yes – yes, I get - - -

35

THE COMMISSIONER: A trick.

MR BRUCE: I get what you are saying.

40

MR BEASLEY: You are saying 2,750 hasn't all been bought yet, so - - -

MR BRUCE: We haven't given – we are not giving anyone anything. They have
45 already got it. We are effectively not taking it away as early.

45

THE COMMISSIONER: Quite so.

MR BEASLEY: But that's - - -

MR BRUCE: It's a different approach.

5 MR BEASLEY: Is that a really proper way of looking at it, though, in terms of the
– I understand your point too, that not all of the 2,750 has been recovered, so stop
now and see whether these measures work so you don't recover something you don't
need to. But the other way of looking at it, of course, is that with some of these
measures being potentially highly – carrying a huge number of risks, the alternative
10 is we should be recovering the amount of water that is needed to recover so that the
sustainable diversion limit reflects an environmentally sustainable level of take and
if we are ultimately found to have over-recovered, then water can be given back.

MR BRUCE: I think the Commissioner's point, which is a good one, which is if we
15 were just to sit here and fiddle around and wait until 2024 and suddenly have this,
you know, verdict come down that we are a long way off achieving it, then we would
have been irresponsible in fulfilling our role. And that's why we have – and if we
need to provide it in writing we can, the process. I take your point about it, and it
might be listed in our evidence as much, but certainly the Basin Officials Committee
20 is incredibly aware and attuned to this and will be receiving regular progress updates
and reporting on this matter. We have introduced that for a range of things now,
where we hadn't before just because we need to get really early advice so we can
intervene if something is going wrong or, alternatively, if it's just something that
intervention itself will not correct, that we can develop alternative approaches to
25 deliver the outcome we require.

THE COMMISSIONER: Under 717, there is a question, a legal question as to
whether that describes what I will call a once only occasion or whether it describes a
continuing requirement. Let me explain: it says:

30 *After calculating the contributions under 7.15 and 16, if the Authority is not
satisfied that a determination can be made of satisfying the criteria, then the
Authority may reduce –*

35 which raises a question as to on what ground it could refuse to reduce. So, again, the
drafting may not be the best in the world. The criteria of course include equivalent
environmental outcomes as well as neutral or improved socio-economic outcomes
depending upon the kind of measure in question. And those are things which I think
you have all been telling me will be observed as to achievement or not in the period
40 up to 2024. That's right, isn't it?

MR BRUCE: If I'm understanding you correctly, I think so.

THE COMMISSIONER: So whether or not a supply contribution achieves the
45 equivalent environmental outcomes, whether it achieves equivalent environmental
outcomes will be observed or not.

MR BRUCE: Yes. So the MDBA will do an assessment to say whether the equivalent outcomes to that – to the equivalent water recovery have been achieved. Yes.

5 THE COMMISSIONER: So in this sense, 7.17 is part of, if you like, the check of which 7.21 is the final version. 7.21 is the 2024 reconciliation.

MR BRUCE: Yes.

10 DR HENEKER: Which we – if I can just add one thing, we think of that as being the final reconciliation. But when I said before about that's why we have reconciliation, that's – we are actually thinking of that along the whole path to 2024, that we have steps along the way where we will be looking at these projects. And if something isn't delivered or isn't going to be delivered then we will be looking to
15 have that proactively removed from the package to actually understand what the impact on the package actually is. We are not going to wait until 2024 so I apologise, that wasn't what I meant in what I said before.

20 THE COMMISSIONER: It might be an idea if you do clarify that in writing in a form that I can reproduce in my report.

MR BRUCE: Yes. You can give us the express question – if you send us that and we will provide a written response.

25 THE COMMISSIONER: Don't forget to take into account 7.11 which of course is the start of all of this.

30 MR BEASLEY: I won't be doing it off the top of my head at this stage. I don't think it is worth, Commissioner, pursuing with the three witnesses we have. There is the issue that Mr Papps raised, his concern in relation to the Commonwealth Environmental Water Holder has its own framework for using its water.

THE COMMISSIONER: Yes.

35 MR BEASLEY: Which may not fit in with this supply measure.

40 THE COMMISSIONER: It's a facility as I understand it, it's not a requirement. The measure. Would propose a facility to enable the Commonwealth Environmental Water Holder to take advantage of it as he or she saw fit.

DR HENEKER: That's why we will work with the Commonwealth Environmental Water Holder throughout the development of the program.

