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TRANSCRIPT OF PROCEEDINGS

O/N H-910734

MR B. WALKER SC, Royal Commissioner

IN THE MATTER OF THE MURRAY-DARLING BASIN ROYAL COMMISSION

ADELAIDE

10.01 AM, THURSDAY, 12 JULY 2018

Continued from 11.7.18

DAY 8

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

MR BEASLEY: Commissioner, this morning we have Michael Murray, the
Managing Director of Cotton Australia; and Adam Kay, K-a-y, the CEO of Cotton
Australia, to give evidence. Cotton Australia has provided two submissions to the
Commission, including a very detailed and helpful one. And they have
5 supplemented that with some further information that they would like me to tender
and that I will tender. Following Mr Murray and Mr Kay, we have Maryanne
Slattery to give evidence. But yesterday morning you raised the issue of a letter that
the Federal Water Minister – sorry – the Federal Minister for Agriculture and Water
Resources, Mr Littleproud, sent to Mr Speirs, the Minister for Environmental Water
10 for South Australia. And I understand you want to make some further comments.

THE COMMISSIONER: Yes. Gentlemen, first of all, welcome and thank you for
your attendance and assistance. If you will bear with us for not very long before we
start your evidence. As Mr Beasley has just pointed out, there are some outstanding
15 questions which I wish to address before proceeding with the evidence this morning
arising from the letter of 2 July from Minister Littleproud to Minister Speirs, which
was published at the direction of Minister Littleproud whereby this Royal
Commission became aware of it.

20 It should be crystal clear from things I have said and written in the past that
submissions from persons, entities and polities on the questions which I have been
required to address in this Royal Commission are expected to be provided in
accordance with procedures as they may be adapted from time to time and which at
the moment remain published on the website of this Royal Commission. And it
25 should be clear, as I'm sure it was to Minister Littleproud and those advising him
that a letter by him to Minister Speirs does not comply with any of those procedures
at all.

30 Oddly, and I repeat oddly, my tentative characterisation of that letter and its
attachment has been refuted by Minister Littleproud, as I understand it. That is, it
has been said by him or on his behalf that what was attached to his letter to Minister
Speirs was not a submission. That is a very odd approach for Minister Littleproud to
take, bearing in mind that the attached document in terms addresses my issues paper
number 2, which contains matters of administrative law and statutory interpretation.
35 And if I may say so, it's clear that Minister Littleproud has had legal assistance in
providing that document to Minister Speirs.

It is, I'm afraid to say, quite plainly a submission, and all the better for being a
submission, may I say. I repeat: submissions are welcome and all submissions will
40 be considered. I regret to say that something which is insisted by Minister
Littleproud not to be a submission and which is not supplied in the usual orderly
fashion to this Royal Commission might appear to be a document which the
Commonwealth does not wish me to take into account in the considerations of the
issues I am required to address by this Royal Commission. That would be, I repeat,
45 very odd.

It would be, in my experience, an unprecedented approach by someone to wish, as Minister Littleproud is reported to have said, to correct supposedly incorrect statements I have made, but not by way of submission and not by way directly of communicating with this Royal Commission. So much for process.

5

In relation to substance, there appears to be a misunderstanding entertained by some of those apparently advising Minister Littleproud. It relates to questions of what are reported to be, according to Minister Littleproud's letter to Minister Speirs, the possibility that I have raised questions about the constitutional validity of Commonwealth legislation; that I have indicated that the validity of the Water Act will likely be the subject of a subsequent issues paper.

10

That is, I'm afraid, a regrettable mis-paraphrase of what this Royal Commission has published and what I have said. But more importantly, it represents a misunderstanding which should be corrected, because it may be that those advising Minister Littleproud have not understood the real importance of a matter that I raised in issues paper number 1. Let me explain. In paragraph 28(i) of issues paper number 1, I said, among other things, that the constitutional basis for the Act is dependent on a number of the powers under section 51 of the Constitution. I interpolate I don't think anybody would regard that as casting doubt on its validity. And then I went on to say:

15

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The most important of these may be the external affairs power, particularly with regard to the object of the Water Act and the Basin Plan to give effect to relevant international agreements concerning the environment and ecology, among other relevant objects.

25

And, again, I interpolate today, I don't think anyone would imagine that raises any question about constitutional validity. I then went on to say this, that:

30

I'm interested in receiving submissions on the issue of whether there is sufficient power vested in the Commonwealth Government under the Constitution to impose obligations on Basin States under the Basin Plan without a referral of power from those States under 51.37 of the Constitution.

35

And, again, I interpolate today, I can't see how anyone could interpret that as anything other than an examination of the heads of constitutional power which, in the absence of a referral of State power – we have a referral of State power, as it happens, for the Water Act – whether there would be in any event a power for the Commonwealth to impose such obligations. In other words, it's the reverse of constitutional validity of the current Act I'm talking about. It is suggesting there may be more power for the Commonwealth than is indicated by a reliance upon a State referral.

40

45

It has nothing to do with an attack on the constitutional validity of the Water Act about which I entertain no doubt. It may be that the misunderstanding was caused by a misreading of paragraphs 87, 88 and 89 of Issues Paper Number 2. Again, some

context is appropriate. There, I referred to the primary reliance as a matter of history and constitutional law, for the Water Act and the Basin Plan on the Commonwealth Parliament's external affairs power. On reflection, one could say the primary reliance on the external affairs power is accompanied, of course, by an equally important reliance upon a State referral of powers.

I interpolate today none of those comments could cause any fair reader of what this Commission has said and done as casting any doubt on the validity, constitutionally, of the Water Act. Anyone who is properly advised about the external affairs power as a ground for the exercise of legislative power by the Commonwealth Parliament, as I am sure Minister Littleproud has been and remains, would know that a particular feature of that head of constitutional legislative power is that the High Court will, in an appropriate case, have to consider for itself whether or not a statute said to be an Act pursuant to that head of legislative power can be seen, to the degree necessary, according to the jurisprudence of the High Court to be, in fact, an implementation or steps towards the implementation in the case of treaty obligations.

That is relatively sophisticated and arcane constitutional law. And this Royal Commission is not a court. But it doesn't mean that this Royal Commission – one confronts such issues if they arise but they simply have not arisen at the moment. I think the misunderstanding comes because having in paragraph 87 of Issues Paper Number 2, in a very compressed fashion, referred to that rather large intellectual field of constitutional jurisprudence, I then went on to raise this in Issues Paper Number 2, in paragraph 88. I said:

If the Basin-wide sustainable diversion limit does not reflect an environmentally sustainable level of take, it is arguable that the Plan – I stress, the Plan – will fail to implement certain of the key objectives of both the Ramsar Convention and the Biodiversity Convention. Those are two of the treaties in question and I interpolate that, being treaties, of course, they are among those which are referred to and would be caught by the invocation of the external affairs power, which we find in the Water Act itself.

Then I went on in paragraph 88 of Issues Paper Number 2:

If so – that is, if it is true what I've described as arguable – that a failure of the SDL to reflect an ESLT would result in a failure to implement treaty obligations, then –

I said in Issues Paper Number 2 –

it would throw into doubt the validity of the Basin Plan.

Now those words “Basin Plan” cannot be sensibly read by anybody caring to read Issues Paper Number 2 as meaning the Water Act. That is absurd. I then referred to a scholarly article which had raised these matters as long ago as 2013. And then in paragraph 89 I said that I raised that issue briefly as a means of inviting submissions

but it was secondary to the construction issues that Issues Paper Number 2 concerned itself with. And they, of course, concerned what might be colloquially summarised by the question whether the triple bottom line approach to an ESLT and a resultant SDL is or is not the law. That is not, in itself, a question of constitutional validity, except insofar as a failure to implement treaties might show that the Basin Plan goes beyond what the statute could require or permit.

Now, I am sorry that time has had to be taken in a hearing to explain those matters in the detail I have. It remains the case that were the Commonwealth or the MDBA to wish to have me understand the attachment to Minister Littleproud's letter to Minister Speirs as a submission to me putting an argument which can appropriately be seen as demonstrating error legally, and propositions that I have raised for consideration, then I'm sure our procedures can accommodate it. But time is running out for the orderly conduct of this Commission's processes for the Commonwealth or the MDBA to take that step. So far as procedural fairness of this Royal Commission is concerned, it seems crystal clear to me, and I invite any correction of me by the Minister if I am wrong in this, that the Commonwealth Minister, at least, is well aware of the matters I have raised in inviting submissions from interested persons, including the Commonwealth.

It is, I repeat, regrettable that the Minister insists that what he included in his letter to Minister Speirs under an explicit statement that he will be publishing it because of its public importance, should nonetheless not be regarded by me as a submission. I am at a loss to understand what message, subliminal or otherwise, to me or anyone else is to be gathered from that fiction. It is entirely appropriate by submission and, where necessary, evidence, in accordance with orderly procedures as they may be adapted from time-to-time by this Commission, for anyone with the resources and willingness to do so, to correct errors they detect or perceive in things that I have said or written. That is a process I invite and commend.

However, the purpose of the orderly process is to enable precisely the dialogue, the discourse, the testing by which it will be possible, in the fullest manner, for me to decide what the correct state of affairs ought to be. Now, that goes for law as well as for fact. There are two matters which I suppose I am intended to regard as purported correction of my errors by Minister Littleproud, to which I wish to pay specific attention this morning. Whether or not imputed to me is an error, the Minister's letter refers to what I will call previous inquiries. I think the implication is that you can have too many inquiries into things. And if that is a correct understanding by me, I wholeheartedly agree.

However, one needs to know what the subject matter and territory covered by previous inquiries has been before suggesting that a current inquiry is, as it were, superfluous. There's a reference in the letter to at least nine parliamentary committee inquiries. I am second to none in my regard for parliamentary inquiries at State and Commonwealth level. However, and with great respect to all of them, it has to be said that neither as to their issues nor as to the success they enjoyed in obtaining information can it be said of any of those, all of which have been studied

by us and will be referred to in my report, it cannot be said that any of them were able to address the way in which the ESLT produced the SDL, please forgive the jargon, which is at the heart of the whole exercise. By which I mean issues concerning the ascertainment of the level above which, to paraphrase, key
5 environmental outcomes would be compromised.

The second matter which I think is intended to be the main ministerial correction of my incorrect statements, as the Minister puts it, concerns what I will call a single figure approach to the ascertainment of an ESLT for the resultant SDL. It's worth
10 bearing in mind that the last of those letters in those acronyms, SDL, is the word "limit". And a reading of section 22 of the Act, which provides for what is called the mandatory content of the Basin Plan, specifies that it is a maximum volume and the statutory expression is "maximum". It is not possible to express a maximum by a range. Homely examples will tell you why that must be so.

15 To be told that you may not take from the river more than five to 500 megalitres means you may not take more than 500 megalitres. The five is absurd. Neither would an invoice expressed as a range be a sensible thing. David Jones asked me to pay 10 to 100 dollars for something, pure nonsense is committed by suggesting that I
20 am obliged to pay \$100. I don't understand, with respect to those who devised it, the argument that is presented in the attached Clayton's submission to the ministerial letter. I do not understand how it can be said that an ESLT or the consequential SDL can be expressed or must be expressed as a range.

25 What I do understand and wholeheartedly agree with, is that these are matters that do not lend themselves to actual precision, by which I mean real world, precise counting. That is because they are estimates. They involve judgments and evaluations and they are questions in prospect. That is, they look to the future, no
30 doubt drawing upon past data. They involve extrapolation, they involve modelling and all of that permits reasonable minds to differ as to appropriate answers. Again, I wholeheartedly agree – and, indeed, anyone who anyone who has read or listened to what has happened in this Royal Commission would know this already, that matters of confidence, that is, levels of confidence, risk assessment, lend themselves to
35 evaluation which denies the possibility of any real world precision in these figures.

It is a travesty of the approach that this Royal Commission has attempted to take in relation to interpretation for it to be suggested that I have committed the elementary error of regarding these matters as lending themselves to real world precision.
40 However, the statute requires a single figure in order to produce an SDL. And the practice of the MDBA correctly reflects that. The SDL is not expressed as a range. It's expressed as a figure. The fact that the figures are in many cases that produce the SDL rounded up accords with the common sense that that is really enough; these things do not lend themselves to real world precision.

45 Were a lawyer to have presented that argument to me as Royal Commissioner, it might be expected that there could have been an appropriate challenge and testing to ascertain with what seriousness or genuineness the lawyer was actually presenting

the argument that this Royal Commission had committed the error of thinking there was real world precision to the figures of SDL. And that lawyer could also have been asked whether the MDBA had committed, according to that lawyer's supposed argument, the error of thinking the SDL was a single figure, because historically, of course, that's what the MDBA has properly done.

That's why the matters of process with which I commenced this morning have some significance to the conduct of this Royal Commission. It's clear that the notion of a sustainable diversion limit is intended to set a maximum of water which, to put it colloquially, can be consumed, rather than left in the environment. Until Minister Littleproud's letter to Minister Speirs, it had not occurred to me as a Royal Commissioner that anybody thought that that maximum amount could, should or would be expressed by a range.

I presently don't intend to treat that as a serious submission by anyone. No one else has come up with it, and the MDBA by its historical conduct has certainly not committed what I regard as an egregious error. However, if I am wrong in relation to whether this is a submission on the part of the Commonwealth concerning the SDL requiring to be expressed as a range, then the sooner I am told of what the Commonwealth's submission is on that point, the better.

I stress none of what I have said about this should be misunderstood as suggesting that anyone in this Royal Commission, least of all myself, believes that the ESLT and SDL calculations, or the calculations for adjustments of those amounts, lend themselves to real world precision. Of course they are matters of judgment and estimation.

Hence the importance, as Mr Beasley has said repeatedly during hearings, of the statutory requirement that the functions of the MDBA and their exercise of powers be based on the best available science, science which itself, as the last two days of evidence will show, lends itself to reasonable disagreement among experts, reasonable variability of degrees of confidence felt by experts, and, therefore, all the more reason for the transparency that the witnesses over the last two days have stressed they would wish to see. Mr Beasley.

MR BEASLEY: Commissioner, there are a number of highly contestable and potentially misleading statements in Minister Littleproud's submission to Minister Speirs. It would take me too long to go through them all. However, there are a number that are so potentially misleading and inaccurate that, given the submission has been made publicly available, they should be corrected.

However, first an observation. In Minister Littleproud's letter to Mr Spears, he expresses the view that the government is greatly concerned about the request by this Commission, followed by summonses, for legal advice from the government concerning the interpretation of the Water Act. It may be of great concern to the government, but it's difficult to understand why. By coincidence, one of the

submissions provided to the Commission by Cotton Australia refers to three publicly released advices on the Water Act by the government.

5 In those circumstances, it seems odd that all of the advices would not be made publicly available. The Commonwealth and the MDBA are not involved in litigation. The advices concern the construction of the Water Act. There doesn't seem to be any good reason at all why all of the advices are not made publicly available and available to the Commission.

10 In respect to other aspects of the submission that is attached to Minister Littleproud's letter to Minister Speirs, a number of matters do require an immediate response. I refer to the first page of the submission, which is headed 'Consistency of the Murray-Darling Basin Plan With the Water Act 2007'. It contains this statement:

15 *Initial analyses examined a reduction in the broad range of 3,000 to 4,000 gicalitres.*

20 THE COMMISSIONER: Now, that's a reduction that we have sometimes been calling a recovery. It is an amount to be taken off the baseline consumption in order to produce an ESLT. Is that - - -

25 MR BEASLEY: Correct. It is an amount of water to be recovered for the environment. Without context, that is an entirely misleading statement. The context that should be given is that that range of scenarios was examined in the guide to the Basin Plan. The Guide to the Basin Plan expressed the view that the amount of water that needed to be recovered for the environment, for having a high uncertainty of achieving environmental watering requirements, in other words, very unlikely to achieve them, was an amount of water of approximately 3,900 gicalitres. And to have a low uncertainty of achieving environmental watering requirements, an amount of water to be recovered for the environment was 7,000 gicalitres.

30 THE COMMISSIONER: That's approximately. Yes.

35 MR BEASLEY: An approximation, yes. What the Basin Authority chose to do – and they express this was done because they were considering the optimisation of social and economic impacts – is that they chose to model scenarios of 3,000, 3,500 and 4,000 gicalitres. So a decision was made in the Guide for two scenarios to be models that under no circumstances could be considered an ESLT, because 3,900 was the figure needed for a high uncertainty of achieving environmental watering requirements. In order for the statement in the submission about what was analysed to not be misleading, that information should have been included. The submission then goes on to say:

45 *Having referred to the 3,000 and 4,000 gicalitre range that this analysis was gradually narrowed to 2,400 to 3,200 gicalitres based on ecological outcomes and risk.*

That is an inaccurate statement for a number of reasons. Without wishing to be too pedantic, 3,000 to 4,000 gigalitres, going down to 2,400 to 3,200 gigalitres, is not a narrowing. You don't narrow 3,000 to 2,400; it involves a fundamental shift in what you're modelling. It involves a reduction, not a narrowing.

5

But that reduction was not made on the basis of ecological outcomes and risks. We have been over, many times, the environmentally sustainable level of take report by the MDBA. And I know I don't have to refer to it, but what that document shows, on pages 16 and 17, and 66 through to 69, is that the range chosen of 2,400 to 3,200 was iterated by taking into account social and economic optimisation, or social and economic impacts.

10

No information is provided as to how that was done, either in that report or in the six years since it was published – seven years, nearly, since it was published. No information of a satisfactory kind has been provided in relation to the inputs to the modelling, either at the time of the ESLT report or in the seven years since. But it was not based on ecological outcomes and risk. This document then goes on to say that:

15

The minimum required to achieve acceptable outcomes across the Basin, including for the Coorong and Lower Lakes, was subsequently judged to be 2,800 gigalitres.

20

Well, it might have been judged by the MDBA, but by no one else. First of all, there is not a single report that would suggest that 2,800 gigalitres represents an environmentally sustainable level of take.

25

THE COMMISSIONER: Is there any information anywhere available whereby the MDBA could have reached the view that the Coorong and Lower Lakes, as to their environmental watering requirements, would or would not be compromised at 2,800 gigalitres?

30

MR BEASLEY: No. Can I read for you page 30 of the CSIRO's report, 'Science Review of the Estimation of an Environmentally Sustainable Level of Take for the Murray-Darling Basin'. It's exhibit RCE9. I won't read the whole report, obviously, but I will just read this part:

35

In summary –

This is an analysis of 2,800 gigalitre reduction:

40

In summary, the model indicates that the proposed SDLs would be highly unlikely to meet the specified ecological targets, even in the absence of future climate change.

45

And we know climate change projections have not been included in the MDBA's work on setting SDLs and the ESLT. Continuing on:

Operational constraints are a key reason for this, but a large number of achievable targets are also not met in the modelling.

5 That kind of analysis can also be found in reports of Goyder and others that you have already been referred to. Additionally, in relation to the part of the submission that I read out – I’ve just read out, the use of the term “acceptable outcomes” will not be found in the Water Act. There is no part of the statute that suggests an ESLT is to be determined by acceptable outcomes, just like there’s no part of the Water Act that contains the phrase “triple bottom line”. The Water Act is about meeting objectives,
10 those objectives, you are very familiar with, Commissioner that are set out in section 3 and section 21(2).

15 It involves determining an ESLT as that term is defined in the Act. It involves setting a long-term average sustainable diversion limit as that term is defined in the Act. And for validity, as you have already mentioned, it involves meeting Australia’s international obligations. It does not involve “achieving acceptable outcomes”. The MDBA also says in this submission that it was appropriate to take into account economic and social outcomes.

20 THE COMMISSIONER: In determining the ESLT.

MR BEASLEY: In determining the ESLT. Now, I don’t want to spend a lot of time on - - -

25 THE COMMISSIONER: No. These are matters of legal interpretation - - -

MR BEASLEY: Legal interpretation.

30 THE COMMISSIONER: - - - that we have canvassed and that we have heard and read a deal of material.

MR BEASLEY: I don’t - - -

35 THE COMMISSIONER: It’s certainly a topic on which I would have been, and for some time to come still would be, interested in receiving a proper submission from the Commonwealth signed by a lawyer.

40 MR BEASLEY: Can I ask for it to be done in this way, if they want to provide you with a submission. Where I would like to be helped and I think it would help you, Commissioner, is how do you optimise at the one time environmental, social and economic outcomes in setting an ESLT?