45 MR BEASLEY: Now, you asked a series of questions, Commissioner, supplementary questions to the government, some of which were questions flowing from the Productivity Commission's draft findings and recommendations. There has

been a response in writing. I don't know whether you want to pursue that with the witnesses or the written responses are - - -

THE COMMISSIONER: I don't need to pursue that.

5

MR BEASLEY: Yes. From my point of view the written responses are - - -

THE COMMISSIONER: And may I say how much I appreciate the evidence of labour. I expect there is even more than is evident to produce that material. It is much appreciated.

10

MR BRUCE: Thank you.

MR BEASLEY: Can I just ask all of you this: you have been the – with the exception of retired people, you have been the only government people that have been prepared to come and answer queries from myself and the Commissioner. Given, A, the – I don't think there is any person that doesn't think the Basin Plan isn't vitally important, I don't think there is any person that would say it isn't of huge public interest, and I don't think that there would be any person in particular, no South Australian, would say that some of the concerns raised in the evidence regarding not using the best available science, it has to start with a two, altering reports, the so-called ESLT not actually being an ESLT, a lack of transparency, etcetera, do you agree with me it would be preferable if people from the MDBA and the Commonwealth such as the CSIRO were here answering questions rather than just you?

20

25

MR BRUCE: It sounds like you have been given questions from a recent budget and finance and estimates committee meeting.

MR BEASLEY: No.

30

MR BRUCE: I guess our overarching view is that transparency around all matters of the Basin Plan is the best policy. Obviously there are questions, particularly from the MDBA, that you would like to know that we can't answer and so having the ability to talk with them would be useful.

35

MR BEASLEY: So that's a yes, is it?

THE COMMISSIONER: It's a much more politic answer than a yes.

40

MR BEASLEY: Is there anything that –

THE COMMISSIONER: I have got a question.

MR BEASLEY: Go ahead, sorry.

45

THE COMMISSIONER: When you have used the expression in submissions to me, and in historical material relayed to me about the Basin Plan being implemented in full and on time, does that necessarily involve and specifically involve the full 450 gicalitres upwater being achieved by 2024?

5

MR BRUCE: Yes.

THE COMMISSIONER: And so in terms of the prospects for its achievement, you, I think as I have already asked you, are aware of the draft Productivity Commission pessimism on that account. Is that right?

10

MR BRUCE: Yes.

THE COMMISSIONER: The achievement of that 450 gicalitre upwater requires both real water produced from so-called efficiency measures. Is that right?

15

MR BRUCE: Yes.

THE COMMISSIONER: Am I right in saying that none of them has yet commenced operation?

20

MR BRUCE: No.

THE COMMISSIONER: How many have commenced operation?

25

MR BRUCE: There is one – one efficiency measure program that has commenced in South Australia.

THE COMMISSIONER: I'm sorry, yes.

30

MR BRUCE: Yes.

THE COMMISSIONER: Are you able, approximately, to assess what proportion of the overall 450 gicalitres is contributed to by that one that has been implemented?

35

MR BRUCE: A bit over.

THE COMMISSIONER: It's a small part, I think.

40

MR BRUCE: Yes, yes. It's in the order of a couple of gig. I will give you the exact one but - - -

THE COMMISSIONER: Thank you. So the vast bulk of the 450 gicalitres of real water, of upwater, is the subject of what are currently measures that have not been implemented. Is that right?

45

MR BRUCE: Not fully. But – so the Commonwealth has already released an expression of interest for efficiency measures projects which came out of the last Ministerial Council meeting. So that's, I think, live at the moment. I would have to go back and check but - - -

5

THE COMMISSIONER: When I say unimplemented I mean on the ground they are not yet producing real water.

MR BRUCE: No, they haven't developed yet. There is, yes, an initiative that is actively seeking water and the Ministerial Council also made commitments – because you need to – if you use the 605 as the basis for the SDLAM you need – to achieve all of that you need to deliver about 62 gigalitres of the efficiency measures by 30 June – 30 June next year. And so there is a range of commitments that were made at Ministerial Council to ensure that that 62 gigalitre - - -

10
15

MR BEASLEY: That's to get the 605 down to 543, yes.

MR BRUCE: Yes.

20 MR BEASLEY: For the five per cent, yes.

MR BRUCE: So the various jurisdictions are looking at projects that they can fast-track to get at least 62 gigalitres delivered by 30 June next year.

25 THE COMMISSIONER: But that doesn't contribute to the 450 does it?

MR BRUCE: Yes, it does.

30 THE COMMISSIONER: It is upwater even though it's just holding something to a cap of a limit of change.

MR BRUCE: To a limit of change?

35 THE COMMISSIONER: The - - -

MR BEASLEY: Well, the SDL adjustment had to be within five per cent, didn't it? So it's 543, so - - -

40 MR BRUCE: Sorry, I'm thinking of an ecological sense. Yes, sorry.

THE COMMISSIONER: I'm sorry, yes. I – I'm sorry, the – yes.

45 MR BRUCE: Yes. Yes. But that's part of the deal, the interaction as – and part of the efficiency measures being linked to the SDLAM for that is that to achieve balance you need to deliver 62 gigs by 30 June next year. But it's all part of the same system.

MR BEASLEY: You are sure it's part of the 450?

DR HENEKER: Yes.

5 MS MORONY: Yes.

THE COMMISSIONER: So what does that – that leaves 388 to be - - -

MR BRUCE: Acquired.

10

THE COMMISSIONER: - - - further acquired as real water to be delivered by the middle of 2024?

MR BRUCE: Yes.

15

THE COMMISSIONER: And that 388 gicalitres is – is – I call it – said to be produced by the operation of efficiency measures that have not yet come into operation?

20 MR BRUCE: That's right.

MR BEASLEY: Sorry. I don't quite follow the 62 being part of the 450 at the moment. So let's – I know there has been a Northern Basin Review, but let's just use 2,750 instead of 2,680, but 2,750 Plan, then there could be an SDL adjustment but only to five per cent max, which is – so it is 605 gigs, but it has got to be reduced to 543. Why isn't there a – the additional 450, full 450? Why is the 62 that's coming off the 605 part of the 450?

25

MR BRUCE: Because that's real water recovery.

30

MR BEASLEY: Is that in accordance with the Basin Plan?

THE COMMISSIONER: Why isn't – why isn't the real water for south of - - -

35 MR BRUCE: Yes. We need to find the relevant clause, but yes, it is consistent with the Basin Plan.

DR HENEKER: Is that the first 62 of the 450 has to be delivered to get the full 605 offset.

40

THE COMMISSIONER: And what Mr Beasley and I are asking is - - -

MR BEASLEY: But the 62 say, why isn't the 62 so you don't breach the five per cent rule? Then you still need the 450?

45

MR BRUCE: Because that's not how the Basin Plan is written.

MR BEASLEY: Really?

THE COMMISSIONER: I wonder if - - -

5 MR BEASLEY: Could you take me to the - - -

DR HENEKER: Yes. 7.19.

10 MR BEASLEY: 7.19. Hang on. You may well be right. I'm just surprised.

MR BRUCE: We have been given a lot of incorrect advice if we're not.

MR BEASLEY: 7.19. It doesn't say anything about 450.

15 DR HENEKER: No. But it's the net effect of the total supply contribution and the total efficiency contribution. So you can't change your SDL by more than the five per cent. So you are reducing – reducing water recovery, you are increasing your SDL by 605, but that's more than five per cent, so therefore you have to again reduce it – the efficiency measures reduce your SDL and so you need to reduce it by at least
20 62 of that 450.

THE COMMISSIONER: Sorry. You are really going to have to take this slowly. I have only read this about 73 times.

25 MR BEASLEY: I need to take this on notice, but I'm not - - -

DR HENEKER: Do you want us to provide a - - -

30 THE COMMISSIONER: I do, but I'm actually going to take the opportunity this afternoon as well just to ask you this. I thought I understood 7.19. Clearly I'm wrong. I'm glad we have touched it.

MR BEASLEY: You have to look it in the context of 7.09, note 1, as well. So you have got to improve the environmental outcomes beyond those achievable under the
35 250 benchmark by a further 450.

THE COMMISSIONER: Objective 7.09(e) refers to the upwater in this way:

40 *The addition of 450 gigalitres per year of environmental water above the 2,750 gigalitre benchmark conditions of development.*

So just holding that thought as being part of the objectives of this adjustment, and noting that 650 is simply the subject matter of a note about what some jurisdictions anticipate, one then goes to 7.19 and sees that after you have done your calculations
45 of your contributions as they are called, which come – which come from supply contribution and efficiency contribution. They are combined, true, it may be in a net sense, but I think we can all proceed on the basis that no one is going to be proposing

measures with negative contributions. So we have this aggregate, as I will prefer to call it, of the supply and efficiency contributions and let me assume again that no one is going to be proposing these in order to decrease the SDL. There is a five per cent increase in the total surface water for the SDL for the basin that is permitted as a result of what I will call the statutory arithmetic; correct?