45 THE COMMISSIONER: Yes. Section 3 has its challenges and, of course, it’s an objects provision rather than what might be called a stipulation of the process. But even within section 3, apart from paragraph (c), which is the one in question, that says than the use and management of water resources is to be promoted “in a way that optimises economic, social and environmental outcomes”. There is in paragraph

(d), unhelpfully – without limiting paragraph (c), there is in paragraph (d) what might be called a sequence.

MR BEASLEY: Yes.

5

THE COMMISSIONER: It starts with ensuring the return to environmentally sustainable levels of extraction for water resources that are over-allocated or overused.

10 MR BEASLEY: Correct. And that's what you do first.

THE COMMISSIONER: It moves to:

15 *... protecting, restoring and providing for the ecological values and ecosystems of the Murray-Darling Basin –*

etcetera. And then explicitly says subject to those first two matters. Then:

20 *To maximise the net economic returns to the Australian community from the use and management of the Basin water resources.*

Now, that's just section 3 and you've pointed out other provisions. We really shouldn't take up the witnesses' time this morning on, as it were, chasing every rabbit to its burrow. But it is true that the attachment to Minister Littleproud's letter,
25 as you have been submitting to me, seems to contain someone's assertions as to matters which are at the heart of the concern of this Royal Commission but without any attempt, so far as I can see, to grapple with the questions of statutory interpretation which are raised.

30 MR BEASLEY: You would be assisted - - -

THE COMMISSIONER: Not just as a rhetorical question but in order to focus the kind of assistance I might get from someone. If an ESLT – and the E doesn't stand for economic, it stands for something else – if an ESLT may be reduced below what
35 it would otherwise be on account of social and economic considerations, then, it needs to be explained how that can be done. And, in particular, if it is thought, remarkably, that that lends itself to science, it would need to be shown that there has been a basis, as there must be in the statute, for the decision of an ESLT of best available science involving these social and economic factors. I have still not seen it.
40 And the continued or prolonged silence from anyone explaining how the statute or the science produces this so-called triple bottom line is becoming more significant as time goes on.

MR BEASLEY: We have received a huge number of submissions from credible
45 and reliable scientists who have had long and distinguished careers, all of whom have said consistently that there is no scientific justification for 2,750. And it is not science because we are not – we have never been told, despite repeated requests of

the Authority, have never been told the data, the inputs, the hypothesis in relation to the modelling and we have never been told how social and economic optimisation or impacts had been factored in to the setting of an ESLT and the SDLs. And as a consequence, we can't test that work and, therefore, it is not science.

5

Just following that through, this submission, still on the first page, suggests that the Basin Plan is to be:

... informed by the best available information.

10

That is not the law.

THE COMMISSIONER: Well, as paragraph 21 (4) (b), whatever the words mean

15

MR BEASLEY: You don't take into account the best science. You don't have regard to the best science. You have to base the plan on it.

THE COMMISSIONER: That is on the basis of – yes.

20

MR BEASLEY: Yes.

THE COMMISSIONER: And it distinguishing between best available scientific knowledge and socioeconomic analysis.

25

MR BEASLEY: You would also be assisted by a submission from the Commonwealth that dealt with this issue, Commissioner. If we assume 2,750 actually is an ESLT, we know that that figure has recently been reduced by either 605 gegalitres or 543 gegalitres, if you start with the five per cent rule, which means it's a 2,200 gegalitre plan.

30

THE COMMISSIONER: We use these figures and there's always a possibility of confusion. It's not 2,750, as an ESLT.

35

MR BEASLEY: No.

THE COMMISSIONER: It's 2,750 as so-called recovery.

MR BEASLEY: Recovery water for the environment.

40

THE COMMISSIONER: Reduction of consumptive use so as to produce an ESLT.

MR BEASLEY: Yes.

45

THE COMMISSIONER: But the shorthand is convenient. And, in particular, there is – and I am looking forward to Cotton Australia's evidence. For shorthand and,

conveniently, there's a widespread understanding that this was, is, should be, I don't know which of those, a 3,200 plan. And we will talk about that soon, I hope.

5 MR BEASLEY: We will. What you would be assisted with is a submission from the government that explains to you, if 2,750 water for the environment is an ESLT, how 2,200 on the back of supply measures that are not to be implemented for another six years can possibly represent a figure that creates a sustainable to base long-term average sustainable diversion limit, Basin-wide diversion limit as required either now or on 30 June next year.

10 THE COMMISSIONER: Well, in relation to that, the attachment to Minister Littleproud's letter says, with respect, I think to that very point you've just made that the MDBA – I don't know whether the Minister is speaking for the MDBA or not but the document seems to, the MDBA had a high degree of certainty. That's a state of
15 confidence in their judgment. And given representations of the Basin States, I take it that means given what they have been told by the Basin States concerning these – are they supply measures?

20 MR BEASLEY: Yes. That, unfortunately, is not the law about having a high degree of certainty that – that term is used in relation to a high degree of certainty that the supply measures will be implemented.

THE COMMISSIONER: Yes.

25 MR BEASLEY: That's not the law.

THE COMMISSIONER: No. They can't be implemented, as I understand it, unless relevantly, there are the equivalent environment outcomes.

30 MR BEASLEY: That is what the Basin Authority must be satisfied about, not that these measures will be implemented – of course they have been satisfied of that, that they are not just pieces of paper and something will actually built by 30 June 2024.

35 THE COMMISSIONER: Yes. And one can only make a judgment about that because it's not given to any of us to know the future.

MR BEASLEY: Some of these supply measures aren't even past the concept stage.

40 THE COMMISSIONER: But in relation to environmental equivalents - - -

MR BEASLEY: They have to be satisfied.

45 THE COMMISSIONER: Yes. That would mean, for example, in a case where there needed to be an environmental impact statement and had not yet been, it would be difficult to be satisfied.

MR BEASLEY: I'm not going to go through all of that but thanks to the Senate we will be able to tender a number of analyses by the MDBA on these supply measures where alarming environmental risks are identified. There's no need to say anything further about that.

5

THE COMMISSIONER: No. I think that is enough. Thank you.

MR BEASLEY: All right. Cotton Australia. Thank you for your patience.

10

<MICHAEL BERNARD MURRAY, SWORN [10.49 am]

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<ADAM MITCHELL KAY, AFFIRMED [10.49 am]

THE COMMISSIONER: Thank you, gentlemen.

20

MR BEASLEY: Feel free to both provide some substance to any particular question. In the early stages though, it might help if you identify who is speaking. So that we - - -

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THE COMMISSIONER: That's just for the transcript. So that you don't find yourself having to make excuses for what the other one said.

MR KAY: Okay. Thank you.

MR BEASLEY: Mr Murray, you are the General Manager of Cotton Australia.

30

MR MURRAY: That's correct.

MR BEASLEY: How long have you held that position?

35

MR MURRAY: Seven and a half years, thereabouts.

MR BEASLEY: And before being the General Manager of Cotton Australia, were you involved in the cotton industry?

40

MR MURRAY: Yes. Actually, to correct that, I started with Cotton Australia in the beginning of 2011 as then National Water Policy and Queensland Manager. I became the General Manager, I think three years ago, something like that. Prior to that, I had seven and a half years as the Executive Officer of Gwydir Valley Irrigators, based in Moree, representing the rights of irrigators in that area. 13 years prior to that, I was an irrigation farmer in southern New South Wales. And, at that time, was also on the Lower Murrumbidgee Ground Water Sharing Plan Advisory Committee. Had two and a half years as a journalist prior to that, and grew up on rice farms around Griffith.

45

MR BEASLEY: Thank you. And, Mr Kay, you are the Chief Executive of Cotton Australia.

MR KAY: That's correct.

5

MR BEASLEY: How long have you had that position?

MR KAY: For 11 years.

10 MR BEASLEY: Prior to that were you involved in the cotton industry or agricultural - - -

MR KAY: I was. I was General Manager at Cotton Seed Distributors that provides the cotton planting seed to the industry for about 11 years. And before that I was the
15 District Agronomist for the Department of Agriculture at Warren in Central New South Wales involving cotton production there.

MR BEASLEY: Thank you. Now, Cotton Australia identifies a crop and a continent. Would one of you like to explain what Cotton Australia does?
20

MR KAY: Yes. Look, Cotton Australia is the peak grower body for cotton producers in Australia. Now, cotton production, at the moment, ranges from Emerald on the Tropic of Capricorn, down to the Victorian border and just over the border into Swan Hill these days. And so there's about 1,400 cotton growing
25 entities, families, that produce the crop. And they pay a voluntary levy to us. We have about 80 plus per cent of growers pay that voluntary levy. And that enables us to do work around guiding the RMD spend of the industry. So there's an RMD corporation. We guide where they spend that 20, \$25 million a year. We also run the industry's globally recognised stewardship program, the Best Management
30 Practices Program, and we are involved in policy and advocacy work.

MR BEASLEY: And the approximate 1,400 businesses that grow cotton that are members of your organisation, the cotton is primarily grown in Queensland, New South Wales and parts of Victoria?
35

MR KAY: Yes. It's probably about 35 per cent in Queensland, you know, 65 and just a fraction in Victoria.

MR BEASLEY: All right. And Cotton Australia has been good enough to supply the – to provide to the Commission a submission of 36 pages, I think, dated 30 April 2018. Just say yes.
40

MR KAY: Yes.

45 MR MURRAY: Yes.

MR BEASLEY: And Mr Murray, you signed that submission.

MR MURRAY: Yes.

MR BEASLEY: Do we take it that you drafted it or was it the work of more than one?

5

MR MURRAY: It's certainly the work of more than us. And Andrew Splatt, our graduate policy officer is in the room, he did a fair bit of work in pulling that together. And, you know, it's a compilation of a lot of the last 10 or 12 years of the Basin Plan, really.

10

MR BEASLEY: All right. And you've attached to that submission a report that you commissioned by Barma Water Resources Pty Ltd called the 'Northern Basin Historic Flow and Usage Report'.

15

MR MURRAY: Correct.

MR BEASLEY: Dated April 2018.

MR MURRAY: Yes.

20

MR BEASLEY: And you also supplied a subsequent submission to the Commission dated 1 June 2018 that only addressed – that addressed itself to 'Issues Paper Number 2'.

25

MR MURRAY: Correct.

MR BEASLEY: And that submission was also signed by you, Mr Murray. Does it reflect your work or, again, inputs from others?

30

MR MURRAY: Again, it was primarily drafted by Andrew but, yes, signed off by me.

MR BEASLEY: Thank you. I would tender the two submissions and also the attached report by Barma Water.

35

THE COMMISSIONER: Yes.

MR BEASLEY: We had a previous discussion via Skype in relation to some of the matters that are raised in your submission, that I will just come to. One of the things I asked you about was the submission contains the claim: Australian cotton growers are the most sophisticated in the world. You've actually – and I asked you to back that up. You've supplied to us a report called 'Australian Grown Cotton Sustainability Report 2014' which appears to be a report prepared in conjunction by Cotton Australia and the Australian Government Cotton Research and Development Corporation.

45

MR KAY: Correct.

MR BEASLEY: And you also supplied us with a document compiled and produced by the Cotton Catchment Communities for Australian Cotton called the 'Australian Cotton Water Story, a Decade of Research and Development 2002 to 2012'. They're behind tabs 5 and 6 of the bundle. Do you have those documents, Commissioner?

5

THE COMMISSIONER: I do, and I've read them. And I'm grateful for your providing them. Can I just ask – I do apologise – the Cotton Research and Development Corporation.

10 MR KAY: It's one of the statutory RDCs. So, you know, the growers pay the compulsory levy, \$2.25 per bale, matched by the Federal Government and that then is invested in cotton research.

15 THE COMMISSIONER: That was the answer I was looking for to a question I didn't get to ask. Thanks. The other thing is this. When the first of those documents, the sustainability report 2014, says that Cotton Australia and CRDC produced it together, how was that actually done? Do both organisations endorse everything in this report?

20 MR KAY: Yes, they did. It was, you know, a task force of staff from both organisations. We ran consultation with external stakeholders, as well as internal, and pulled it together and it was endorsed by the boards of both organisations.

25 THE COMMISSIONER: But it's not a compromise that fails to reflect the views of either. It's a consensus document that reflects the views of both; - is that right?

MR KAY: It is.

30 THE COMMISSIONER: Thank you.

MR BEASLEY: Some of the things you seek to draw to the Commissioner's attention through this report – and please add to them if I don't cover all of them. But the first significant matter on page 8 of the report is that Australia yields are high by international standards. And I think there's a reference to three times the world average. And Australia and Israel seems to lead the world in relation to that.

35

MR KAY: Yes, that's certainly the case.

40 THE COMMISSIONER: Forgive my vagueness again. Yields are expressed how?

MR KAY: In, well, bales of cotton which are 227 kilograms per hectare.

THE COMMISSIONER: Yes.

45 MR KAY: And - - -

THE COMMISSIONER: Any other variable?

MR KAY: Well, some people just do kilograms per hectare, convert that to kilograms to hectare. I guess the farmers sort of use their bales, but - - -

5 THE COMMISSIONER: Now, you've drawn to my attention – again, I'm grateful for this. You've drawn to my attention what I will call the superior performance of the Australian industry in terms of water consumption per unit - - -

MR KAY: Unit.

10 THE COMMISSIONER: - - - of cotton produced.

MR KAY: That's right.

MR BEASLEY: Page 34.

15 THE COMMISSIONER: Yes. Is that a common international measure?

MR KAY: Well, it is.

20 THE COMMISSIONER: I mean, in Australia water is measured

MR KAY: It is an irrigated cotton, I think. But a lot of the world's cotton is rain grown.

25 THE COMMISSIONER: Yes.

MR KAY: And so that it probably loses probably some of the relevance.

30 THE COMMISSIONER: Yes.

MR KAY: But for irrigated, you know, the amount of irrigation water applied to get, you know, a certain amount of lint, you know, is a recognised measure.

35 THE COMMISSIONER: And I think on your understanding Australia is the best in terms of that measure?

MR KAY: Yes, in irrigated cotton. That's what we - - -

40 THE COMMISSIONER: Yes. Irrigated cotton. Yes.

MR KAY: Yes.

THE COMMISSIONER: Who are we comparing with?

45 MR KAY: Well, I think - - -

THE COMMISSIONER: Who irrigates cotton?

MR KAY: Who irrigates cotton around the world? Well, I think it was mentioned that Israel does - - -

THE COMMISSIONER: There's Israel, yes.

5

MR KAY: - - - but a very small industry. The United States, also I think China, you know, in some areas. Some of these countries, even India and Pakistan, they have got cotton industries that include rain grown and irrigated.

10 THE COMMISSIONER: Is most of the United States cotton irrigated or rain?

MR KAY: I don't know by split. But, you know, there are large areas, you know, in the mid-south that is rain grown, but then parts of Texas where there are centre pivots and the like. So it varies. And if you go to California, it's all irrigated in
15 California. So it varies across the country, but I'm not sure of the split of the areas.

THE COMMISSIONER: And, in terms of total production, how does the Australian crop compare?

20 MR KAY: We're about four per cent of world production, although our production does vary depending on water availability. So, you know, the crop that we have just harvested is about 4.6 million bales or about a million tonnes, but our forecast for the coming season, because there has been no rainfall, is about half that, so about 2
25 million bales or half a million tonnes.

MR MURRAY: While we're a relatively small producer percentage-wise, we're a very large export. So we're normally around – again, it depends on the season, but between the third and fifth largest exporter in the world.

30 THE COMMISSIONER: Thank you.

MR MURRAY: And, just going back, while on yield and bales, bale size does vary around the world. So your international comparison is probably better per kilo per hectare, but if you ask a farmer what his yield was in Australia, they would say it was
35 12 bales, 14 bales, whatever, per hectare.

THE COMMISSIONER: That's because it's still standardised.

MR MURRAY: In Australia every bale is 227 kilos or at least adjusted to that.

40

THE COMMISSIONER: Thanks.

MR BEASLEY: Page 34 of this report, just make sure I understand. Do you have a copy of it, by the way?

45

MR KAY: The sustainability report?

MR BEASLEY: Yes. So if you have got that folder, you will find it behind tab 5. If you go to page 34. Do I understand it correctly that what the graph tells us and what the text tells us is that over this period of from 2000, 2001 through to 2011, to 2012, cotton growers are using less water to get more yield?

5

MR MURRAY: Yes.

THE COMMISSIONER: And the colours on this table, on this figure, 18 are totally defeating me.

10

MR BEASLEY: Yes. Light green and aqua, which blend into one, but - - -

THE COMMISSIONER: Yes, but the higher one, as I read – correct me if I am wrong. The higher one - - -

15

MR BEASLEY: Is water applied, is it? Yes. It's - - -

MR KAY: No, it's cotton yield.

20

THE COMMISSIONER: Well, that's why it was fooling me - - -

MR MURRAY: No.

MR KAY: Cotton yield.

25

THE COMMISSIONER: - - - because the water applied is going down, isn't it, over time?

MR MURRAY: Yes.

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MR BEASLEY: Unfortunately, the water applied text is in the colour of the - - -

MR KAY: Yes.

35

MR MURRAY: Yes.

THE COMMISSIONER: So I'm not going mad.

MR KAY: No.

40

THE COMMISSIONER: Now we do all understand it. Blue meaning water, even though it's printed in green, is going down.

MR KAY: Yes.

45

THE COMMISSIONER: And yield per hectare, though it's green, is printed in blue and it goes up.

MR KAY: Up, yes.

THE COMMISSIONER: I understand. Thanks. Not for the first time, I prefer the text to the figure and you can see why.

5

MR MURRAY: As an industry over the last 20 or 30 years we can consistently demonstrate an average yield improvement of around about three per cent per year.

THE COMMISSIONER: Now, this - - -

10

MR BEASLEY: How does that happen?

MR MURRAY: A mixture. When our scientists have looked at it, they have, basically, said half of that improvement is probably genetics, so new varieties. The other half is a mixture of better management and I think they say better application of the genetics, I think, is the - - -

15

THE COMMISSIONER: So the genetics are down to CSIRO. Is that right?

MR MURRAY: Yes, CSIRO and cotton – an organisation Cotton Seed Distributors, have a joint venture called Cotton Breeding Australia.

20

THE COMMISSIONER: And management includes such basic things as tillage and spacing of plants and timing of watering?

25

MR KAY: Timing of watering, I think that's a critical one. The scheduling of water has been – you know, we have seen major improvements there. And I think we are going to see more with this digital ag revolution now, because we have got so many different - - -

30

THE COMMISSIONER: I'm afraid to ask, what is digital ag?

MR KAY: Well, I guess we're on the cusp of sort of linking our soil-moisture probe in the paddock with the data from the drone that tells you about, you know, what the crop is sort of feeling. We've got canopy temperature sensors. We have all this data coming in and, you know, the scientists are sort of pulling the algorithms together to help us make better management decisions using that data. So we hope they can still drive this water use efficiency use even further.

35

THE COMMISSIONER: Have you seen – is there a law of diminishing returns? Is it harder and harder to get the same amount of improvement?

40

MR KAY: I think what we have seen with water is that it's just – it's incremental. We've had other examples. You know, our pesticide use has come down by 90 plus per cent. And that was on the back of genetically modified cotton and integrated pest management. That was really quite transformational, whereas the work on water use

45

efficiency has been incremental. It's, you know, small improvements in the system, the one and two percenters, but they all add up.

5 MR MURRAY: And, really, the emphasis on water efficiency is converting that water into cotton lint. So it is so much how much water per hectare you put on; - it's what you do with that water. And that has been the real emphasis.

10 MR BEASLEY: And the report behind tab 6, the Australian Cotton Water Story, contains a number of small chapters dealing with a range of matters, from improved water use and improving water storage efficiency through to ecological matters, using drip irrigation or aerated drip irrigation, maximising profits. I know there's a chapter, that sounds like a good idea. Research into Cotton growing, etcetera, etcetera.

15 MR KAY: It was, if you like, a plain English summary of 10 years of work from one of the CRCs, a cooperative research centre, that we were fortunate enough to have in our industry. And a lot of the focus was on water use efficiency. And this was a way of pulling that research together in sort of lay terms to demonstrate the improvements over that decade.

20

THE COMMISSIONER: May I say, I found it a very useful document to read. Thank you.

25 MR BEASLEY: And its contributors are from a wide range of disciplines and institutions, for example, the CSIRO, various universities, government departments, etcetera.

30 MR KAY: The CRC was tremendous in getting that collaborative approach to research. So the universities, CSIRO, departments of ag, all of those working together for the common good.

MR BEASLEY: And it goes as far as chapters on ecological risk assessment, and also, another one I noted, 'Understanding Surface and Groundwater Connectivity'. All right. I will tender both of those reports, Commissioner.

35

THE COMMISSIONER: Yes. Thank you.

40 MR BEASLEY: Is there anything further you wanted to raise that were in those reports? I mean, obviously, we're going to read them - - -

MR KAY: Yes.

45 MR BEASLEY: - - - and there's no need to go through chapter and verse in relation to them now.

MR KAY: I think one of the things that probably doesn't come out in that, though, is the comparison of cotton's water use to other crops. We're often - - -

MR BEASLEY: Yes. Please go ahead. Yes.

MR KAY: I don't – often you hear people say cotton is a thirsty crop, whereas
when you compare cotton to the other crops that you would grow through the other
5 summer periods, so the other commodities that might replace, soy beans, corn, things
like that, very little difference in the water use. I think the reason people say cotton
uses a lot of water is because in the irrigation in northern New South Wales, South-
East Queensland, cotton probably uses 80 per cent of the irrigation water, because
it's the most profitable crop. And if cotton wasn't using that water, the next most
10 profitable crop, corn or soy beans, might be grown and the same amount of water
would be used. So this idea that cotton is somehow thirsty is, you know, just not true
when you look at it compared to other crops. You know, even Lucerne hay would
use more water than cotton.

15 THE COMMISSIONER: So there's, as it were, a planned physiology thing where I
suppose you might imagine using the expression "thirsty crop". But then there is the
amount of water necessary to generate meaningful revenues.

MR KAY: Yes.
20

THE COMMISSIONER: Where that's a totally different way of examining whether
something is, as it were, a thirsty crop.

MR KAY: Yes.
25

THE COMMISSIONER: And as I read your submissions and the attached material,
you urge that there is no plant physiological reason to brand cotton a thirsty crop.
And if the word means anything it means that, like any widely planted crop, it uses a
lot of water, like any crop.
30

MR KAY: Yes. Yes. But – and, you know, the FAO compares, you know, things
to a just a grass surface like a lawn. And it uses a little bit more than a lawn, but so
do all those other crops, but not that much more. You know, the average lawn uses
water. It transpires. The plants pump water through to keep them cool.
35

THE COMMISSIONER: Now - - -

MR BEASLEY: Just we know, you just used an acronym, FAO.

40 MR KAY: The Food and Agriculture Organisation of the UN, I think.

THE COMMISSIONER: That's right. Now, my next question would invite
comments from both of you, as you see fit. Calls for what you might think are
invidious comparisons. I don't want to embarrass you and I don't want you to feel
obliged to go beyond your knowledge and expertise. So could you please consider
45 this matter? It's possible to form a view from what you've drawn to attention that,
like all annual crops, cotton has the merit in a country like Australia with very

variable rainfall and consequential availability of irrigation water of increasingly enabling recourse – I think it might be part of digital ag to forecasts and monitoring as a means of hedging risks by deciding, for example, not to plant when the outlook is grim for water and to get out there and plant as much as you can when the outlook is good for water. Is that a correct understanding by me?

MR KAY: That is correct. And I've even seen quotes from, you know, Tim Flannery saying that cotton and rice are ideally suited to that because - - -

10 THE COMMISSIONER: Because they're annual, yes.

MR KAY: - - - you can plant them when there's water available and you don't put them if there's no water available, whereas perennial crops need water every year.

15 THE COMMISSIONER: Now, that's what I wanted to ask you about. You make the point, very strongly in your submission, that if it weren't cotton, it would presumably be any other annual crop that from time to time farmers individually or collectively thought was a good idea.

20 MR KAY: Yes.

MR MURRAY: Yes.

25 THE COMMISSIONER: And one virtue that you point to very strongly of cotton is that it provides good returns.

MR KAY: Yes.

30 THE COMMISSIONER: Relatively speaking.

MR KAY: I think it's fair to say that the people we call cotton farmers are irrigation farmers who have a land and a water resource and at the moment the thing that is making them the best return is cotton. But if the price of soy beans doubled, they would be called soy bean farmers, because they would grow soybeans. That's – it's

35 - - -

THE COMMISSIONER: Tell me what does happen – and, alas, we seem to be going into drought again.

40 MR KAY: Yes.

THE COMMISSIONER: What does an irrigation farmer do who would, if the outlook was promising, plant cotton? What does he, she or it do instead?

45 MR KAY: Well, these are mixed farmers, so, you know, a lot of them, you know, grow cereal crops and have - - -

THE COMMISSIONER: So dryland cropping.

MR KAY: Yes, dryland cropping. And they have livestock and the like. So, you know, a lot of them are mixed farmers.

5

THE COMMISSIONER: So the resilience comes from the familiar tripod notion.

MR KAY: That's it and the diversification.

10 MR MURRAY: While they are diverse, as we are sitting here and looking at a dry period, cotton growers or irrigators are probably not going to plant much at all this coming season, unless it changes dramatically. So – but you have the advantage of saying, well we are just not going to plant so we don't invest a lot of money into what otherwise could be a failed crop. If I could, I've got a graph here of Australian
15 cotton production over the past 20 or 30-odd years. And you will see that it actually pretty much tracks droughts. So, you know, our production has ranged from 5.3 million bales in the year 2011, '12 which people might recall was about 12 months after the last drought broke and there was sort of extensive flooding in 2010, '11; down to as little as 600-odd thousand bales in 2007, '08 which was right in the
20 middle of the Millennium Drought. So it's a very flexible crop as an annual crop.

THE COMMISSIONER: Now, the red bar is a projection.

25 MR MURRAY: Expectation. As we stand today, that's our expectation for next season, given the dry conditions that we're currently in.

THE COMMISSIONER: Thank you. Now - - -

30 MR BEASLEY: I will tender that.

THE COMMISSIONER: Thank you very much. And just to link it up, I had marked on page 32 of your first submission to ask you about this. The third paragraph there - - -

35 MR KAY: Yes.

THE COMMISSIONER: - - - is exactly what this graph goes to. Thank you.

40 MR MURRAY: Exactly.

THE COMMISSIONER: I'm obliged. That's extremely useful.

45 MR KAY: I think we're seeing a little bit more resilience in the industry, because in the last seven years we've seen cotton move into the Riverina and some of the southern connected system. And I think the more reliable water from the snow melt part of the system, compared to where we had been growing cotton, was on the Darling part of the system, which is much more ephemeral in boom and bust versus,

you know, the southern part of the system where it's fed by the snow melt. And so the fact that we have got now probably 60 to 80,000 hectares in the Riverina is keeping our production a little bit up and maybe will take some of the bigger dips out, we hope.

5

THE COMMISSIONER: Now, to what extent are choices to plant this annual crop on the irrigation land affected by the proximity of a gin?

10 MR KAY: Yes. It is. Because moving the cotton to the gin is expensive. But what we've seen is it's a chicken and egg thing but we have seen three cotton gins built in the last seven years in the Riverina. So - - -

THE COMMISSIONER: Are they very highly elaborate exercises?

15 MR KAY: You are probably at an investment of, you know, between 20 and \$40 million. So there has been three: one at Whitton near Griffith, one at Carrathool and one out at Hay. And they supplemented the existing one at Hillston. So that has really allowed that expansion in the southern areas.

20 THE COMMISSIONER: And is there, in practical terms, a latitude below which you wouldn't think of growing cotton?

MR KAY: I think we are pushing it. When I started in the cotton industry in 1984 at Warren in the centre of New South Wales, just west of Dubbo - - -

25

THE COMMISSIONER: I know Warren.

30 MR KAY: - - - that was the southern-most cotton growing area in the country. And everyone would come down there with their cardigans on and shiver and say, "How can you grow cotton here? It's too marginal." And as we have seen technology develop, we have seen it move that six, 700 kilometres south with, you know, better varieties and biotechnology and, you know, a whole lot of reasons.

THE COMMISSIONER: How far north is it supposed that it's sensible to plant?

35

MR KAY: Well, there is currently crops up in Kununurra at the moment and up in the Gulf, up near Georgetown in Queensland, experimental system.

THE COMMISSIONER: So the Ord system grows cotton.

40

45 MR KAY: Yes. Yes, it is. So that's all in stage 2, that – the Chinese investment there. Because for stage 2 of the Ord, they need to have a crop that's – a commodity that is in demand globally because if they use that new irrigation area to grow the little niche crops, the rockmelons and whatever for Perth, they will destroy the market. So they need something that's in demand globally. And cotton, sugar and things like that are what they're looking at. And cotton has certainly been planted up there at the moment – about to be harvested, actually.

THE COMMISSIONER: Now, that leads me to this next point. If cotton, like other annual crops, has the virtues and merits that we are just – we're talking about, by contrast, perennial – or I think I would rather use the word permanent, horticultural crops, have the inflexibility that they have to be kept alive in order to be either a
5 present or imminent producer. That's obvious, I know. But it bears emphasis because it means that they have to be kept alive during seasons where the water availability may be such that that's about all you can hope for, keeping them alive rather than turning off the profitable crop. Now you are nodding, I take it you are agreeing.

10 MR KAY: Yes.

MR MURRAY: Yes.

15 THE COMMISSIONER: Now, I realise that they're not homogenous, permanent horticultural crops. Different trees have different performances and different in different places, no doubt. But a thought that has occurred to me is that in terms of the wise use – that's a statutory expression of the water resource, in terms of management, that's a statutory expression – is it too radical or un-Australian to
20 propose planning restrictions on where permanent crops can go?

MR MURRAY: It's – I think – you're right. If you're planning a permanent crop, you want a high degree of security around your water.

25 THE COMMISSIONER: It means that you have an incentive to push the price up during dry times of all the temporary water available because unlike your annual cropping colleague, who can just shrug and look to the sheep, you've got to keep your almonds alive.

30 MR MURRAY: Right. And we saw that – I may not be exact around the years but 2004, 2005 at one stage in the Southern Murray-Darling Basin, temporary transfer of water went up over \$1,200. I think it might have got to \$1,300 a megalitre.

35 THE COMMISSIONER: Yes.

MR MURRAY: Which was probably twice what you could buy permanent entitlement – general security entitlement for. And that was driven largely by, yes, the desperate need to keep permanent plantings alive.

40 THE COMMISSIONER: In other words, an annual cropper wouldn't have done that because you would be spending money to lose it.

45 MR MURRAY: You would have just stopped. Now, an annual cropper – if I'm growing cotton and I've miscalculated and I use five megalitres but I really need seven megalitres to finish my crop, I can probably pay a lot of money – not as much as \$1200 a megalitre, but a lot of money for that last two megalitres because, otherwise, my yield is going to get really hammered. So, you know, there's – but

starting out at the start of the season, I'm not going to pay anywhere near that sort of money to plant a crop because I'm not going to make money.

5 THE COMMISSIONER: But, in any event, your decision whether to spend money to finish it off will be done with numbers.

MR MURRAY: Numbers. That's right.

10 MR KAY: Yes. Definitely.

MR MURRAY: Where, if I'm a permanent cropper, you know, my choice is let that plant die and not only have the cost of re-establishing but waiting the two, three, four, seven years to get back to productive – so you've got to get a balance. But over the years, both water management rules and, I suppose, natural reliability are pretty well dictated where permanent plantings and to what extent that is in any particularly valley. So here in South Australia where you have very high reliability of water, it is facilitated growing permanent plantings. And when you have an expectation of getting 90 per cent a year, you can be fairly sold on that. But they had the experience here during the millennium drought where, I think, at the end there, the final allocation got done to 65 or 60-something per cent.

And people were really hurting because of that because they had that high reliability. At the same time, during those years in the Gwydir Valley, I'm pretty sure we had one year of zero per cent general security, one year of five per cent and one year of zero per cent. Now, the impact on those people was probably pretty similar to the impact of a high security irrigator in South Australia because of those very reasons that you are talking about. There were various rules facilitated plus that natural reliability. There was, in the, I suppose, 90s to very early 2000s, a small permanent planting industry around Bourke. People had looked at the long-term river flows and said, "Look, we can sustain something like that." We went into the Millennium Drought and it was unsustainable.

THE COMMISSIONER: I think I've actually seen the - - -

35 MR BEASLEY: We saw it.

MR MURRAY: Seen the remains of it.

THE COMMISSIONER: The remains of it. Which are pretty confronting.

40 MR KAY: Yes, yes. At North Bourke.

MR MURRAY: Yes. So, you know, there is - - -

45 MR BEASLEY: It was one of the reasons for going to Bourke, to see that.

MR MURRAY: The rapid expansion, particularly of the nut industry in the southern Basin, I think people need to be cautious to make sure they do have enough water to go through extended periods.

5 THE COMMISSIONER: So would I be right in thinking from that answer that you would, how should I say, view with some caution, perhaps a lot of caution, the idea of regulation, but you would draw to attention that a rational response to risk will probably see the distribution of permanent crops eventually sort itself out by reference to water availability and reliability.

10 MR MURRAY: Yes. Hopefully without too much pain along the way.

THE COMMISSIONER: And that's the very point. What that does involve, however, is the trial and error, the experimentation with climate change over our
15 shoulders as to just how successful or awful the ventures are into permanent cropping.

MR MURRAY: Yes.

20 THE COMMISSIONER: Well, now, one thing that troubles me, I think, about that approach is that, along the way, as permanent croppers push the price up during dry times, it's not just their bank accounts and their hopes that are dashed but it's also the economic and social effect it has on those whom they are out-competing by price for temporary water, smaller family farms with perhaps annual crops or much smaller
25 exposure to permanent crops. Do you two have a view as to what, if anything, could or should be done about that?

MR MURRAY: As an industry, we have been supporting the development of the Australian water market and that facilitating movement to highest value use. But put
30 parentheses around the highest use because it has got to be within the context of everything else. So I'm not sure what the return per megalitre on almonds are but let's just say it's \$3,000 a megalitre and the return on cotton is probably, at the moment, 400, \$500 a megalitre. That's not an argument to say that all water used on cotton should go to almonds because of those risk factors but, you know, you need to
35 have that reliable supply. So I would be, I suppose, reluctant to put any further fetters on the water market. But I am concerned that, you know, there may be some pain along the way. People have got their calculations wrong as to how much water they need to sustain some of their permanent crops.

40 MR BEASLEY: On page 3 of your submission, you express Cotton Australia's view that it's supportive of the Basin Plan and its objectives and that the Basin Plan is working and will take time for results to fruit. I'm just wondering, is there any further you want to tell the Commissioner about – from the point of view of Cotton Australia about why you have the view that the Basin Plan is working?

45 MR MURRAY: I probably should temper that a little bit. If we can go back, historically what our view has been and the view of other irrigation organisations, we

have been very concerned from the outset about the Basin Plan and, in particular, its almost single-minded focus on hydrological outcome, just add water. And it's interesting, you go back and look at the sustainable river audits 1 and 2. You know, they assessed all the various valleys and they assessed it on Sustainable River Audit
5 Number 2. They suggested to test it against fish conditions, macroinvertebrates, vegetation conditions, physical form condition and hydrology.

10 MR BEASLEY: Yes. Unfortunately, that's – well, I shouldn't say unfortunately. It is a fact that the Sustainable Rivers Audit has been abolished.

MR MURRAY: Well, I would say it is unfortunate because it was a good snapshot. The interesting thing was that what scored high in most of those valleys was actually hydrology. And other issues - - -

15 THE COMMISSIONER: When you mean hydrology, you are talking about water flow.

MR MURRAY: Water flow. Yes. Other issues were the ones that, in general, dragged down scores lower. Now, that's not to say that every valley had great
20 hydrology but they also had lots of other problems. So we would have preferred, right from the very start, a much more holistic approach to Basin Plan that tried to tackle a lot of issues. For instance, we can recover water for the environment. We can decide that we want to encourage a fish-breeding event in a river. And then we let it out at the bottom of a storage and the water is not only too cold to encourage
25 fish to breed but in some cases it has been known to actually kill native spawn fish that had managed to breed naturally. So we would have preferred a much more holistic approach. Having said that, and despite the legal arguments and the interpretation, where that all landed, we genuinely believe there always had to be a triple bottom line outcome. That's the way we approach virtually everything in
30 Australia. We take everything into balance.

MR BEASLEY: By that phrase, you mean some form of compromise between environmental outcomes, social outcomes and economic outcomes, do you?

35 MR MURRAY: Absolutely. I mean, we believe in the concept of a healthy working Basin.

MR BEASLEY: And just to follow that through, you're not lawyers – and that's not a criticism.

40 MR KAY: No.

MR BEASLEY: Trust me.

45 THE COMMISSIONER: Far from it.

MR BEASLEY: But – and you don't want to engage today, and I don't intend to, with construction issues, but I take it from what you've just said that if, in fact, there is no such thing in the Water Act as a triple bottom line in the way we have just described, you – Cotton Australia would feel it's desirable that it be in the Water Act, is that your position?

MR MURRAY: Absolutely. And you're dead right, I'm not a lawyer in any way, shape or form and I do understand that second reading speeches don't hold a lot of weight in the High Court. But, you know, when you look at what Malcolm Turnbull concluded in his speech, "this Water Bill is the first water reform program introduced into this Parliament in 106 years. It's truly a nation building Bill, not only for this generation but also for the generations to come. It will ensure the sustainability of one of Australia's great national assets. It will underpin our nation's water resources and will secure the future for the industries, the communities and the environments that rely on them." And we would certainly believe that that is the case and should be the case.

THE COMMISSIONER: I should say, in an area that has more than its fair share of slogans, the slogan of a healthy working Basin is one that I, personally, find attractive. And it's very likely that I will see that as, for obvious nation building and I would say ethical reasons, the framework within which I should be trying to answer these questions I am being required to answer. And it seems to me, the merit of the word healthy is that it's a good plain English word that enables the environmental matters and some – and many social matters to be considered. And the word working refers to the fact that there's a planet to feed and to clothe. And we do that by agriculture and animal husbandry.

To use a word that is very delicate in this Royal Commission, namely, compromise because it's used in one of the definitions, but to use it as ordinary English, like all politics, the notion of a healthy working Basin obviously involves something in the nature of compromise. Or, to put it another way, there is no thought of returning to what I call pristine pre-settlement state of affairs, which would treat humans as if they were aliens and which I have no intention of taking as an approach in this Royal Commission. It wouldn't be useful for you and me to debate pure matters of statutory interpretation. If Cotton Australia wants, with legal assistance, to put in any further argument, please feel free to do so. Now, I don't say that to everybody but – and I'm not saying I expect you to do it. But what – I am very interested in is your vantage point, your views. If you wanted to say more on the statutory question, please do so.

You may have heard from what counsel assisting and I said in relation to Minister Littleproud's material, that so far we haven't really received something that pushes back against the matters I have raised in my Issues Paper. Now, perhaps it's because I'm a barrister but I'm used to considering counter-arguments. And it is quite noteworthy that we haven't seen a lot. There's one Australian Government Solicitor opinion with which I will be dealing in my report but not much else. So if there is – in particular, your answer to counsel assisting about the triple bottom line being

legislated if it is not already the law is something that really does interest me, if you, I would suggest, with legal assistance, that's better, if you have a suggestion as to what should be in the Act, if the Act doesn't mean triple bottom line, then I would – I would be very, very interested to give it consideration. Because I certainly will be
5 looking at that question.

MR MURRAY: Well, there is no doubt that when the bill was first, you know, drafted, and its early stages, we constantly, as an industry, irrigation industry, constantly – we questioned whether or not it did actually, you know, balance those
10 three outcomes.

THE COMMISSIONER: Yes.

MR MURRAY: We – so - - -
15

MR BEASLEY: And there was a Parliamentary Inquiry into it.

MR MURRAY: Yes. So we hold those same concerns that have been raised and when you read those words. In between various Parliamentary Inquiries and the
20 advice that was given and accepted by Minister Burke - - -

THE COMMISSIONER: That is the 25 October 2010 document to which you have referred, I think.

25 MR MURRAY: 2010. Yes. I think that's right.

MR KAY: Yes.

MR MURRAY: You know, we have accepted that. And I guess we have moved
30 on. So when we say that, you know, we think – you know, supportive of the Basin Plan, I think we need to put it in context. This is really word-leading stuff. There's nowhere else in the world that has actually tried to tackle anything like this.

THE COMMISSIONER: Particularly in a Federal system.
35

MR MURRAY: Yes. And we have come a long way and there is some good reports showing already good environmental outcomes. And those reports are available both on the MDBA site and on the Commonwealth environment - - -

40 MR BEASLEY: You're talking about, for example, the recent publication they put out in May on some monitoring they have done of certain of the icon sites.

MR MURRAY: Icon sites and fish breeding improvements. There's some
45 scientists out at in Deakin University that have been doing some work and monitoring these outcomes and, basically, the summary is we are seeing improvements. In fact, we are actually seeing far better improvements than what we would have expected to see this early on in the Basin Plan. So that's positive.