DR HENEKER: Correct.

THE COMMISSIONER: An amount was achieved, purportedly, that exceeded five per cent.

DR HENEKER: Yes.

THE COMMISSIONER: 605.

DR HENEKER: Yes.

THE COMMISSIONER: And the last two words of 7.19 “that amount”, is five per cent, isn’t it?

DR HENEKER: Yes – yes – yes – yes – yes.

THE COMMISSIONER: The antecedents of the demonstrative adjective is the five per cent, isn’t it? Sorry, that’s how I was brought up. That amount - - -

MR BRUCE: Get that on a t-shirt.

THE COMMISSIONER: - - - the demonstrative adjective.

MR BEASLEY: I was worried about the master’s household, but - - -

THE COMMISSIONER: That amount refers to the total amount of the five per cent surface water SDL, doesn’t it?

DR HENEKER: Yes.

THE COMMISSIONER: Right. Very well. Holding that thought, we come back to what 7.19 commands. It says that if, as in fact happened, there is an increase in the limit of more than five per cent, the size of the supply contribution and the efficiency contribution for each affected unit – so we are now looking distributively among the units – because of an effect for all of the units together, are reduced in proportion. In other words, there is now the visiting of the effect of, say, the increase in the SDL across the Basin distributively for the units so the net effect is equal to that amount. Now, that says nothing whatever about the upwater. That simply says, “Make sure that when you apply the five per cent you don’t just wipe out poor old South Australia’s increase in SDL.” Everyone shares the burden of having to - - -

DR HENEKER: Yes.

MR BRUCE: Yes.

5 THE COMMISSIONER: - - - hold to the five per cent.

MR BRUCE: That's right.

10 THE COMMISSIONER: I'm sorry if someone has told you differently about 7.19, I just can't for the life of me understand how it means anything other than what I've just said. But feel free to write to me to tell me the contrary, please, because I know this is hard stuff. Or at least I think it is hard stuff. Now, you can see then that why Mr Beasley and I are taking the approach at the moment that the 450 in a political sense seems to be, "How does South Australia get 3200 when the other states don't agree?" And the deal was, "You can get 450 so long as there is no adverse socio-economic effect." That's what it says, but it doesn't say, "You can't get the 450 if we can't get our 650 or 605 or whatever." There is no trade-off of that kind at all.

20 MR BRUCE: No. That's right. It's the other way around. You can't get the full 605 if you don't get at least part way towards - - -

THE COMMISSIONER: You don't get the full 605 - - -

25 MR BEASLEY: Because it's more than five - - -

THE COMMISSIONER: because it is more 5 per cent.

MR BRUCE: That's right.

30 THE COMMISSIONER: Full stop.

MR BRUCE: That's true – yes, that's true.

35 THE COMMISSIONER: There is no further instalment, you don't wait until next Christmas.

MR BEASLEY: And it's the Water Act that puts that one - - -

40 MR BRUCE: Yes. That's – yes.

THE COMMISSIONER: You just don't get it.

MR BRUCE: That's right. Yes.

45 THE COMMISSIONER: What it means is, once you get to five per cent, stop counting, because it doesn't matter. Right. Well, now if the 450 – if all of the 450 is meant to be available, not 450 minus - - -

MR BEASLEY: 62.

THE COMMISSIONER: - - - 62, you need efficiency measures that will supply real water to that amount and you need real water to that amount and you need to
5 demonstrate, presumably to the satisfaction of the Ministerial Council that there are no adverse socio-economic effects from them, otherwise you won't get the full – I stress the word full – 450; correct?

MR BRUCE: Yes.
10

THE COMMISSIONER: So, again, when people talk about something being in full and on time, and in this state at least the 450 gigalitre upwater becomes critical to that slogan.