MR BEASLEY: Some of those results are, of course – have resulted from, for example, infrastructure that was actually built prior to the Basin Plan under the Living Murray initiative.

5 MR MURRAY: Yes.

THE COMMISSIONER: As counsel assisting points out, it's not the Basin Plan as such which is the only contributor to this good news.

10 MR KAY: Yes.

THE COMMISSIONER: It's actually quite a few years of previous work, as well.

15 MR MURRAY: Previous work and previous water reform. You know, it bears in mind that, you know, the Basin Plan is just the latest version that, you know, at least goes back to the '94 – '93, '94...

20 THE COMMISSIONER: To be fair, you may be selling it short there. It's not just the latest. It really is – on a global scale, it really is an extraordinary achievement, I would have thought.

MR MURRAY: So we have the cap, then in New South Wales and in other jurisdictions... New South Wales we went through first round of water sharing plant.

25 MR BEASLEY: Yes. Yes.

30 MR MURRAY: On average, those water sharing plans reduced irrigators' reliabilities by about seven per cent. So we have had that. And then we have got, on top of this, the Basin Plan is, as you point out, is word leading. And I think, also, what gets lost at times – and there's a lot of focus naturally on the 2,750 or the 3,200 but – and there's almost an expectation or belief among some people that the amount of water for the environment is the 2,750 or the 3,200.

35 THE COMMISSIONER: No. No.

40 MR MURRAY: You know, we've got average inflows of 33,000 gigalitres into the Basin. We have a base line diversion limit of 13,000. So roughly, you know just over – just under a third. And by the time these adjustments are made it will be less than a third is actually diverted. So 66 per cent roughly is already with the environment, one third is for productive use. And I think people need to keep that in mind.

45 THE COMMISSIONER: Believe me, if there is one thing I will try to do is to make clear, whether it's 2,750, 32, 2,000, whatever, gigalitres, it represents what can be called a reduction in base line consumption or what some people call a recovery for the environment. And it is, of course, added to what is already there. So you make

that point very clearly in your submission, and you are pushing at an open door with me about that.

MR MURRAY: The other - - -

5

THE COMMISSIONER: Mind you, that means the critical question is how much is to be recovered?

MR MURRAY: Yes. And I think the other important thing that people need to consider is our support now is – you know, we’ve had 10 years of arguing about the number. We’re prepared to accept the number and move on. The focus now should be in absolutely maximising the environmental outcomes with the water that is available to the environment, because from an industry and representative of Basin communities, what we don’t want to see is coming back when the plan is reviewed in 10
15 five years or a 10 year update, you know, calls for more water to be recovered. We genuinely want to see the environmental improvements. And we believe that it has to be done with a much more holistic approach, so not just concentrate on the add water.

20 And we’re very consistent when we were submitting on the Northern Basin amendments, I think it was back in 2016 or very early ’17 now when we were actually submitting that –we called for water recovery in the north not to go to the 320, but to stop at the then level - - -

25 THE COMMISSIONER: 278, yes.

MR MURRAY: - - - at 278. And invest the 500 million or so that would be required for the further recovery up to 390 into a whole range of complementary measures to really start to, you know, drive some environmental outcomes. Until we 30
improve fish passage, until we get rid of cold water and pollution, until we do something about European carp and riparian zone management, we are going to – no matter how much water we put in, we’re still going to run into problems. Adam a little bit later, well, maybe now, will talk about the Macquarie mashes story.

35 THE COMMISSIONER: It just occurs to me, however, given the time - - -

MR BEASLEY: Yes.

THE COMMISSIONER: - - - is this the appropriate time for a short break?
40

MR BEASLEY: It is, but can I just follow something so I don’t forget with what Mr Murray just said. In terms of wanting to see results from the Basin Plan, I think one of the points you make in the submission is that your preference would be for the efficiency measure scheme, if I call it that, for the extra 450 gegalitres water for 45
enhanced environmental objectives to be a scheme that comes into place after there has been some monitoring and analysis of what has occurred in relation to the 2,750, factoring in the supply measures.

MR MURRAY: I think – yes. I think that’s almost what we said. We certainly said historically that was our view, that, you know, if it was our preference, we would finish the first stage of the Basin Plan, see how well we go and then see if there’s the argument for the 3,200. But just as we accepted – and this was a point I wanted to
5 raise. Just as we accept the supply measures are an integral part of the plan – they’re not an add-on. They were in the plan in 2012.

MR BEASLEY: Yes. Yes.

10 MR MURRAY: Just as the Northern Basin review was in the plan in 2012 and it’s not an add-on and, you know, there has been commentary that the amendments that went through Parliament last month represented a back down, a watering down of the plan, they were always integral parts of the plan. And the 3,200 is an integral part of the plan, so it needs to be delivered.

15

MR BEASLEY: All right.

THE COMMISSIONER: Thank you.

20 MR BEASLEY: That’s a convenient time.

THE COMMISSIONER: Yes. We will pick that up. Now - - -

MR BEASLEY: At what time?

25

THE COMMISSIONER: Can we just make it 15 minutes, starting - - -

MR BEASLEY: We can, yes.

30 THE COMMISSIONER: - - - at 5 to 12, please.

MR BEASLEY: Five to 12. Thank you.

35 **ADJOURNED** [11.40 am]

RESUMED [11.54 am]

40

THE COMMISSIONER: I just want to ask - - -

MR BEASLEY: Yes.

45 THE COMMISSIONER: Gentlemen, can I direct you, please, to page 25 of your first submission.

MR KAY: Yes.

MR MURRAY: Yes.

5 THE COMMISSIONER: Just for ease of reference, what you call the full 605
gigalitres of outcome, it may be a slightly different figure because of a five per cent
ceiling, but we all know, I think, what we're talking about. Some people have called
that down water, but it's a reduction in the amount necessary to be recovered on a
10 basis that equivalent environmental outcomes can be achieved without having to
reduce the consumptive pool by as much as 2,750 gigalitres. That's how you
understand it?

MR MURRAY: Yes sir. Yes.

15 MR KAY: Yes.

THE COMMISSIONER: Now, the 36 supply measure projects as, I think one of
you said before the break correctly, are the manifestation of something that was
always an integral part, by way of adjustment and amendment, of the Basin Plan
20 pursuant to the Act. I want to say always. It is a legislative possibility. That's what
you're referring to, I think?

MR MURRAY: Yes, it's included there in the Basin, 2012, basically.

25 THE COMMISSIONER: But, as you point out on that page, in relation to the
projects themselves, including their prospects of achieving environmental outcomes
that are equivalent or better, there is very limited detail available for any of us to look
at.

30 MR MURRAY: Correct.

MR KAY: Yes.

35 THE COMMISSIONER: And I was struck by something that you said just before
the break concerning the undesirability of the 2024 look and see occasion producing
the – an outcome of new reductions in the water available to irrigators. Is that what
you were referring to?

MR KAY: Yes.

40

MR MURRAY: Yes. As we understand the way this process will work, that if the
assessment in '24 doesn't show the full 605, or whatever the final number happens to
be, has been achieved - - -

45 THE COMMISSIONER: Then it gets reversed.

MR MURRAY: - - - well, then it has to be made up by further acquisitions.

THE COMMISSIONER: Now, that's what I didn't quite understand. And my fault, no doubt. What do you mean by the full 605 being achieved through acquisitions?

5 MR MURRAY: My understanding is – let's just say the – 24 of the projects go ahead and others drop off, and the remaining bit that wasn't achieved was 200 gicalitres, my understanding is to fulfil the plan you have to acquire that 200 gicalitres. So the 605 is not absolutely locked in stone. It has to be achieved. So if it's not achieved through these measures after an assessment in '24, the Commonwealth has to step back into the market and one way or another acquire that
10 water.

THE COMMISSIONER: So the 605 is not recovery for the environment; it's a diminution in the amount to be recovered - - -

15 MR KAY: Yes.

THE COMMISSIONER: - - - for the environment.

20 MR MURRAY: Yes.

THE COMMISSIONER: So – and, in theory at least, as the statute and the Plan make clear, it's calculated – that's the word they use – it's calculated by making judgments and evaluations as to the contribution, the successful carrying out of those supply measures, will make to the capacity to reduce the environmental amount, a
25 capacity that comes about because, if you like, there's more bang for your buck; you get the same or better environmental outcome for less water. So the 605 is not water for the environment; it's less water for the environment. In order to keep that less water for the environment, I'm wondering what you mean by acquisitions. I can certainly see that you might want to propose new or better supply measures, that is, if
30 you fail you improve your methods. But I didn't understand your reference to acquisitions.

MR MURRAY: This might go back to needing the lawyers to look at the fine detail, but my understanding is, okay, these have got to deliver 605 gicalitres
35 equivalent of environmental outcomes. So we're doing these projects.

THE COMMISSIONER: Yes.

40 MR MURRAY: If, in fact they only recover 400 gicalitres of equivalent environmental outcomes, so the projects haven't lived of up to their expectation, my understanding is in that situation the Commonwealth would have to acquire another 205 gicalitres of actual entitlement.

45 THE COMMISSIONER: So buyback?

MR MURRAY: Yes.

MR KAY: Yes.

MR MURRAY: Well, buyback, efficiency measures, whatever. But they have to acquire that entitlement. So that's the safety net. Now, I think everyone - - -

5

THE COMMISSIONER: But that will involve reductions below the amount then available for irrigation?

MR MURRAY: Yes. It would mean that that would have to come out of the consumptive pool.

10

THE COMMISSIONER: Out of the consumptive pool.

MR MURRAY: Yes. So, you know, what we've got, you know, without the supply measures was a recovery of 2,750. With the supply measures, that required recover has been reduced. But if those environmental equivalents aren't achieved, well, then, that acquisition of water needs to be increased again to make up the difference.

15

THE COMMISSIONER: So the less you know about the supply measures and their prospect of achieving at least equivalent environmental outcomes, the more uncertain irrigators are as to whether they will enjoy the same size of consumptive pool after 2024.

20

MR MURRAY: Yes, but I guess it's also, you know, a motivation to do all that we possibly can to make sure that they are achieved.

25

THE COMMISSIONER: That they work.

MR MURRAY: That they work and they achieve their outcome. You know, I have not looked at any of the projects in any detail at all, so I can't really make an assessment as to whether they're going to work or not. I guess the one that concerns me the most – and I'm not saying it can't work, but probably the most complex, because of the impact it has on lots of stakeholders, is the Menindee Lakes project.

30

THE COMMISSIONER: Yes, I was going to ask you about that. So it does seem to me that – your position to me is the more we know about these projects and their progress, something in the nature of continuous audit, the better, because their achievement is very important to maintain consumptive pool.

35

MR MURRAY: Yes, we want to see them work, no doubt. And if we can get more confidence in that over time, well, I guess that's a bonus.

40

THE COMMISSIONER: Well, in order to see whether they're working, in order to have confidence, I gather that your position is there needs to be publication of information.

45

MR MURRAY: Yes. And I haven't looked at it, but recently there was at least limited release of - - -

THE COMMISSIONER: Yes.

5

MR MURRAY: - - - preliminary cases or all of them, I think.

THE COMMISSIONER: Right. Yes.

10 MR MURRAY: But, you know, I haven't had a chance to go through them in any detail.

THE COMMISSIONER: Thanks.

15 MR BEASLEY: Can I just ask – I certainly would agree with your submission that it's not desirable to have very limited detail about these projects, not the least of which because Federal Parliamentarians have had to deal with it without the release of much of this information. I do have to, if not – even if mildly, I think I would challenge your next submission that it cannot be avoided at this time. Why do you
20 say that releasing information about the – publicly releasing information about the supply measures such as releasing the feasibility studies or the business cases or the MDBA's analysis, why could that not be avoided?

MR MURRAY: Well I'm not sure whether it could not be avoided, but it didn't
25 happen. And my understanding – again the lawyers to go through the fine print, but there were some very strict timetables as to when the SDL adjustment mechanism projects had to be accepted by. And I gather those – for whatever reason, those timetables couldn't move. We got the level of information that we've got. We believe in the concept, and we believe in the safety net at the end of the process.

30

MR BEASLEY: Yes. Sure. I'm not - - -

MR MURRAY: We will live with what we've got.

35 MR BEASLEY: Yes. I'm not really asking you about that belief. That's fine.

MR MURRAY: Yes.

MR BEASLEY: What I'm trying to find out is where you say it can't be avoided.
40 Some of the feasibility studies date back, you know, certainly years. The business cases in some instances date back several years. The MDBA's analysis of some of these measures was done in 2017. Is there any reason you want to expand upon about why - - -

45 MR MURRAY: Well, I don't think - - -

MR BEASLEY: Is there a good reason you think that that information shouldn't be made publicly available, except where it has, for example, got a commercial in confidence issue and why it couldn't have been made available in a timely fashion?

5 MR MURRAY: To be quite honest, I don't really think I'm qualified to comment on that. I've certainly got no visibility of what the decision-making around it was.

MR BEASLEY: All right.

10 MR MURRAY: And, you know, from a Cotton Australia perspective, we certainly had no ability to influence when it would be released.

MR BEASLEY: No. Of course not.

15 THE COMMISSIONER: The statement that the limitations on published detail could not be avoided due to the time limits set around Basin Plan implementation on your page 25, is that something that you've been told by anyone in government?

MR MURRAY: Yes. Although, I would be probably hard-pressed to point directly
20 to it. But my understanding is that within the Basin Plan, the time limit for this was June 30 this year. In fact, I think there was an extension on that given through a MINCO agreement maybe 18 months ago. It was meant to be sort of 12 months so they pushed it out further.

25 THE COMMISSIONER: What I don't understand is why a stipulated time for the making of an adjustment has anything to do with the capacity of government to publish information, particularly when it already exists. Believe me, it doesn't take a lot of time or effort to publish information. I think you do know that.

30 MR MURRAY: Yes.

THE COMMISSIONER: I'm sorry to push but I think we deserve a better answer than you've given me.

35 MR MURRAY: Well - - -

THE COMMISSIONER: Where do you get this idea that the time limit for the proposal by the Authority of amendments to the Plan on the basis of the 36 supply measure projects inhibited, in any way, publication of enough material so people like
40 yourselves could make your own assessments and lend your own encouragement or discouragement, as the case may be, to them going ahead?

MR MURRAY: I'm not sure how I can answer that. We certainly, over time, called
45 for more information. It wasn't forthcoming. To be honest, I don't know where and what timing the various reports were put together. I do understand that there was at least a draft of the Menindee project that fell off the back of a truck about a year ago which I haven't seen.

THE COMMISSIONER: That's what I mean. It doesn't take - - -

MR MURRAY: So one would suspect it probably was out there. I'm not sure what
- - -

5

THE COMMISSIONER: If I may say so, no thanks from the government or the
MDBA. And you're nodding, you mean you agree with me?

MR KAY: Yes. We just had no visibility of the process or that. And, I guess,
10 we've been told that they're working to a timeline, they're developing these up. So,
yes, we didn't realise they were ready to go as it's being suggested.

THE COMMISSIONER: Have people in government told you they are too busy to
15 be bothered with publishing material? Is that right?

MR KAY: No, no. Not – I thought they were working up those proposals.

THE COMMISSIONER: Yes. Upon which there has to be public consultation.

20 MR KAY: Yes.

MR BEASLEY: Can I ask if the words, "It cannot be avoided at this time", are
really Cotton Australia's words? Or are they something you've been told by
25 someone in government and, therefore, put it in the submission? Is that what has
happened?

MR MURRAY: Well, it is our words based on our understanding that a decision
had to be made no later than 30 June.

30 MR BEASLEY: I know. But that's a different issue than what the Commissioner is
raising about the ease with which information can actually be made publicly
available. So where it says it cannot be avoided at this time, is that seriously Cotton
Australia's position or is that really, "We have been told this by someone in
government so we will accept that."

35

MR MURRAY: I would say it is our position based on the fact that if we had to
wait for further information from where we are and if that went past 30 June
deadline, we believe that, you know, we just have to get on with it.

40 MR BEASLEY: Sorry, I don't understand.

THE COMMISSIONER: I'm talking about the release of information that already
exists, you see. In some cases Counsel Assisting points out years before the time in
question - - -

45

MR MURRAY: Well - - -

THE COMMISSIONER: - - - but kept secret.

MR MURRAY: If that information is out there, we would have supported its release.

5

MR BEASLEY: No, no, no, no, no, no. Look, I fully accept where you are saying it's not desirable that this information not come out in the public and I assume that's because, first of all, this material is not – it's not State secret stuff, it's not about terrorism. It's about water management.

10

THE COMMISSIONER: Neither is any of it commercial in-confidence, that I've seen.

MR BEASLEY: I would say that that applies to 99 per cent of these. Perhaps where there's a suggested cost of a piece of infrastructure, that might be blanked out. But the rest of it - - -

15

THE COMMISSIONER: Well, only if there are ongoing competitive tenders for it.

20 MR BEASLEY: Yes.

THE COMMISSIONER: Once it has been accepted, I would like to think that the public be entitled to know how much they're paying for something.

25 MR BEASLEY: Yes. And you wouldn't – Cotton Australia's position wouldn't be, would it, that you would want this material hidden from, for example, analysis by Australian scientists?

30

MR KAY: No.

MR MURRAY: Not at all.

MR BEASLEY: Nor kept hidden from Cotton Australia itself to be able to advise your members about the pros and cons of what has been proposed. Correct?

35

MR MURRAY: Correct.

MR KAY: Yes.

40 MR BEASLEY: Because you want to be able to tell them, I assume, "We've looked at these supply measures business cases, we have looked at the MDBA's business analysis and we've had" – you know, you might engage consultants to assist you with analysing that for the purposes of your members and, in that way, to be able to better advise and one thing that may fall out of that is that you might be providing
45 advice, "Look, the 605 looks pretty safe." Or, "It looks a bit iffy and there might be less water available for consumptive use." That would that be the sort of thing you would want to advise your members on. Correct?

MR MURRAY: Correct.

MR KAY: Yes.

5 MR BEASLEY: So all of those are reasons why you're saying it's not desirable for this material not to be publicly released, I think.

THE COMMISSIONER: Getting rid of the double negative, you mean your position today is it's desirable that such information be published?
10

MR MURRAY: Yes.

MR KAY: Yes. Definitely.

15 MR BEASLEY: All right. Is there anything further on that page? I'm going back now to page 3. I take it from the evidence you gave before the coffee break that the last sentence of the first paragraph, the successful implementation of the Basin Plan relies on the successful implementation of the Northern Basin Review, the 450
20 gegalitres up water and the 605 gegalitres down water. Do I take from that and from what you have said that you don't wish to give any particular evidence because you don't know about any of these individual supply measures, etcetera? But for the purposes of your members, you just want the certainty of what's going to happen. Is that a fair summary?

25 MR MURRAY: Yes.

MR KAY: That's correct. Yes.

THE COMMISSIONER: And so the reference at page 6, top of page 6, to it being, in effect, a 3,200 gegalitre Basin Plan, that means, as it may be adjusted. It's not
30 literally 3,200.

MR KAY: No.

35 MR MURRAY: No.

THE COMMISSIONER: Thank you.

40 MR BEASLEY: At pages 6, 7, 8, you've given some submissions in relation to the Barwon-Darling Water Sharing Plan. I was just wondering, if you're not on top of it please just tell us, but there has been some recent proposals, or there has been some legislative changes to the Water Management Act in New South Wales. Are those amendments that were made to the Water Management Act matters upon which
45 Cotton Australia was happy about? Or did you have any disagreement with what has happened?

MR MURRAY: Primarily happy about. The area that we were most concerned about, though, was the extension of the powers of section 324 on embargoes and providing a - - -

5 MR BEASLEY: So that's where the Minister can embargo pumping for, for example, so that an environmental flow can be shifted down the region.

MR MURRAY: Exactly. Yes. So we considered that - - -

10 MR BEASLEY: Which happened recently with 23,000.

MR BEASLEY: It did happen recently. It happened recently and it happened in a very simple and probably appropriate way recently. Although, irrigators had actually, prior to the embargo putting in place, had contacted both the ... and New
15 South Wales Government and offered to put a voluntary embargo in place. But, you know, it was a very simple flow in that the only water flowing in the Barwon-Darling was environmental water. So there was no doubt that, you know, that should have been let through. It would have been much more complex if there had been a natural
20 flow occurred at the same time and irrigators would have been normally allowed their share. And that's our concern, that there needs to be much more active management of environmental flows and water sharing on the Barwon-Darling, rather than relying on the section 324, as we say, which is a very blunt instrument. You know, we are of the view that, you know, certainly irrigators are not expecting a free kick out of environmental water but they are certainly not wanting to have a
25 penalty imposed on them as well.

THE COMMISSIONER: So the crudity of the 324 embargo, as you see it, is that in order to shepherd the environmental – the planned environmental flow, there is prevention of pumping even of amounts that would not deplete that environmental
30 flow. Is that – have I got that right?

MR MURRAY: Yes. So let's just - - -

THE COMMISSIONER: Even of amounts that – even of amounts that would not
35 deplete.

MR MURRAY: Yes. Okay. Let's just say that there's a release of 10,000 megalitres.

40 THE COMMISSIONER: Yes.

MR MURRAY: And there was a natural flow that generated another 5,000 megalitres.

45 THE COMMISSIONER: Yes.

MR MURRAY: And under the various rules, irrigators would normally be allowed to take 2,000 megalitres of that natural flow. Under – certainly under a simple embargo that says you can't take any water, irrigators have lost their opportunity for that 2,000 megalitres that they would have otherwise been able to take. And, you
5 know, as I said, it's not so much an issue when the only water in the system happens to be environmental water.

THE COMMISSIONER: When you say the only water, you don't mean literally the only water, a dry bed. You mean above, presumably, a low flow level.
10

MR MURRAY: Well, let's – if we accept that any water that's not available to be taken by the consumptive pool is environmental water anyhow - - -

THE COMMISSIONER: Okay.
15

MR MURRAY: But you've got the base load of environmental water, then you had the adaptive environmental water or the held environmental water that was released. So that was, effectively, the only water in the Barwon-Darling. There were no inflows – natural inflows that would have triggered a pumping event coming in from
20 other tributaries.

THE COMMISSIONER: So that requires, you think, a considerable sophistication and improvement of the cooperative management so as to prevent an embargo doing more than is necessary.
25

MR MURRAY: Yes.

THE COMMISSIONER: Is that right?

MR MURRAY: Yes. The way the Barwon-Darling has traditionally operated is that irrigators or entitlement holders get access when water – the gauges at certain points reach certain marks. So as long as the water gauge is reading X here and Y there, they can take their class of water. And it didn't really matter, you know. That was just – water is water in the system. So you could, both theoretically and, I think,
35 on a couple of occasions, practically, environmental water has entered the system. And where pumping would not normally be triggered – let's say the gauge would normally have been operating at 1,000 megalitres and the trigger height might have been 1,100.

40 It's running at 1,000, there has been some additional environmental water come in and it's pushed it to the 1,100 trigger. Irrigators could take that water. Now, those were the rules that were in place – have been in place since the Plan started. Or, effectively, the rules that were in place prior to the Plan up to 2012. And they were certainly the rules in place when the Commonwealth started buying water. So, you
45 know, one of the things that we have found really, really, I suppose, distasteful, to say it mildly, about a lot of the media commentaries, is suggestion that irrigators have been stealing environmental water.

Irrigators have been – you know, unless they have been deliberately breaking the law, and we can deal with that separately, irrigators have been acting within the rules that have been in place. And one of the mantras within the Basin Plan has been a licence is a licence is a licence. And so people have been purchasing licences and they shouldn't change characteristics. Now, we accept that there probably has to be some adjustment to give the public confidence that irrigators are not getting an advantage out of environmental water on unregulated systems.

THE COMMISSIONER: Or, to put it another way, environmental water is environmental water. It shouldn't change its character.

MR MURRAY: Yes. No. True. But it's purchased just as entitlements. It's not – it doesn't have any magical thing that makes it environmental water except who owns it. Now - - -

THE COMMISSIONER: And what it's intended for.

MR MURRAY: What it's intended for. But it was intended for within the rules that applied to that licence.

THE COMMISSIONER: No. I understand. You seem to be identifying the fact that 324 embargoes enable the existence of the rules without becoming self-defeating. That is, if a rule enabled irrigation use of environmental water, there would be a self-defeating exercise. That is, the environmental water would not remain environmental water. Another way around it, of course, is to adjust the rules.

MR MURRAY: Yes. And I think that is the practical and sensible thing to be doing. And the – it is not – while it is quite different to the current practice, you can manage environmental flows very similarly to how New South Wales manages what's called a supplementary event in a regulated river.

THE COMMISSIONER: Yes, yes.

MR MURRAY: It's different to what's done and it will take some adjustment but there is a process. Now, my understanding is that the regulators did have, basically, in their back pocket, a trial way of managing that should there have been a natural inflow event during this embargo flow. But we do think it's – you know, the concentration now should be on working on those rules, making them transparent, making sure that while it protects the environmental water, it doesn't disadvantage the irrigation entitlement holders. And we don't think they will get it right, necessarily, the first time. So it might be a bit of an iterative process but that's what we would see would be a far, far better outcome than that very blunt section 324.

THE COMMISSIONER: Thanks very much. While on this question of rules, Mr Beasley asked you about the recent New South Wales amendments. Does Cotton Australia have a position about any improvements there still need to be to the use of so-called floodplain harvesting?

MR MURRAY: Well, we are very supportive of the process, which has probably been going on for far too long but it is getting there to licence, to take floodplain harvesting. That is just regularising or legalising what has always been allowed. And under the 1912 Water Act, it was controlled through what we will call part 8
5 and, I think, part 2 approvals. Now, with the move to the Water Management Act 2000, everything has to have a volumetric licence. So that's the process that's going on. Yes, Water Act 2000, we are now in 2018. It has taken a while to get there. But, you know, there was a process of first converting the regulated river systems, then the groundwater and supplementary flows and it's a table of work. Do we
10 support that? Yes. Do we support that it should be within all the rules of the Plan in terms of the cap but no increase in extraction? Yes. The concept around measuring or metering floodplain harvesting is technically difficult. We believe it certainly can be measured to a relatively high degree of accuracy but probably not metered as such.

15 THE COMMISSIONER: Well, it won't be literally metered, will it, because - - -

MR MURRAY: Well, that's my point. If you think of metering as literally metered, I think that will be very, very difficult.

20 THE COMMISSIONER: Can you meter how – you can literally meter the offtake from penned water, can't you?

MR MURRAY: Yes. So the outflow out of a storage.

25 MR KAY: Yes.

MR MURRAY: You could. What they do on the lower Balonne, they have surveyed all the storages very accurately and then put a measuring buoy that can
30 capture the rise and the fall. Now – and then any extraction that you have from the river is metered through the river. So that might be going into the storage as well and you say, "Okay. 200 megalitres went in there but the storage has risen by a 1000 megalitres, where did the other 800 come from?" Some of it has probably, you know, genuinely come from floodplain harvesting. Some of it may have been tail
35 water return off the irrigation area. Some of it might be what they deem as local rainfall runoff.

THE COMMISSIONER: So surface rainfall – alas, that is not all that common or all that great in that area, though.

40 MR MURRAY: Well, we are in the subtropics - - -

THE COMMISSIONER: But you know when it happens.

45 MR MURRAY: And we are in a subtropical zone in the northern Basin. So it's not that uncommon to get, you know, like, 100 mil events and the like. So, you know, it certainly does happen. A combination of metres, surveyed storages, a degree of

modelling, good weather data could get to a fairly high degree of accuracy over floodplain harvesting.

5 THE COMMISSIONER: And that could then inform what I will call volumetric control.

MR MURRAY: Control. Yes, yes. We are certainly supportive of that and, you know, that process has had, you know, some fits and starts but it seems to be progressing.

10 THE COMMISSIONER: Thank you.

MR BEASLEY: Can I just ask, the recent amendment to the Water Management Act provides for the creation of individual daily extraction limits and they're now – they will be tradeable. One of the criticisms I've read of that is that it has put off, for the time being, I think, to 1 July next year, the possibility of creating a total daily extraction limit for particular zones in the river as a means of protecting environmental flows, for example. So that there is not too big a concentration of individual daily extraction limits in a particular zone of the river. Does Cotton Australia have a view about that?

MR MURRAY: Not specifically. I haven't had any exposure to the detail of what has been proposed.

25 MR BEASLEY: Yes.

MR MURRAY: The concept of individually daily extracted limits and announced access I think is where we need to go for the management. And, you know, I have been told that you know, well, that's going to be resource intensive. It's not that resource intensive. That's how the unregulated systems operate during supplementary events. So the northern valleys – certainly three, if not four, northern valleys are managed by two river operators. It's too much water at another ...

MR BEASLEY: All right. The report that you have provided us with from Barmah Water, without going through it in detail, the main thrust of it is, though, isn't it, that it's running less and there's less inflows in the northern Basin.

MR MURRAY: Yes, look, the main – yes. I guess the key - - -

40 MR BEASLEY: Please make any point you want to make in relation to that, but that's the main thrust that I took from it.

MR MURRAY: The key take-home is that yes, the five years that we looked, the reasonably recent five years, almost as dry as the period of the Millennium Drought.

45 MR BEASLEY: Yes.

MR MURRAY: We see that extractions have reflected that, in that, you know, there has not been any great levels of extraction, but there was a couple of years of big inflows. But I think the other key thing is that, you know, people downstream just very regularly blame cotton producers on the Barwon-Darling for all the woes. And
5 I think every year – certainly four years out of five, if not every year – the amount of evaporation out of the Menindee Lakes has far exceeded the extractions.

MR BEASLEY: So Cotton Australia doesn't want any blame for it not raining.

10 MR MURRAY: Well, yes, we definitely - - -

MR BEASLEY: Fair enough.

MR MURRAY: - - - don't want to be blamed with it not raining. And I think –
15 there's a page of hydrographs.

THE COMMISSIONER: Page 16.

MR MURRAY: And that just shows that, you know, when the river flows, the river
20 flows and when the river doesn't flow, it doesn't flow.

MR BEASLEY: Yes.

MR MURRAY: And, you know, we have seen recent commentary that blaming the
25 current situation of the Barwon-Darling on extractions, you know, in the last 12 months, total irrigation extractions, if the New South Wales website is correct, for the season that has just finished on 30 June was 17 megalitres. You know, that's not 17,000, 17. So we have got absolutely nothing to do with the current dire situation. We also see from this report that - - -
30

THE COMMISSIONER: Or, to put it more accurately, you've only got 17
megalitres to do with it - - -

MR MURRAY: Well, yes.
35

THE COMMISSIONER: - - - which you correctly pointed out is a fraction.

MR MURRAY: And not only – if that 17 megalitres was extracted at Bourke or
40 near enough, the amount of that 17 that may have got to Menindee would be an absolute fraction of 17. The recent release of 23,000 megalitres of environmental flow, I'm not sure whether it has all got to Menindee yet, but it's down to something like 1,000 or 2,000 megalitres will actually get to Menindee with zero extractions. So that's just the nature of a very flat, very long river system. And that flow was actually enhanced by a small natural flow that occurred before that release, which
45 was also embargoed. So if that natural flow hadn't occurred, you know, I would be surprised if any of that release would have got to Menindee with zero interference from irrigators.

THE COMMISSIONER: As you say, the nature of that river system is that it certainly doesn't deliver anywhere near what starts off in the headwaters to its end of flow.

5 MR MURRAY: If I recall correctly a document from the MDBA that modelled a megalitre of water going over Jack Taylor Weir at St George in a flowing but not spilling river, the estimate was that I think .17 would actually make it to Menindee. So that's just the natural river system.

10 MR BEASLEY: Speaking of embargoes, just so I remember to ask you – and I don't mean to distract you from anything else you want to say about that Barmah report. But one of the matters you raised in your submission is Cotton Australia's support for the Broken Hill pipeline. But I take from what you've also said today that that shouldn't be seen as an endorsement of the Menindee Lakes supply project.
15 It's a separate reason. It's entirely separate from that supply measure as far as Cotton Australia's support of the pipeline is concerned. Am I correct in that?

MR MURRAY: Well, I think they're related. It just depends on exactly where this project goes to. The general approach which has been happening, and would have
20 seen that only 18 months ago there was 2 million megalitres in Menindee Lakes. And now we are, basically, getting very close to dry. They are putting rock banks in the Lower Darling.

MR BEASLEY: As I understand your submission, you're saying you support the
25 pipeline because you are concerned about low levels of water in the Menindee Lakes, meaning that there might be more embargoes. Is that - - -

MR MURRAY: Well, yes, but why the low levels in Menindee Lakes? In part it's
30 due to the overall idea/concept that if you want to save evaporation on Menindee Lakes, you use the water out of Menindee Lakes more often. Now, unless you somehow mitigate that third party impact, that means the lakes will be less full more often, which means that Broken Hill will run into water restrictions more often. The traditional approach to when Broken Hill has fallen below 24 months – 18 months of forward supply in Menindee, which means that they need 240,000 megalitres in
35 Menindee Lakes – Broken Hill only uses some six to 8,000 megalitres per year, but evaporation and other losses are so high they need that 240 – was to apply embargoes in the northern Basin.

MR BEASLEY: Yes.
40

MR MURRAY: Now, obviously we are opposed to that. So if one of the outcomes of reconfiguring Menindee Lakes is that Broken Hill's water supply becomes less secure, well, then, the Broken Hill pipeline is very much supported as a way of
45 providing them with their security.

MR BEASLEY: All right. Okay. I wasn't proposing to ask any questions about the Menindee Lakes supply measure.

THE COMMISSIONER: No. No.

MR BEASLEY: One of the matters you do raise in – this is at - - -

5 THE COMMISSIONER: Sorry. That's not because I'm not interested.

MR BEASLEY: No.

10 THE COMMISSIONER: It's because, look, we've got a lot of material and your addition to it is much appreciated.

MR BEASLEY: Yes, I didn't mean that rudely at all. It's just that I don't – as you have said, you haven't read all the material.

15 THE COMMISSIONER: There's not a lot ... material.

MR BEASLEY: No. Page 18.

20 MR MURRAY: Of the?

MR BEASLEY: Of the submission, the last paragraph. You raise the issue that some scientists have raised about efficiency measures and return flows, which raises the issue about what is the reliability of how much water has actually been recovered from the environment from an efficiency measure. You express the view that you consider the arguments laughable. Do you want to expand on that in relation to what you have said there in the submission? I think, basically, saying you've been so efficient for such a long time there wouldn't be much return flow.

30 MR MURRAY: Yes ... firstly, may I assume – what's your definition of a return flow, so I address it correctly?

MR BEASLEY: My definition of return flow is where water that is applied to plants, some of it will be used by the plants, some of it will be evaporated, but some goes into the groundwater and some will run off.

35 MR MURRAY: Right. Okay.

MR BEASLEY: And the water, the H₂O, that goes in the groundwater or that runs off back down into the river system is called the return flow.

40 MR MURRAY: Right.

THE COMMISSIONER: Or that portion of it that reaches the river.

45 MR MURRAY: Yes. Okay. So, firstly, if there has been a failure – or there certainly have been failures of irrigation schemes for hundreds and thousands of

years – the failure is normally due to the fact that too much water gets into the deep drainage, you raise the salt level and you cause salt.

MR BEASLEY: Yes.

5

MR MURRAY: So one of the absolute drivers for both environmental management and for achieving better water use efficiency is to minimise that loss of water through the root zone into the drainage zone.

10 THE COMMISSIONER: So there's a straight farming incentive not to overwater, even putting to one side that it may cost you per litre?

MR MURRAY: Well, yes. There are lots of motivations for not over watering. And one of them is if it has gone into the deep drainage, it's lost to the crop, but, 15 worse, is likely – well - - -

THE COMMISSIONER: You may - - -

MR MURRAY: - - - over time will actually cause an environmental disaster. 20

THE COMMISSIONER: You liberate salts that were better left where they were?

MR MURRAY: Yes. And it can do either one of two. Well, it does both things, as I understand it. One, it will liberate those salts and move them away 25 groundwater, but also raise the water table and bring the salts into the root zone. So there is no incentive to allow any more – it just has to happen to go into the deep drainage zone. And there is - - -

THE COMMISSIONER: Now, as well, I think you've drawn to attention from 30 some of the agronomy material that you have directed us to, that, in any event, at what I will call just a horticultural level, overwatering can kill or really set back the individual plant.

MR KAY: Cotton is very sensitive to water logging. And it's grown mainly on 35 heavy clay soils, vertisols, that are prone to water logging. And there's good data, sort of, you lose about 22 kilograms of lint per day of water logging. So - - -

THE COMMISSIONER: That's what I mean. There are farming – straight farming 40 incentives - - -

MR KAY: Exactly.

THE COMMISSIONER: - - - not to put too much water on.

45 MR KAY: That's why we have all got, you know, irrigation scheduling to get it right, irrigation scheduling, canopy temperature sensors, all of those rules to just get that right.

THE COMMISSIONER: Now, Mr Murray, your point is that these are understandings that have been operating sufficiently long that the improvements in so-called efficiency paid for under these programs are not to be regarded as likely to be eliminating substantial amounts of return water, because those incentives and that behaviour would probably have already eliminated a lot of it anyhow. Have I understood correctly?

MR MURRAY: That's certainly one part. I suppose it's a multi-part answer.

10 THE COMMISSIONER: Yes.

MR MURRAY: So, yes, you know, we've had dry rivers for a long, long time. Adam and I were discussing this morning, I grew up in the Riverina around Griffith. In the 1980s, which was rather wet, you know, it was all doom and gloom that rising salt level would destroy the MIA. And a lot of work was done there (a) to improve drainage and (b) improve water application land levelling and the like to minimise that. And it appears to have been successful.

But if we follow through the argument, as I understand it, put forward by Wentworth Group members and others, this water would have been otherwise applied, would have gone into deep drainage and would have then eventually returned to the river system. That's the argument that they've placed, in simple terms, I understand. Let's just follow that through and say that was the case. And then if you look at your map there that has got 18 salt interception schemes, which literally intercept that flow before it enters the river, pumps it into evaporation basins and evaporates it off.

So I just feel that they're wanting their cake and eating it in this particular argument, that they're somehow saying that this would be extra water into the system. So, from a theoretical point of view, yes, I suppose that if we continue to just loosely splash water on, allow it to go into deep drainage, there may be increased return flows into the river system, but they would be highly saline and those interception stations would have to work hard, and would probably destroy our farming environment, as well.

35 If you look at the other example of return flows, was water that may have been otherwise wasted and directly flowed back into the rivers, and what efficiencies may have done with that. Certainly, from a cotton perspective, it is only in the largest floods that people would let water that was held on their property under, you know, from irrigation, from their legal extractions and from irrigation would allow it to exit their property. So they will reuse it. They will have recycling schemes.

If we look at the large irrigation corporations and the work that they have done in their on and off farm efficiency. So Coleambally Irrigation, yes they have done work to line some of their channels. So they would have reduced some of the deep drainage. They also put in a fully automated system to minimise their end of system escapes. What happened to their end of systems flows that used to flow out to the

western drain, it was called, and where it was opportunistically used by other farmers and graziers out there. So it never returned to the system, anyhow.

5 If you look at Murrumbidgee Irrigation, their water largely goes into Barren Box
Swamp. They've done a lot of work in turning that swamp into a series of cells to
minimise evaporation. Then it passed through the ... irrigation district and was used
there. So, again, it didn't return to the system. So those savings there just aren't
there. Then we look at the projects. And have they reduced deep drain? Or were
they about reducing deep drainage. And when you look at the various on-farm
10 projects – and I can't quantify exactly, because I haven't been given that information,
but if you look at those projects, certainly I would say the majority are all about
saving on evaporation, not so much about application. So it was never water that
was going to go into the deep drainage, anyhow. For instance, a lot of the work has
been done on storages either raising it to increase the depth, subdividing them into
15 cells, so you can keep topping up the water in one cell and minimising - - -

THE COMMISSIONER: Just to keep the depth up.

MR MURRAY: Keep the depth up, you know, minimise your evaporations.
20

THE COMMISSIONER: Reduce the surface area.

MR MURRAY: So that water is, you know, being saved through savings on
evaporation, not through application. There have been some projects invested in
25 things like centre pivot irrigators or lateral move irrigators. Yes, they're about more
precise delivery of irrigation. They probably do have some impact on the amount
that goes through the deep drainage, but percentage-wise I think it would be very
small. Many of the irrigation sites are certainly some distance from the river. And
you've got that issue that it will be mobilising salt and putting salt back into the river
30 where it will be picked up in your interception schemes. So I don't deny in a strictly
theoretical sense that if you get less water going into deep drainage that - - -

THE COMMISSIONER: You will have less return.

35 MR MURRAY: Return. But I think the environmental outcomes ... irrigation
efficiency outcomes of that just make it an argument that I just can't understand.

THE COMMISSIONER: Well, I think you used the word laughable.