MR BRUCE: Yes.
15

THE COMMISSIONER: What material exists to suggest that there will be 450 gigalitre of real water by 2024 with the Ministerial Council accepting no adverse socio-economic effect?
20

MR BRUCE: So - - -

THE COMMISSIONER: The Productivity Commission obviously doesn't, provisionally, think much of that prospect and I have to say neither do I.
25

MR BRUCE: So the recent – as part of the SDLAM or avoidance of disallowance, the agreement between Ministers Littleproud and – Minister Littleproud and Tony Bourke put some quite stringent conditions on provision of finance to participation in efficiency measures, and worded such that any – I will get the exact words - - -
30

MR BEASLEY: Efficiency measures or supply measures linking to - - -

MR BRUCE: Efficiency measures.

MR BEASLEY: All right. Yes.
35

MR BRUCE: Yes. The 450.

THE COMMISSIONER: The 450 comes from efficiency measures.
40

MR BRUCE: Yes, that's right. So under the:

State access to supply measure funding, would be conditional on the Commonwealth being able - - -
45

MR BEASLEY: That's what I meant.

MR BRUCE:

5 *...being able to roll out any efficiency measures programmed as provided for in the Water Act and the Basin Plan. These arrangements to be set out in performance milestones under funding agreements with the states.*

THE COMMISSIONER: I have read that.

10 MR BRUCE: So basically making the - - -

THE COMMISSIONER: That's not law, by the way.

MR BRUCE: No, it is dollars.

15 THE COMMISSIONER: No. It's not that either. That's not an appropriate Act.

MR BRUCE: No. But it means – and as you have seen recently where under the NPA we have – the existing NPA we have where New South Wales were refused payment by the Commonwealth for their poor performance around compliance, similarly, the Commonwealth has committed to withhold payment if anyone stands in the way of them delivering the efficiency measures program.

20 THE COMMISSIONER: Well, now, that does however require to posit that there will be proposed efficiency measures to produce 450 gigalitres real water that can satisfy the criterion of no adverse socio-economic effect.

MR BRUCE: Which is outlined in the Act. So the definition that is currently – sorry in the Basin Plan. The definition that is there is willing participation.

30 THE COMMISSIONER: No. And I appreciate – and I'm sure you appreciate – that that has its own area of controversy, which I won't go into now.

MR BRUCE: Absolutely. But if we were to quote the law, that's the current - - -

35 THE COMMISSIONER: That is the law, yes.

MR BRUCE: That is the law.

40 THE COMMISSIONER: And that has a whole area of contest.

MR BRUCE: Correct.

45 THE COMMISSIONER: Which I'm not presently inquiring from you about. No. What I have more in mind is this: is it – do you understand that the political compact between the Minister and Shadow Minister goes to – or is premised on the notion that the states can themselves take steps to prevent there being adverse socio-economic effect?

MR BRUCE: It's more that if a state impedes the delivery of those projects by non-participation, non-collaboration stopping – trying to stop the Commonwealth taking action to do those programs.

5 THE COMMISSIONER: But what about if a state says, “Look, this is going to have adverse socio-economic effect.” It's not an efficiency contribution that can contribute to the upwater.

10 MR BRUCE: So the – I guess the straight legal answer, for want of a better term – although you will tell me whether it is actually legal or not I'm sure – is that if it meets the criteria under the Act, which is participation, then it's okay. Having said that, we are as a – Ministerial Council and Basin Officials Committee, we are trying to more broadly than that taking into account feedback from communities. The last thing we want to do is actually have massive negative impact on communities, and so
15 we look at a broad range of sensible indicators that can say look on balance this is a sensible investment that's not going to cause a lot of harm.

And we can use that in part of the decision-making process to say look, for these reasons we think this is an appropriate measure to take and, on balance we will have
20 neutral or positive economic – socio-economic impacts on a community. As you have well seen from the range of people you have talked to there will always be dissenting views about whether or not that is fact or not. But this will help Ministers in particular build a narrative around – and a genuine narrative around the decisions they are making. So that's the work we are doing at the moment. It will also help
25 with transparency around the decision-making if we can have some clear indicators that we are using based on this, and this, this and this is why we believe this won't have a socio-economic or negative socioeconomic impact.

30 THE COMMISSIONER: So we are pinning our hopes then on reduction in water for consumptive use from efficiency measures so as to produce 450 gigalitres of real water.

MR BRUCE: Yes.

35 THE COMMISSIONER: Upwater. So-called.

MR BRUCE: Yes.

40 THE COMMISSIONER: We are pinning our hopes on an understanding that that won't produce adverse socio-economic effect.

MR BRUCE: Well, our experience in South Australia is that it has had very positive socio-economic effects.