40 MR MURRAY: Laughable, nonsensical would be - - -

THE COMMISSIONER: That's all right. I'm not criticising the use of language.

MR MURRAY: Yes.
45

THE COMMISSIONER: Am I right to understand that you want me, in particular,
to bear in mind that the return water in question is at least a mixed quantity that is at

least by definition it may not be the kind of water you want in the river and in fact some of it is already the subject of quite expensive interception techniques?

5 MR MURRAY: Yes, I think that would be a fair conclusion, and also that under no circumstances were the whole raft – you couldn't say of the 700 gigalitres that has been recovered that only a very, very small percentage of that would have ever contributed to return flows, anyhow, because a lot of it is about evaporation, a lot of it is about improving efficiency where those efficiencies were previously used opportunistically by other land holders.

10 THE COMMISSIONER: I must say, I am struck by – in what I've been able to appreciate. I'm struck by a relative thinness of hydrological and hydraulic research about this phenomenon of return water and the differential effect on it depending on these efficiency projects. Is that your experience as well?

15 MR MURRAY: Well, to be honest - - -

THE COMMISSIONER: Not a lot of science is what I mean.

20 MR MURRAY: I suspect you are right. You know, we have seen references to a paper prepared by Quentin Grafton and I think some co-authors. We saw an ABC radio program that alluded to a document the ABC had been given to them by John Williams and Quentin Grafton, but exclusively, so I don't think it's out there. I don't know whether it has been peer reviewed. But it just goes against 40, 50, 100 years of science that says that you really want to reduce – if you want to have a successful irrigation industry, a sustainable irrigation industry, you've got to reduce and manage your deep drainage.

30 THE COMMISSIONER: Thank you.

MR MURRAY: And – sorry.

THE COMMISSIONER: No. No. Don't apologise.

35 MR MURRAY: The other issue is, you know, there has been some commentary that, well, we don't even know whether the water that has been transferred under these programs is real water. The water that the Commonwealth holds is hard, rock solid entitlement of the very same nature that irrigators hold, of the very same nature that the Commonwealth Water Holder has of all their other entitlements. It is real?

40 The other comment that I make is that, you know, there has been commentary that, you know, it is poor value for money. Most irrigators will probably say that the programs that are being offered to them are actually poor value to them, because there hasn't been overwhelming take-up of these projects. There has been some and people make various decisions as to whether it does make good value or not. But if I was an irrigator in the Murrumbidgee who, basically, entered one of these programs say four years ago when general security entitlement in Australia was \$700 and it's

today trading for 21, 22, 2,300, I would be wondering whether I actually made the right decision in handing some of that back in return for a project that probably involved some sort of depreciating asset, as well.

5 MR BEASLEY: At page 26 of your submission, you discuss the Northern Basin Review. I just want to check one aspect of what you have said there which is in the middle of the page, talking about a reduction in job losses from 710 to 530. That's based on the MDBA's analysis not your own. Correct?

10 MR MURRAY: Yes. That's right.

MR KAY: Yes.

15 MR MURRAY: And, look, if I could, there has been a lot of criticism about the MDBA, about their level of science, about their – the data that they are working with. We witnessed firsthand – and, you know, I know there's issues about getting them to appear here but there's one bloke that deserves to be called out here – well, mentioned, not called out in a negative sense. Phil Townsend, their Chief Social Economic Modeller. He went over and above to immerse himself really into
20 communities and work out what makes them tick. So I would have said – and I did say to Phil many times, “You can do this easily on the back of an envelope. We know in these areas virtually all the water gets used with cotton. We know that a megalitre of water roughly produces a bale of cotton. A bale of cotton is roughly worth \$500. You can work this out.” Well, Phil never accepted that and he really
25 dived deep into the data, into the communities, really, really immersed himself. And I saw, you know, some excerpts from, I think, Richard Kingsford's testimony to you and, you know, he said, “Well, it didn't take into account improved tourism and the like.” Well, that's not true. Phil went into all those sort of things. And what I guess I'm getting at is if the quality of the rest of the MDBA work is equal to the quality of
30 their social economic work, we really should have a lot of faith in it.

THE COMMISSIONER: Thank you.

35 MR BEASLEY: I didn't have any other – my silence in relation to that doesn't mean acceptance. I just don't want to – yes, take it - - -

THE COMMISSIONER: No, I understand.

40 MR BEASLEY: Tab 3, which is your response to Issues Paper 2, again, as we discussed before, you're not lawyers and I don't intend to ask you questions about statutory construction. Should we simply take from this that you have sufficient confidence in the few advices that have been publicly released that you cite in your submission that you consider that you can accept that advice and don't really wish to otherwise engage in the debate.

45 MR MURRAY: That's correct. Look, we're at the stage where we accept the Basin Plan in terms of the numbers that are out there. We just wish to get on with it. We

wish to leverage every possibly environmental gain because we don't want to be sitting here in five or 10 years' time re-prosecuting our arguments about it. Yes. I think everyone should be just focused on how do we actually make this work the best way possible.

5

THE COMMISSIONER: There's one overall thing I'm interested in both your reactions. On any view of it, triple bottom line or not, environmental outcomes which are broken up so as to be reflected in a number of so-called environmental watering requirements and which must be holistic rather than simply flow measures, are going to be a test of success. That is, whether the plan works according, I think, to the Water Act, will be determined by whether or not there is the stipulated recovery of the environmental position that the Parliament said had been adversely affected. So that's why I've said, from time-to-time, everyone agrees less water should be used consumptively. The big question is: how much less?

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15

There are other very important questions like and who has to bear the burden of giving up some of their prior enjoyment? Because of necessity, that means highly contestable scientifically based evaluations, including concerning degrees of confidence about the achievement of the things, everything has been pressing on me from various vantage points, the idea that there will come a time – we will call it 2024, it may not be, but there will come a time when what people call an audit, other people call a reckoning, other people call a possibility for further adjustment. What do you two think about this: that what that tells me is that the working of the Plan includes as an integral feature, the real possibility of future reductions in consumptive use in order to respond to demonstrated failure in achieving environmental outcomes? What do you two feel about that?

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25

MR KAY: Well it's something that I would really like to raise. And if I could pass a picture to you because it concerns us. And, I guess – I'm handing a picture of the Macquarie Marshes and, you know, it's one of the Ramsar listed wetlands. You know, from my 11 years living at Warren, I got to know this area really well. And what that picture shows is on the right-hand is the nature reserve and on the left-hand side is private land. And the Macquarie Marshes is some 150 to 200,000 hectares, yet the Crown only hold 18,000 hectares and the rest is privately owned.

30

35

THE COMMISSIONER: So what do you get and what do you want me to get from this quite striking picture?

MR KAY: Well, it's more than just sending more water down the river. You know, I lived at Warren - - -

40

THE COMMISSIONER: In other words, both of these properties are in a - - -

MR KAY: Yes. One is a nature reserve. And you can see it's magnificent. And one is private land and it's degraded. It's in really bad shape. Yet, they are both a Ramsar listed wetland.

45

THE COMMISSIONER: In other words, they are both receiving what I call - - -

MR KAY: Environmental flows.

5 THE COMMISSIONER: - - - increased flow.

MR KAY: Exactly.

THE COMMISSIONER: Now - - -

10

MR BEASLEY: Not necessarily in 2005.

MR KAY: Well, I've got pictures here that were taken last week too.

15 THE COMMISSIONER: No, no, no. We're not going to treat this as scientific data but it's useful as a talking point. Thank you.

MR KAY: No, no. Yes.

20 THE COMMISSIONER: Am I missing some point? Isn't the grazed land showing the usual outcome of grazing and the non-grazed land showing what happens when you don't graze? Hard hoofed animals, I mean?

25 MR KAY: Yes. You know, but I think, unfortunately, the scientists are saying, look, that's a Ramsar listed wetland and it's degraded and we need more water.

THE COMMISSIONER: I take your point.

30 MR KAY: They will keep coming back and saying, "Look at that. That's the Macquarie Marshes. Look how terrible it is."

THE COMMISSIONER: You can cheerfully proceed, I hope, from today on the basis that you push at an open door in relation to just add water not being a solution to anything.

35

MR KAY: That's it. It's about land management. You know, if we come up with land management solutions, we could get the left-hand side of that photo looking like the right-hand side. And I've got, you know, a recent flight over there just two weeks ago that shows exactly the same thing in the current dry conditions.

40

THE COMMISSIONER: Now, what do I get to the Willancorah story from The Land of 12 November 2009?

45 MR KAY: Well, I guess it's just – you know, the property is now awash with feed in the wake of flooding as pictured from environmental flows in the Macquarie River. And under the terms of the sale, the buyer has been granted immediate grazing access. So - - -

THE COMMISSIONER: That tells me that there are good seasons and bad seasons.

MR KAY: But it's the environmental water that they are grazing.

5 THE COMMISSIONER: I take your point. Thank you.

MR BEASLEY: I'm happy - - -

MR KAY: It's not anti – it's just how do we get the land management into this?
10 You know, Michael made the point about the rivers audit and about hydrology.
There's a lot of water – when I lived at Warren, the Macquarie Marshes got 40,000
megalitres. Today, the Macquarie Marshes have 340,000 megalitres, yet people are
saying the Macquarie Marshes are still dying.

15 THE COMMISSIONER: I understand.

MR KAY: Well, the core wetlands are in magnificent condition. The property
surrounding the core wetlands that is privately held is in atrocious condition.

20 THE COMMISSIONER: Yes. But have you made the response you want to make
to my question, which is: how do you feel about a view of the Water Act and the
Basin Plan that treats as a real possibility, as a feature of them, that there will come a
time, we will call it 2024, it may be at later iterations, where there may have to be
25 material, further reductions in consumptive use because of the failure to achieve pre-
stipulated environment outcomes?

MR KAY: Yes. I think that's what the Plan does. That's why we want to make
sure we get the environmental outcome from that water. That's – we have got a
vested interest in looking after these Ramsar listed sites. And these Ramsar sites as,
30 you know, I heard you referring to these external affairs powers in the Constitution.
That was sort of the basis of this whole Plan.

THE COMMISSIONER: All right. Mr Murray do you want to add to that at all?

35 MR MURRAY: Yes. I think we can get bogged down in, you know, the black
letter law. But the outcome that we actually want is real and genuine environmental
outcomes because it is a very real possibility that we will be having this debate again
in 2024. And, you know, if – we can see that just add water doesn't work. So we
need to move – accept the plan and the numbers that we have got now and then how
40 do you work holistically to really leverage the very best environmental outcomes out
of it. And, to be clear, you know, we're certainly not trying to impact on landholder
rights any more than we expect irrigators' rights to be impacted. The sort of things
that you could do down there is voluntarily purchasing the properties or entering into
management agreements. We certainly need to respect the rights of the landholders
45 down there.

THE COMMISSIONER: Thank you.

MR BEASLEY: I'm happy to tender those.

THE COMMISSIONER: Yes.

5 MR BEASLEY: I'm not doing anyone any favours, I just realised, by not
identifying what I'm actually tendering. So I'm happy to tender as part of the one
exhibit, the photograph supplied by the witness called Macquarie Marshes: Grazing
exclusion (Nature Reserve on Right) 2005. And the article from The Land of
10 Thursday, November 12, 2009:

Quick access to flood feed after Willancorah sale.

THE COMMISSIONER: Thank you.

15 MR BEASLEY: And, previously, I tendered – I just said “I tender that”, which
doesn't help very much. What I should have said was I am tendering document
provided by the witnesses called – titled ‘Australian Cotton Production and Area’
which contains a graph setting out bales production – sorry produced bales in various
20 years ranging from '93, '94, through to now. So all of that can be tendered.

MR MURRAY: Just on that last document, if someone looks at it very closely, they
might say, “Well, actually it rained this year but production went up the next year.”
And there is a little bit of lag in terms of when someone might use that water. So it
doesn't perfectly line up with droughts and floods. You know, if a flow was to occur
25 in, say, December or January, it would make no difference to, say – if it occurred in
December, it would make no difference to that year but would underpin cotton
production the next year, which could be a very dry year. So, as I mentioned, in the
last 12 months, total extractions at Bourke was 1,700 megalitres yet we have grown a
reasonably large crop there on the back of flows that occurred 18 months ago.

30 MR BEASLEY: Now, it's by no means compulsory to take up this invitation but I
don't have any further questions left. I'm not sure if the Commissioner doesn't
either, but is there anything you feel that I have missed or anything important that
you feel you wish to communicate?

35 MR MURRAY: Look, when we had our chat a couple of weeks ago by Skype, you
asked whether I had read the – remembered the '66 flood article, which I hadn't at
the time. I have since, wouldn't mind making a few comments on that.

40 MR BEASLEY: Feel free.

MR MURRAY: It has been tendered to you. First of all, if this is the standard of
Australian institute work, research that matters, I've got very grave concerns about it.
About the only thing that I can agree with in this document is that the Barwon-
45 Darling is a highly variable system. It's had massive floods and very low floods.
What I am particularly concerned about, (a) there is a certain political flavour about
this and refers to a brochure or something that the then Minister Kevin Humphries

referred to. If I was doing a document like this I would go back to the source material and the source material is the Barwon-Darling Water Sharing Plan.

And those numbers reflect in that, not in some document that apparently went out.
5 But what I really take objection to is the issue about what water use can be occurred. So it says in this document that irrigators can use 500 and something thousand megalitres year on year. And that is completely false. So let's break this down a little bit. There is, in round numbers 189,000 megalitres of extractive entitlement on the Barwon-Darling. Each year –and that's broken into various classes, A class, B
10 class and C class.

Each year the New South Wales Government allocates one megalitre for every megalitres of entitlement in those various classes. An irrigator can, if a whole lot of other conditions exist, can use up to 300 per cent of that in any one year. So if
15 they've got the water in their account, they could use 300 per cent. But they are only getting one megalitre or 189,000 megalitres in total into those accounts every year. So the average use cannot exceed 189,000. So the premise of this document is completely and utterly false. Now, we could look at some of the other data that is presented here, and discussion about, well, what level of - - -

20 MR BEASLEY: Sorry. Can I just make - - -

MR MURRAY: Yes.

25 MR BEASLEY: - - - sure I understand your point. Your point, breaking it up, is there's 189,000 megalitres of extraction in the Barwon-Darling region covered by the Water Sharing Plan

MR MURRAY: There is allowed average extraction of 189,000.

30 MR BEASLEY: And irrigators can use up to 300 per cent of their individual entitlement, but that doesn't mean you get three times 189,000; you're stuck with that as the total limit.

35 MR MURRAY: You could in a year, if three times 189 – I will accept it is without checking - - -

MR BEASLEY: Yes.

40 MR MURRAY: - - - is 567,000. You could in a year take 567,000 - - -

MR BEASLEY: Right.

MR MURRAY: - - - if you had the water in your account.

45 MR BEASLEY: Yes.

MR MURRAY: The only way you would have the water in your account is if you have under used your 189 in previous times.

THE COMMISSIONER: But it would be a function of carry-over.

5

MR MURRAY: And it's – yes. It's a continuous accounting system. Now, it has got the table here that, basically, says that you can – irrigators could extract up to 41 per cent of the total flow. As outlined in the Water Sharing Plan, irrigators can only take out something like on average four per cent. Now you do have a highly variable system. But all of New South Wales' Water Sharing Plans are worked on long range averages. Now Maryanne and the other author about the data from, I think, 1943 or '44. I actually think it's from the late 1800s. I think there's 114 years of data that goes into it. But, you know, if say, well, okay, what's the real situation, then? Even if we accept her numbers that the average flow this century has been – what did she say, at Menindee, I think something like 1,300 - - -

15

MR BEASLEY: Three million – 300,000 megalitres - - -

MR MURRAY: Yes.

20

MR BEASLEY: - - - flow

MR MURRAY: At Bourke since 1944, but she then talks about more recently. And I think she breaks it down and says at Menindee the average flows this century have been more in the order of 1,300 mega – 13,000 megalitres. The take is still only somewhere in the order of 10 per cent. And if we look at actual combined take – average take over the last six years out of the Barwon-Darling, it has been averaging at around about 110,000 megalitres.

25

MR BEASLEY: Right.

30

MR MURRAY: So, whichever way you look at it, even in the short-term, taking less than 10 per cent of the average flows at Menindee, we're certainly not taking anywhere near the number that she suggests in this document, and it is simply false to say that irrigators could take 576,000 every year. There is not one bit of discussion in this document about the way that access is actually managed through the requirement to maintain gauge rights. So that is, you know, a key thing that determines how much water an irrigator can take. So you've got to look at the entire package on how it works. That means in the long-term that 94 per cent is reserved for the environment. It's even more than that, because out of that 189, I think the Commonwealth currently formally and completely own 28 ggalitres and they have contracts to go up to 32 ggalitres. So the amount that irrigators can take on average is actually down at around 165 or 167 ggalitres.

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THE COMMISSIONER: Now if there's anything you want to add to this response – entirely a matter for you. If you want to put in something in writing to us, would

45

you do so as soon as you can, because it's obvious that it's a matter of importance to you and I want to fully take into account your response, please.

5 MR MURRAY: We will do that. The other thing – and I sort of touched on it before around the irrigation efficiency programs, but Maryanne Slattery appeared on a background briefing Radio National program and she talked about, you know, whether this water was real or not. And she and the presenter used an analogy that it was like the bank printing new money. And, again, that is completely and utterly false. The transfer of entitlement has been the same entitlement, the same currency
10 that everyone else uses.

The other comment that has been around is around a bit lately is around the cap factors and potential impacts that may have, basically. The cap factors are simply a tool to provide a universal currency to see whether the full amount has been
15 recovered. That has got no impact on irrigator reliabilities, it has got no impact on mortgages and security and the like. It is simply a tool to try and fairly compare water recovered in the lower Balonne to water recovered in the, you know, wherever, the Riverland of South Australia.

20 MR BEASLEY: Thank you. Anything else? All done? Good. Shall we – thank you, both. Thank you for coming. Thank you for your submission.

THE COMMISSIONER: Gentlemen, I'm much obliged for your assistance. And I apologise again for the delayed start this morning.
25

MR KAY: Thank you.

MR BEASLEY: Because the next witness has got to leave at 3.15, I'm just wondering if we can take a shorter lunch.
30

THE COMMISSIONER: Yes.

MR BEASLEY: So how long would you like to take?

35 THE COMMISSIONER: Is a quarter to 2 unreasonable?

MR BEASLEY: That would be fine with me.

THE COMMISSIONER: If that's - - -
40

MR BEASLEY: I assume that's fine with everyone else that - - -

THE COMMISSIONER: I hope so.

45 MR BEASLEY: - - - should be consulted, but provisionally we will make it 1.45.

THE COMMISSIONER: Thank you very much.

MR BEASLEY: The witness has got to go at 3.15. I haven't discussed with her, but if we don't have enough time, one option would be to – for her to return. Another option would be, if it's more convenient, and I would certainly be comfortable with it, finishing the evidence by Skype.

5

THE COMMISSIONER: Well, we can talk about that later.

MR BEASLEY: Yes. All right.

10 THE COMMISSIONER: Very well. We will adjourn until quarter to 2. Thank you. Thank you again, gentlemen.

MR KAY: Thank you.

15 MR MURRAY: Thank you.

<THE WITNESSES WITHDREW [1.07 pm]

20

ADJOURNED [1.07 pm]

25

RESUMED [1.44 pm]

MR BEASLEY: Ms Slattery is here.

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THE COMMISSIONER: Yes.

MR BEASLEY: So we will administer the oath or the affirmation.

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<MARYANNE SLATTERY, AFFIRMED [1.44 pm]

<EXAMINATION-IN-CHIEF BY MR BEASLEY

40 MR BEASLEY: Thank you, Ms Slattery. Can you provide the Commission with your business address?

MS SLATTERY: 1 Franklin Street, Manuka.

45 MR BEASLEY: And you're a Senior Water Researcher at the Australia Institute?

MS SLATTERY: That's right.

MR BEASLEY: Can you describe what is the Australia Institute?

MS SLATTERY: The Australia Institute is a progressive think tank.

5 MR BEASLEY: And it's based in Canberra?

MS SLATTERY: That's right.

10 MR BEASLEY: And how long have you been with the Australia Institute?

MS SLATTERY: I've been there since October last year.

15 MR BEASLEY: And, prior to that, you were employed by the Murray-Darling Basin Authority?

MS SLATTERY: Yes, I was with the MDBA since 2005.

MR BEASLEY: So 2005 until?

20 MS SLATTERY: October 2017.

MR BEASLEY: And during that time you also had a secondment to the Commonwealth Environmental Water Holder.

25 MS SLATTERY: That's right I was with the CEHW for six months and from about roughly about September 2016 to May 2017.

30 MR BEASLEY: And can you tell us what position or positions you held with the Basin Authority?

MS SLATTERY: I've been a Director there since probably about 2006. I was Director of Environmental Water Policy from 2010.

35 MR BEASLEY: And being Director of Environmental Water Policy involves what?

40 MS SLATTERY: I was in charge of policies to try to enhance environmental watering, mostly around the protection of environmental water. We developed and oversaw the first trials of large-scale environmental water in the southern connected system, and I ran those. I also was responsible for the operational and policy constraints part of the constraints management – of the constraints management strategy.

45 MR BEASLEY: And the secondment to the Commonwealth Environmental Water Holder, what position was that?

MS SLATTERY: It was just a Director in the policy section.

MR BEASLEY: What work were you doing there?

MS SLATTERY: I was asked to look at, basically, risks to CEHW's portfolio.

5 MR BEASLEY: All right. And you ceased employment with the Basin Authority by taking a voluntary redundancy; is that right?

MS SLATTERY: That's right, yes.

10 MR BEASLEY: You've provided to the Commission a statement dated 11 July 2018.

MS SLATTERY: Yes.

15 MR BEASLEY: And that statement is true and correct?

MS SLATTERY: Yes.

MR BEASLEY: And you've also authored a submission under the banner of the
20 Australia Institute to the Commission dated July 2018.

MS SLATTERY: That's right.

MR BEASLEY: I tender the witness's statement of 11 July 2018 of Maryanne
25 Slattery.

THE COMMISSIONER: Thank you.

MR BEASLEY: And I tender the Australians Institute, South Australian Murray-
30 Darling Basin Royal Commission submission of July 2018. You were the author, though, of that submission; correct?

MS SLATTERY: Yes.

35 MR BEASLEY: And you've also, during the course of your time with the Australia Institute, co-authored a number of publications concerning the Basin Plan - - -

MS SLATTERY: That's right.

40 MR BEASLEY: - - - and aspects of it. One of those is a publication whose main title is 'Remember the 56 Flood?' Correct?

MS SLATTERY: That's right.

45 MR BEASLEY: Which is - have you been given a folder?

MS SLATTERY: I've got a copy here.

MR BEASLEY: No? You're about to get one. By all means use your own, if you want, but the publication I just referred to is behind tab 3. You were in the hearing room when Mr Murray gave some evidence concerning this particular publication. Can I just see if I understand the point you're seeking to make through this
5 document? On page 3 you refer to some statements by a couple of New South Wales – or the New South Wales Water Minister, Mr Blair and a previous Water Minister, Mr Humphreys, claiming that six per cent of water in the Barwon-Darling is available for – you say production, I will say consumption – leaving 94 per cent for downstream communities. And you make a number of initial comments in relation
10 to that, first of all, suggesting that the flows that are referred to seem to be based at Bourke and not Menindee.

MS SLATTERY: That's right.

15 MR BEASLEY: Which are substantially higher. Then you say that the figure that they use, I think by implication, of 3,300,000 megalitres includes two substantial floods in 1950 and '56.

MS SLATTERY: That's right.

20

MR BEASLEY: It would also include the 1974 flood, wouldn't it, which would be the third highest?

MS SLATTERY: I haven't gone back to this since I wrote it, but yes.

25

MR BEASLEY: No. I know. But – all right. And you point out that average flows this century, I guess from the year 2000, are substantially lower.

MS SLATTERY: Yes.

30

MR BEASLEY: And then you point out that people in the – that are subject to the rules for the Barwon-Darling Water Sharing Plan can from time to time take 300 per cent of their allocation.

35 MS SLATTERY: That's right.

MR BEASLEY: All right. And you point out on page 5 that the basis for the claim of six per cent of water in the Barwon-Darling being used for consumptive use seems to be based on using the flows past Menindee of 3,300,000, the allocation for the
40 Barwon-Darling water sharing plan of 189,000 megalitres, meaning it's six per cent of all flows.

MS SLATTERY: That's right.

45 MR BEASLEY: That's how the figure is used.

MS SLATTERY: That's post-Four Corners and there was also a Lateline story, I think.

5 MR BEASLEY: Your concerns are that the figure of 3,300,000 is an average that is skewed by the fact that it includes those two very large flood events.

MS SLATTERY: That's right.

10 MR BEASLEY: And you've made the point that, on page 6, that those two floods contributed 21 per cent of total flows over the period from 1944, whilst the 51 driest years make up only 25 per cent of the total flow. Correct?

MS SLATTERY: Yes.

15 MR BEASLEY: And you've then produced some tables on page 10 that I want to make sure I understand. Table 1 you refer to method 1, 100 per cent of – what's WAL? Water allocation something, is it?

MS SLATTERY: Water access licence.

20

MR BEASLEY: Water access licence as a percentage of Bourke flows. And this is the means by which you've ascertained the relevant Ministers have been talking about six per cent for consumptive use. Now we've probably already been over this, but 189,000 megalitres under the plan available, average flow 3.3 million megalitres, therefore six per cent. For method 2, you have corrected – you have changed the 100 per cent of water allocation to a year where people can, for example, take 300 per cent of their allocation, producing the higher figure of the 567,000, which I think the previous witness referred to, which would mean 17 per cent of the water available is available for consumptive use - - -

30

MS SLATTERY: Yes.

MR BEASLEY: - - - under that scenario. Both of those relate to Bourke flows. You've then, in method 3, used the 300 per cent figure for flows past Menindee, which have an average of, rather than 3.3 million, 2.4 million megalitres.

35

MS SLATTERY: Yes.

MR BEASLEY: Producing a figure available for consumption of 24 per cent. I suppose another option for method 3 would have been to use a 100 per cent figure, rather than the 300 per cent figure.

40

MS SLATTERY: Sure, yes.

45 MR BEASLEY: And then method 4 you have used the 300 per cent method of water allocation flows past Menindee, but have used the average flow since 2000.

MS SLATTERY: Yes.

MR BEASLEY: Which is 1.369 million megalitres and, hence, meaning, based on that allocation, it is 41 per cent of water in Barwon-Darling available for
5 consumptive use.

MS SLATTERY: Yes.

MR BEASLEY: And, again, I suppose in relation to method 4 you could have
10 chosen 100 per cent instead of 300 per cent.

MS SLATTERY: Yes.

MR BEASLEY: And can I invite you to, not now, but do for us a calculation where
15 method 3 and method 4 uses 100 per cent, so we have the full range of possibilities.

MS SLATTERY: Sure.

MR BEASLEY: But you can come back to us on that. And that was the simple
20 points you were seeking to make, that the method used by – that seems to have been used by the Ministers to make the claim of six per cent of water is used – is available for consumptive use in the Barwon-Darling minimises that percentage by the means of which they've chosen as the inputs.

MS SLATTERY: Yes, that was one point. Another point that I suppose I would
25 infer from this is that in such a highly variable system any one method, as a really simplistic method, is going to be as silly as any other. Yes.

MR BEASLEY: All right.
30

THE COMMISSIONER: The table 1 figures, are they intended to suggest a
possibility in every year, that is, year on year?

MS SLATTERY: Well, no more than the 189 was year on year. One point I would
35 make, though, in the Barwon-Darling they have access to 300 per cent of take every year, not 300 per cent of take over three years. It's every consecutive year. Now, of course, that is going to be limited by how much water is in the account. It's also going to be limited by how much water is in the river and that make up of the 189 and various flow rates. But it is worth noting that in that system, as at 2016, they had
40 10 years worth of carry-over and every year they get an extra 100 per cent on 1 July. So within the life of the Water Sharing Plan, if there was enough water in the river, there's certainly enough water in the accounts to be using 300 per cent every year.

THE COMMISSIONER: In your table 2 – sorry – the table 2 on page 11 of the
45 'Remember the '56 Flood' paper, I'm a bit at a loss to understand the idea of 1,652 per cent being the highest amount available for production. What does that mean?

MS SLATTERY: I would have to have a look at it. I haven't looked at this paper since we wrote it. Yes.

5 THE COMMISSIONER: Thanks. It's not important enough to stop on it now, though.

10 MR BEASLEY: At page 5 of your submission, you refer to – sorry – at page 4, you start a discussion about the recent sustainable diversion limit adjustments under chapter 7 of schedule 6. And on page 5 you refer to a publication, of which you the co-author with Mr Campbell, called 'Desperate Measures.' That publication is behind tab 8 of the witness's bundle. And I want to go to that publication to understand why you are claiming that the SDL adjustments are inconsistent with the Basin Plan and likely to be unlawful. We need to go to the Basin Plan to understand the point you're making here. But, fundamentally, I think the really important part of the discussion commences at page 12 of your paper, where you are referring to the Menindee Lakes supply measure.

MS SLATTERY: Yes.

20 MR BEASLEY: And I think you've got an understanding that the Commissioner has put out an issues paper, issues paper 2, which raises different – potentially different grounds of why there may be an argument for unlawfulness in relation to the supply measure adjustment. The point you make is a different one, however; it's about compliance with the actual terms of the Basin Plan. Correct?

25

MS SLATTERY: Yes.

MR BEASLEY: And, fundamentally, it's about the failure in relation to the modelling that was done for the Menindee Lakes supply measure to comply with the requirements of section 715 of the Basin Plan. Is that correct?

30

MS SLATTERY: 715 and schedule 6.

MR BEASLEY: Yes. So looking at 715 of the Basin Plan:

35

Subject to this division, the total supply contribution of the notified measures of the total increase in the SDLs for all units affected by notified supply measures that will ensure that, calculated in accordance with the applicable method on the basis of (a) is a repeat of historical climate conditions.

40

That's not a problem. (B):

45

The benchmark conditions of development modified by, (i) the addition of the notified supply measure and (ii), the removal of any unimplemented policy measure.

And it's the (ii) that you say is a concern in relation to Menindee Lakes.

MS SLATTERY: That's right.

MR BEASLEY: And unimplemented policy measure is defined in section 715 of the Basin Plan to mean an anticipated measure consisting of a policy to: (a) credit
5 environmental return flows for downstream environmental use, (b) allow the call of held environmental water from storage during an unregulated flow events. The relevant subparagraph there is (a). Correct?

MS SLATTERY: That's right.
10

MR BEASLEY: And you say that in relation to the Menindee Lakes supply measure, in terms of the modelling, the unimplemented policy measures were not removed.

MS SLATTERY: That's right.
15

MR BEASLEY: And they should have been.

MS SLATTERY: That's my view. Yes.
20

MR BEASLEY: And this is something that you contacted the Basin Authority about to seek some confirmation or someone else did.

MS SLATTERY: New South Wales EDO contacted them, or they wrote to them at
25 the end of 2015. They advised that, in their opinion, the inflows into Menindee should be subject to 715 as unimplemented policy measures and should be taken into account for the calculation of the SDL adjustment.

MR BEASLEY: All right. Well, on page 13 of this publication, 'Desperate
30 Measures,' you refer to confirmation from the MDBA in correspondence with the Australia Institute where you quote from, it's an email from Mr Glyde dated 19 April 2018 which I will come to in a minute in terms of the whole email but what you refer to as the prerequisite policy measures have been included in the modelling of the package of supply measure projects as part of the benchmark model. So, in other
35 words, you're suggesting that 715, by the admission of this email, was not complied with.

MS SLATTERY: That's right.

MR BEASLEY: All right.
40

THE COMMISSIONER: What is meant by the expression "prerequisite policy measures"?

MS SLATTERY: They are the same as unimplemented policy measures.
45

THE COMMISSIONER: How do I know that?

MS SLATTERY: When the Basin Plan was being negotiated, MDBA gave commitments to stakeholders that the Basin Plan could be implemented under the existing rules. At the last minute when the Basin Plan was written, 715 was incorporated with these unimplemented policy measures. When the Chair realised
5 that the unimplemented policy measures were part of the – now part of the Plan, this was after the Plan was signed - - -

THE COMMISSIONER: When you say the Plan, you mean the Plan.

10 MS SLATTERY: The Basin Plan. Yes. He was very concerned before the previous commitment and so we couldn't have this term unimplemented policy measures. So he - - -

THE COMMISSIONER: But we do have it.

15 MS SLATTERY: Yes. He asked - - -

THE COMMISSIONER: Sorry. I don't – where does the expression prerequisite policy measure – where does it come from?

20 MR BEASLEY: I can't give you the reference off the top of my head but there's MDBA material using the term prerequisite policy measure used interchangeably with unimplemented policy measure or - - -

25 THE COMMISSIONER: But it's not a statutory term, is it?

MR BEASLEY: It's not.

30 MS SLATTERY: No, no.

THE COMMISSIONER: It's not – when I say statutory, nor is it in the delegated legislation, which is the Basin Plan.

35 MS SLATTERY: No.

MR BEASLEY: It's referred to as exactly the same thing.

MS SLATTERY: So it was decided at a board meeting in about 2012 or '13 to rename it prerequisite policy measures.

40 THE COMMISSIONER: I don't understand. Why is the MDBA changing a statutory expression or for whom are they changing it?

45 MS SLATTERY: So, as I understand it, the Chair was concerned about it being called unimplemented policy measures because of previous commitments that they had given to stakeholders so it was decided to rename it as prerequisite policy measures.

THE COMMISSIONER: Who was that?

MS SLATTERY: The Chair.

5 THE COMMISSIONER: Who?

MS SLATTERY: Craig Knowles.

10 THE COMMISSIONER: And so has that gone out as a board decision, has it?

MS SLATTERY: I don't know if it was a formal board decision. I just know that out of the meeting, it was – we are now calling it prerequisite policy measures.

15 THE COMMISSIONER: Well, now, I'm very sympathetic to Mr Knowles in relation, however, to the expression "unimplemented policy measure". Can you just untangle it for me, I lost count of the negatives involved in this. An unimplemented policy measure means, first of all, an anticipated measure of a certain kind.

20 MS SLATTERY: Yes.

THE COMMISSIONER: But in the glorious way of these documents, anticipated measure is itself a defined term.

25 MS SLATTERY: Yes.

30 THE COMMISSIONER: Believe me, it is. So you find it in 702. And it means a measure that is part of the benchmark conditions of development. And just for fun, that means you have to go to the definition of benchmark conditions of development. And they are said to be the conditions of development that were assumed in the benchmark model described in schedule 6 when that model was used to set the unadjusted SDLs for the Basin Plan. And there's a note, and they are not calls useful but this one is interesting, there's a note in this Plan that says:

35 *These conditions include the infrastructure rules and practices that were assumed in the benchmark model, including certain measures that were not yet in effect.*

Now, that's where I've guessed the notion of unimplemented - - -

40 MS SLATTERY: That's right.

THE COMMISSIONER: - - - comes from. They were not yet in effect but were expected to be in place by 2019.

45 MS SLATTERY: Yes.

THE COMMISSIONER: Holding that thought from those definitions, you go back to unimplemented policy measure. And it is defined as an anticipated measure consisting of the policies that Mr Beasley has already read out, the credit environmental return flows or allow the of held environmental water. And then it goes on:

5
10
*To the extent, if any, that the measure at the time of the determination –
and that is a determination of the adjustment –
is not expected to, or did not come into effect by 30 June 2019.*

15 Which sits rather oddly with the note to the definitions I referred to earlier. But what does that actually mean? You've got to find a measure in the benchmark and you've got to observe that it hasn't come into effect by the middle of 2019. Is that how you do it?

20 MS SLATTERY: I will put it in another way. In the modelling, to minimise the amount of water that was determined that the environment needed, they assumed that environmental water could flow all the way down a river and between rivers. And they also assumed that when you released water from a dam you could add water on top that, on top of that flow. And those two things are critical to achieving the environmental outcomes under the Basin Plan. MDBA estimated that if you didn't have those two actions, that you needed an extra 1,370 gegalitres in the Murray alone.

25
30 MR BEASLEY: Just pause there: that comment you just made about the MDBA estimating an extra 1,370 gegalitres, if you don't have these constraints removed, if I can call them that, there's a – well, we may as well just cover this now, Commissioner, because it's part of the witness's explanation. We have a constraints – we should have a Constraints Management Strategy Brief.

THE COMMISSIONER: Yes, we do.

35 MR BEASLEY: And if we go to tab 2 of that, there's a 'Constraint Management Strategy Annual Progress Report 2013/14'.

THE COMMISSIONER: Yes.

40 MR BEASLEY: If we go to page 58 and 59, key findings for physical constraints and, 59, key findings for operational management constraints. Now here is the word prerequisite policy measures:

45
As indicated above the prerequisite policy measures mentioned in the SDL adjustment mechanism are characterised within the strategy as:

- *environmental water to flow through the length of the river and between rivers and be protected from extraction re-regulation or substitution, BP715(2)(a);*
- *release of environmental water on top of other inflow streams including unregulated events, BP715(2)(b).*

5

Initial testing of the SDL adjustment method has demonstrated the importance of addressing these constraints by 30 June '19 as prerequisites for obtaining any significant adjustment from proposed supply measures. In particular, if the environmental return flows cannot be credited for downstream environmental use and environmental water cannot be called from storage during unregulated flow events, additional water would need to be called from storage to achieve the Basin Plan environmental outcomes, equivalent to an SDL reduction of more than 4,000 gigalitres.

10

15

And your figure of 1,370 is – I initially read that as 1,250 being the 2,750 and you need another 1,250 to get to 4,000.

MS SLATTERY: That's right.

20

MR BEASLEY: You say the actually figure was – because it says more than 4,000, is 1,370 gigalitres.

MS SLATTERY: That's right.

25

MR BEASLEY: And the extract I just read for you is part of the explanation to getting that figure of 1,370.

MS SLATTERY: Yes, that's right.

30

THE COMMISSIONER: I think I understand the idea to which all these complicated provisions are directed. But could you help me in the puzzle? Where do I find in schedule 6, or is it in S602, that I go to find the assumed conditions of development?

35

MS SLATTERY: That's referring to the hydrological modelling reports. It's also called the technical report where the modelling is described.

THE COMMISSIONER: The definitions says:

40

The benchmark conditions of development means the conditions of development that were assumed in the benchmark model described in schedule 6 when the model was used to set the unadjusted SDLs of the Basin Plan.

MS SLATTERY: Then in schedule 6 it refers to the modelling report.

45

THE COMMISSIONER: Which reference is that?

MS SLATTERY: You're putting me on the spot now.

5 THE COMMISSIONER: I was fool enough to go to S601 which is called simplified outline and got lost before I got to the end of it.

MS SLATTERY: I'm sure it's described. It refers to the actual modelling report here.

10

THE COMMISSIONER: Well, there's 601 2A which says that the method starts with identifying the hydrological model.

MS SLATTERY: Here we go. Yes. 2(1):

15

*The benchmark model run will comprise the MDBA model run 847, described
- - -*

THE COMMISSIONER: So that's – as I said earlier, that's 602.

20

MS SLATTERY: Yes, 602(1).

THE COMMISSIONER: Where do I find there a reference to the conditions of development assumed in the model?

25

MS SLATTERY: So they're described - - -

THE COMMISSIONER: You would have to then go off to the model.

30 MS SLATTERY: You have to go to the model report which is described in MDBA 2012A, which is the Hydrological Modelling Report.

THE COMMISSIONER: Very well. So although the statutory drafting is awful and complicated and difficult to follow, the idea is simple, that you need to eliminate from the comparison involved in this adjustment, things which were assumed as eventually becoming operative that have not become operative.

35

MS SLATTERY: Yes. So the thinking was, when the supply measure idea came in sort of relatively late in the piece and the negotiations of learning the Basin Plan, MDBA was concerned about doing an adjustment for supply measures if everything – that the important policy assumptions in the model hadn't been put in place.

40

THE COMMISSIONER: Yes.

45 MS SLATTERY: So we are not going to reduce the amount of water for the environment if you haven't put key policies in place to get the best out of your environmental water. So that's why it came into the adjustment mechanism.

THE COMMISSIONER: Why wouldn't that mean it was pretty straightforward to point to the way in which that had been done?

5 MS SLATTERY: I wasn't involved in the drafting, I'm sorry.

THE COMMISSIONER: After the event, you have, however been involved in trying to find out from the MDBA, did they make the allowance that the Plan calls for in 715?

10 MS SLATTERY: That's right.

THE COMMISSIONER: That sounds to me like it ought to be a fairly straightforward question to answer.

15 MS SLATTERY: Well, I know that they haven't taken the protection of inflows into Menindee into account.

MR BEASLEY: Perhaps we should go to the MDBA's response to the query from the - - -
20

THE COMMISSIONER: Yes, please.