45 THE COMMISSIONER: I don't doubt that but I'm thinking about a rather different approach to socio-economic effect that is studied throughout the evidence to this Commission from the other states.

MR BRUCE: There is certainly - - -

THE COMMISSIONER: Where, as you know and I think you have already
5 recognised, perhaps simplistically certainly understandably in a way with which one
can sympathise humanly there is a tendency to say any material reduction in
irrigation water is an adverse social and economic effect.

MR BRUCE: And it's where you have seen communities both through buybacks
10 and through the water trading market, as we talked about earlier, have seen water
disappear from their communities and they have seen some negative impacts here
and they are feeling that. And we need to acknowledge that.

THE COMMISSIONER: Whether it is the Swiss cheese effect or other notions, it
15 has been one of the more repeated propositions to me in evidence.

MR BRUCE: I mean, I presume you have through evidence looked at the Deloitte
report, but that has essentially refuted the Swiss cheese effect as a real thing but it is
certainly real in many people's minds.

20 THE COMMISSIONER: Yes. That's why, as I say, it seems to me that the upwater
then can be seen to depend upon the success in – I think it will be an argument about
whether it satisfies the criterion of no adverse social and economic effect from a
reduction in water for irrigation.

25 MR BRUCE: Yes. And that's where I guess the important thing of a really good
efficiency measure is that you use it to boost productivity rather than just reduce.

THE COMMISSIONER: I understand the point. Yes.

30 MR BRUCE: Many don't, though. They are often confused and I take the
arguments put forward by many confused buybacks with efficiency measures and it
is generally those who haven't had experience with well-run efficiency measures.
And it's understandable. I don't think we would criticise anyone for that. But for
35 those – and you see it in the dairy industry in particular where we've got a number of
dairy farmers in South Australia who have benefitted significantly from participation
in efficiency measures.

MR BEASLEY: It is a form of buyback, isn't it? I mean in the sense that there is
40 some of the allocation given so that's probably the reason for the confusion.

MR BRUCE: You and I might say that but linking those two causes great confusion
and angst in the community. But those dairy farmers sort of have been shaking their
head a bit and saying "I can't work out why our colleagues wouldn't get on board.
This is great. Our businesses have been transformed through this". And they
45 themselves in an industry sector have had trouble communicating the benefits they
have received to their colleagues within the industry so it shows what we're up
against and people are scared.

THE COMMISSIONER: That's why I wonder about the slogan. 2024 is not all that far off

5 MR BRUCE: The thing with a lot of the efficiency measures once you get on to them many of those can be done relatively quickly. It is not like building massive regulators and things like that. You can do them. If you are going to put up shade cloth, if you are going to do some irrigation design, generally they are done within a season. So you can do them quickly.

10 THE COMMISSIONER: When you put up cloth, real water is got back by a cutting back of the allocation.

MR BRUCE: Yes. You have to hand the allocation over. So there is no risk around it.

15 THE COMMISSIONER: You get a real water, no doubt. Because you are going to be delivering less water to that farm.

MR BRUCE: Yes. They have given up the entitlement. It's gone. The Commonwealth Environmental Water Holder now holds that entitlement.

20 THE COMMISSIONER: Look, apart from the various questions on notice which the staff of the Commission will try and put in an ordered way by a reminder letter to you, I don't want to make your life any more difficult. If there is anything else you want to add – any of you or colleagues in the office – if there is anything else you want to add apart from the material we've sought on notice to you, please feel free. I don't intend by that to outstay my welcome because I repeat I'm very, very grateful for the very considerable effort for this evidence. So it is greatly appreciated.

30 MR BEASLEY: There is a question on notice for Mr Bruce and Dr Heneker that the Commission is going to want answered and you can take it on notice but he is going to need in 25 or less precisely what is the resistance to Fava beans to chocolate spot.

MR BRUCE: We will send that to Ms Morony rather than - - -

35 MR BEASLEY: And answer that in the context of what is an unimplemented policy measure, please.

40 THE COMMISSIONER: We will adjourn until 12 noon at the Commission's offices at 50 Grenfell Street tomorrow. Thank you very much.

<THE WITNESSES WITHDREW

[4.31 pm]

45 **MATTER ADJOURNED at 4.31 pm UNTIL THURSDAY, 27 SEPTEMBER 2018**

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