MR BEASLEY: - - - from the Australian Institute. So if we – there's a volume 2, Maryanne Slattery, Briefing Volume 2. And there's a tab, letter P. I won't give you a whole folder, Commissioner, just - - -
25

THE COMMISSIONER: Please.

MR BEASLEY: And do you have a copy of the email I'm about to refer to?
30

MS SLATTERY: Not here.

MR BEASLEY: Can the witness be given a copy too, please? So if we go to the very last page is the series of questions. So this is from Mr Campbell to Mr Glyde, very last page, setting out:
35

I am writing in regard to the SDL mechanism under the Basin Plan – under Basin Plan 715, supply measures to adjust SDL calculated –

40 etcetera, etcetera. And then there's a series of questions in bullet point. If you then go to the response from Mr Glyde, because he sets out, again, what the questions are. And this is an email from Philip Glyde to Rod Campbell, 19 April 2018.

THE COMMISSIONER: Yes.
45

MR BEASLEY:

Dear Rob. Thanks for your email. Sorry it has taken me some time to get back to you. Our resources have been stretched, managing responses to freedom of information requests, Senate Orders and the like.

5 THE COMMISSIONER: Well, he confirms that what he calls PPMs can't be considered as supply measures.

MR BEASLEY: Yes.

10 THE COMMISSIONER: Which then moves to the next question: was anything relevant to do with the Menindee Lakes APPM?

MS SLATTERY: It's a slightly different point. We were asking that question because the other project that we were reporting on in this report was the Enhanced
15 Environmental Water Delivery project. And in that project it appears that MDBA has actually included one of the unimplemented policy measures as a supply measure, as part of the supply measure project. The issue in relation to - - -

MR BEASLEY: Is that the hydrocues?
20

MS SLATTERY: Hydrocues, yes.

MR BEASLEY: Yes.

25 MS SLATTERY: Yes, the issue in relation to the Menindee projects and unimplemented policy measures is that MDBA have just not considered that the unimplemented policy measures apply to Menindee when they do the SDL adjustment mechanism.

30 THE COMMISSIONER: And I'm sure they have a reason for that. Do you know what it is?

MS SLATTERY: No, I don't. New South Wales EDO wrote to MDBA and advised them that in their opinion that the unimplemented policy measures did apply
35 to Menindee. MDBA replied and said that they didn't think and that it was very clear in the Basin Plan that for the purposes of the supply measures there was a distinction between north and south. And Menindee is in southern Basin, and the inflows into Menindee are in the northern Basin, therefore Menindee inflows shouldn't be taken into account. They have said that that is part of the Basin Plan. I
40 don't know what part of the Basin Plan they're talking about. I raised this issue many times in MDBA and never understood the reasoning and was never given any – never pointed to any part of the legislation that would support that view. I'm not aware that anyone in MDBA actually sought legal advice on that. It just seemed to be a policy decision for expediency that we wouldn't count the inflows into
45 Menindee.

THE COMMISSIONER: Well, that's a speculation by you?

MS SLATTERY: Yes.

THE COMMISSIONER: Are you able to show me in the model that was used for the unadjusted SDLs the material that would indicate, if it be the case, that measures
5 with respect to the Menindee Lakes were part of the assumed development conditions.

MS SLATTERY: Yes. I couldn't tell you the page off the top of my head. But in the Barwon-Darling section – so we're talking about inflows through the Barwon-Darling and flows into the tributaries into the Barwon-Darling being protected. In
10 the Barwon-Darling section of the hydrological modelling report it talks about having to shepherd water as a type of, you know, anticipated policy, basically, that would have to be put in place. So they had to raise the pumping thresholds to allow environmental water to flow through so it wouldn't be extracted.

15 THE COMMISSIONER: And I realise that Menindee Lakes are downstream, but is there any sense in which they are implicated in that?

MS SLATTERY: I'm not sure I understand the question.

20 THE COMMISSIONER: Well, I'm trying to find out why is the supply measure with respect to the Menindee Lakes ineligible as such by reason of being one of the assumed conditions of development used in the original model?

25 MS SLATTERY: It's not ineligible. It just means that when MDBA do their calculation, if they determine that unimplemented policy measures won't be implemented by 2019 then they have to make the adjustment to the benchmark, make that adjustment to the extent that the policies weren't implemented before they do the supply calculation.

30 THE COMMISSIONER: Yes.

MS SLATTERY: By not even considering the unimplemented policy measures for inflows into Menindee, they have just ignored - - -

35 THE COMMISSIONER: You call them inflows into Menindee, but it just means flow downstream from up north?

MS SLATTERY: Yes, that's right.

40 THE COMMISSIONER: Thank you.

MR BEASLEY: And so the response that was obtained by the MDBA was that prerequisite policy measures have been included in the modelling of the package of supply measure projects as part of the benchmark model, without any further
45 explanation. Can I draw – and this is for the Commissioner as much as the witness – the below question 6 response:

Environmental equivalence is not assessed on individual projects, but on the package of supply measures as a whole.

THE COMMISSIONER: Yes.

5

MR BEASLEY:

Please refer to the modelling assessment report available.

10 I won't go to that report now. I can. It refers

THE COMMISSIONER: No. We will – we will in due course, yes.

15 MR BEASLEY: We will in due course. And it refers to what they call – what the Authority calls an independent report of what they have done, which is a report entitled Murray-Darling Basin plan ... change review that report of 17 September 2017. I will also come to that later, because it's an incredibly heavily qualified report with extremely narrow terms of reference. But I just wanted to draw your attention to the fact that the claim is made that environmental equivalence can be
20 assessed as a package, rather than individual projects. That seems to fly in the face of 1717(1) which states that:

25 *If, after calculating the total supply and efficiency contributions under 15 and 16 the Authority is not satisfied that a determination of the proposed adjustments based on those amounts can be made under this division that satisfies the criteria below, the Authority may reduce the total supply contribution or efficiency contribution for any affected unit.*

30 Now, a unit is not – that's a reference to an SDL resource unit. That's not something that applies Basin-wide to all supply measures. So how, if you are assessing environmental equivalency on a total of 36 packages – I'm not sure I understand at the moment how you, if that's the way you are doing things, how you would adjust for a particular SDL resource unit. But I just - - -

35 THE COMMISSIONER: Environmental outcomes include, to pick up some evidence from the last witnesses, a holistic and complex set of measures. I'm wondering at the moment how you – how I'm meant to understand the notion of environmental equivalence being assessed on the package of supply measures as a whole without that itself involving the assessment of individual projects.

40

MR BEASLEY: Neither do I.

THE COMMISSIONER: Are you able to help us?

45 MR BEASLEY: I was just about to go to the witness to see whether she can assist.

THE COMMISSIONER: Can you help us? If I was involved in some netting approach – I’ve got seven items – I have no difficulty with their values being expressed in one figure, that is, there being a netting. But I can only reach that figure by assigning values to each of the seven items.

5

MS SLATTERY: Yes.

THE COMMISSIONER: I realise that’s simplistic, childish, maybe, but do you have any understanding of what Mr Glyde means - - -

10

MS SLATTERY: I think that - - -

THE COMMISSIONER: - - - when he says “Not assessed on individual projects but on the package of supply measures as a whole”?

15

MS SLATTERY: Yes. MDBA will say, and I think quite validly, that some of these projects may offset each other, they may be duplicative.

THE COMMISSIONER: I understand that. I have no problem with netting at all - - -

20

MS SLATTERY: Yes.

THE COMMISSIONER: - - - but I can only net if I know the values of every item to be netted.

25

MS SLATTERY: I agree. I agree. And the same concern – and didn’t know how some of these projects which might have different say flow rates, for example, how that works in one package.

30

THE COMMISSIONER: Well, I wouldn’t know how you net frogs against fish.

MS SLATTERY: That’s part of the environmental equivalency test, not about putting all the projects together and doing one lot of modelling.

35

THE COMMISSIONER: Yes. Thank you. Thanks

MR BEASLEY: All right. So, in essence, we’re right in understanding your assertion of unlawfulness in relation to this supply measure is simply the failure to follow 715(1)(b)(ii) in the manner we’ve just discussed.

40

MS SLATTERY: That’s right.

MR BEASLEY: All right. The enhanced environmental water delivery project – I think somewhere there’s – I’m not sure where the evidence for this is, but of the 605 gigalitres, does this project amount to about 200 gigalitres? Is that your - - -

45

MS SLATTERY: That's the numbers that I've seen. They're in the business case.

MR BEASLEY: That's in the business case, is it?

5 MS SLATTERY: And it's also in one of the modelling reports that MDBA released about two weeks ago that compares the – I think they call it the 19 pack versus the 19 pack plus the hydrocues, and it was around 200 gigs, as well.

10 MR BEASLEY: All right. I didn't take you to it but I have seen – it might be an MDBA document, it might be a combination of its work with the New South Wales Government, but Menindee Lakes is said to be worth 106 gigalitres of water. Correct?

MS SLATTERY: That's in the Menindee Lakes business case, yes.

15

MR BEASLEY: All right. Now, your point in relation to the – why is it called the hydrological cues as a nickname, this supply measure?

20 MS SLATTERY: I think that the nickname derives from the type of watering that they're doing, which is, basically, triggers in different tributaries. Flow triggers will mean releases in another tributary, and that's why it's called hydrocues, I think.

MR BEASLEY: All right. And in relation to this particular supply measure, your concern is in relation to 6.6 – schedule 6.063.

25

MS SLATTERY: I had two concerns with this.

MR BEASLEY: Yes. All right.

30 MS SLATTERY: One was them actually changing the environmental demand sequence in the benchmark, which was outlined in schedule 6, about what changes could be made to the benchmark.

35 MR BEASLEY: Well, can you explain that to us? So this is your point in the first bullet point.

MS SLATTERY: On page 15?

40 MR BEASLEY: Page 15, yes:

The model run for the supply measure has altered the benchmark model for the supply measure in a way that is inconsistent with allowable changes under the Basin Plan.

45 And you give us the reference to 6.063:

Hydrological modelling under the method to establish a supply contribution will start with the benchmark environmental flow events and these will only be modified as necessary to reflect the outcome of the proposal and potential supply contribution.

5

MS SLATTERY: That's right.

MR BEASLEY: So can - - -

10 MS SLATTERY: So there's an environmental demand sequence that's built into the hydrological model, the benchmark model.

MR BEASLEY: Right.

15 MS SLATTERY: And that's - - -

MR BEASLEY: What does that mean?

20 MS SLATTERY: That you've got a whole lot of indicator sites that say, you know, we want to try to achieve a flow of X for this many days - - -

MR BEASLEY: Right. Yes.

25 MS SLATTERY: - - - and not have to - you know, and ... less than Y. You've got that for all of these hydrological indicator sites. The model, as I understand it, tries to meet those demands from the bottom up. And that's a decision of how much environmental water to release.

MR BEASLEY: Yes.

30

MS SLATTERY: So that's in the benchmark. For all the other supply measures, MDBA have described that's the method that they've used and which is the method they have to use under schedule 6. With the exception of the hydrocues model, which is completely different, rather than trying to meet environmental demands, it's 35 saying we're going to release water based on - release water from Hume in the Murray based on a flow rate of X in the Murrumbidgee. So it's a completely different type of environmental demand sequence.

40 MR BEASLEY: Can I ask you this? At page 15, you say - you've got - in the last paragraph you have got a heading 'Altering the Benchmark Model Run for the Supply Measure'. Then you say:

45

The hydrological modelling for this supply measure did not start with the environmental flow events method set out in the benchmark model run and specified under schedule 6 of the Basin Plan.

Now what part of the schedule 6 of the Basin Plan should we be looking at for that in relation to that claim there? Is that 6.02?

5 MS SLATTERY: I'm sorry, Richard, I can't. Just the pressure of trying to find it.

MR BEASLEY: It's all right. Don't rush.

MS SLATTERY: It's 6.063.

10 MR BEASLEY: All right. Now, can you explain to us – what's your point in relation to 6.063, that the hydrological modelling under the method to establish this supply contribution did not start with the - - -

MS SLATTERY: That's right.

15

MR BEASLEY: Right. Now, how do you know that?

MS SLATTERY: Because they've put it in their business case.

20 MR BEASLEY: Right. Okay. So can you take us to the reference in the business case for that? Because I'm at a disadvantage, because I don't have that business case, so you're going to have to assist.

MS SLATTERY: It has now been published.

25

MR BEASLEY: Yes, I know. But that doesn't mean it has reached me.

MS SLATTERY: Look, I don't have a copy of it here, so if it's not in this pack - - -

30 MR BEASLEY: Okay. Can you take that question on notice - - -

MS SLATTERY: Sure.

35 MR BEASLEY: - - - where we find that the business case for this supply measure expressly in the business case indicates a non-compliance with 6.063. And if you can let us know that, I will look at the business case and we will deal with that particular issue next time. Is there another concern you have in relation to this supply measure?

40 MS SLATTERY: Yes.

MR BEASLEY: It's the second bullet point, is it?

45 MS SLATTERY: Yes, it's in relation to releasing water on top of unregulated flows - - -

MR BEASLEY: Right.

MS SLATTERY: - - - which is the second unimplemented policy measure, 715.

MR BEASLEY: Right. So if we go back to 715. And which part of 715 is it? It's (b), is it, allow the call of held - - -

5

MS SLATTERY: 715(2)(b), yes.

MR BEASLEY: - - - environmental water from storage during unregulated flow events. So that should have been removed from the model?

10

MS SLATTERY: Well, if the States had brought forward all of their implementation plans and MDBA was satisfied that the unimplemented policies were going to be implemented - - -

15 MR BEASLEY: It didn't need to be.

MS SLATTERY: - - - there's no adjustment needed. But you can't count it in addition to creating a saving - - -

20 MR BEASLEY: Right.

MS SLATTERY: - - - by allowing that action.

25 THE COMMISSIONER: The question that the statute or the plan requires is whether or not the measure was expected to, or was not expected to, come into effect by 30 June 2019.

MS SLATTERY: Yes.

30 THE COMMISSIONER: Strangely, it also says or did not come into effect by 30 June 2019, but it doesn't matter. It amounts to the same thing. You look towards 30 June beforehand. You look at it afterwards and you simply ask the question is this a measure which beforehand was not expected to, and was it a measure which afterwards had not come into effect by 30 June 2019?

35

MS SLATTERY: So we - - -

THE COMMISSIONER: Have you identified measures of that kind of which that was true that they have not taken account of, have you?

40

MS SLATTERY: Because they've included that measure as part of the supply measure project.

THE COMMISSIONER: Well, have they?

45

MS SLATTERY: Yes, they have. They've outlined it in their - - -

MR BEASLEY: Can I – would my understanding be right that – and tell me if I’m wrong, because this isn’t easy, but are you really saying in relation to this EWD project that it’s not a supply measure at all? It is in fact an unimplemented policy measure allowing the call of held environmental water from storage during an unregulated flow event?
5

MS SLATTERY: That’s what it looks like to me with some add-ones yes.

THE COMMISSIONER: Can’t that be a supply measure?
10

MS SLATTERY: No.

THE COMMISSIONER: The definition of supply measure is 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. And the note gives by way of example the – a measure by which you can reduce the quantity of water in such a way to achieve environmental watering, in such a way that environmental – equivalent of environmental outcomes can be achieved with a smaller quantity of water.
15
20

MS SLATTERY: Starting with the benchmark and starting with - - -

THE COMMISSIONER: Starting with the benchmark.

MS SLATTERY: But because the unimplemented policy measures were assumed in the benchmark - - -
25

THE COMMISSIONER: No, no. Leave aside that for a moment. But piggybacking a release of water on a natural event is the kind of thing we are talking about in the paragraph (b) part of 715, aren’t we?
30

MS SLATTERY: Yes.

THE COMMISSIONER: And isn’t that proposed precisely because it may reduce – it holds out the possibility of reducing the quantity of water necessary to achieve an equivalent environmental outcome.
35

MS SLATTERY: Which is exactly why it was included in the benchmark in the first place.
40

THE COMMISSIONER: No, no. But my first point is that means it could be a supply measure, in the abstract.

MS SLATTERY: In the abstract, it could.
45

THE COMMISSIONER: Thank you. So the only question now is whether what is proposed in a supply measure for the adjustment, in fact, is the same as what had been assumed in the benchmark conditions. Isn't that right?

5 MS SLATTERY: Yes.

THE COMMISSIONER: And that involves comparing what the model referred to in S602 says and what the proposal for the later supply measure says. You've made that comparison, have you?

10

MS SLATTERY: I'm saying that MDBA, if they're going to include the, well, piggybacking as a supply measure, then, they need to make the adjustment to the benchmark.

15 THE COMMISSIONER: I take it you are saying that because piggybacking was an assumed condition of development in the benchmark conditions referred to in the model.

MS SLATTERY: Yes.

20

THE COMMISSIONER: So I haven't seen that, you see. I will find that somewhere in the model, will I?

MS SLATTERY: Yes.

25

THE COMMISSIONER: Thank you.

MR BEASLEY: All right. That's all you want to say about that?

30 MS SLATTERY: Yes.

MR BEASLEY: Yes. I understand. Now, page 7 of your submission you discuss the Northern Basin Review. And you have a concern that climate change risks weren't taken account of. Correct?

35

MS SLATTERY: Yes, that's right.

MR BEASLEY: And at page 7 you refer to 6.063. This is schedule 6.063.

40 MS SLATTERY: No. This is six point - - -

MR BEASLEY: Section.

MS SLATTERY: Section

45

MR BEASLEY: Sorry?

THE COMMISSIONER: This is in the schedule, is it, schedule 6?

MR BEASLEY: No, it's section.

5 THE COMMISSIONER: Is it section.

MR BEASLEY: So section 6, reviews of the Basin Plan and, obviously, the Northern Basin Review falls under that, 6.063:

10 *A review must be undertaken having regard to the management of climate change risks and include an up-to-date assessment of those risks and consider all relevant knowledge about the connectivity of surface and groundwater, the outcomes of environmental watering and the effectiveness of environmental works and measures.*

15

Now, if I understand your submission, you are reading – are you reading the words “having regard to” as meaning that the review must be based on?

MS SLATTERY: That's right, or that the review included.

20

MR BEASLEY: Does that mean – when you say “the review included”, are you suggesting that the modelling for the review had to incorporate climate change risks, in your view?

25 MS SLATTERY: It would be very difficult for the modelling to include climate change risks. But, you know, certainly being factored into in a very methodical way into the decision-making process.

MR BEASLEY: Your paragraph below the paragraph in italics is:

30

The MDBA used the same hydrological modelling in the Northern Basin Review that was used for the original Basin Plan. That modelling is based on available historical data and does not include climate change.

35 I took from that sentence that that statement of fact is where your client is in relation to 6.063 saying the review must be undertaken having regard to the management of climate change risks. In other words, that the modelling didn't incorporate anything to do with management of climate change risks.

40 MS SLATTERY: Yes. So there's probably another sentence there and I'm not aware of any other work that was undertaken to try to assess those climate change risks.

45 MR BEASLEY: Now, I suppose one available interpretation of having regard to is that it was looked at and then not used in terms of any of the modelling. That's one option that could have occurred. And that may not necessarily lead to any invalidity in relation to what was done. Although, it has to be noted that regardless of what

6.06(3) says about reviews of the Basin Plan, the Water Act requires all of the functions of the Basin Authority to be based on the best available science. Correct?

MS SLATTERY: Yes.

5

MR BEASLEY: And I assume you would say that management of climate change risks and climate change projections are part of the best available science and should be incorporated into all of the decisions and reviews that the Basin Authority makes in relation to reviewing the Plan.

10

MS SLATTERY: Yes.

MR BEASLEY: Particularly in relation to changing or reducing amounts of water available for the environment like the Northern Basin Review did by reducing it by 15 70 gigalitres. Correct?

MS SLATTERY: Yes.

THE COMMISSIONER: Can I ask about the so-called adaptive approach to climate change? You've quoted on your pages 7 and 8 from the MDBA's Northern Basin Review, the statement of reasoning on the part of the Authority for the way in which the Authority has approached the mandatory consideration of climate change. And I need you to, I think, explain more than your submission has, or perhaps you need to help me understand your submission better, because it's not obvious to me that – what is wrong with what the Authority says in this passage. Now, I put to one side, as something unlikely to persuade me that it's wrong because it's only three paragraphs long. Brevity doesn't seem to me to be advice at all. It starts off by saying:

30 *Studies in the Basin over the last 10 years have shown that changes in climate could have a significant impact on water resources.*

You agree with that, don't you?

35 MS SLATTERY: Yes.

THE COMMISSIONER: It then says:

40 *There is a large degree of uncertainty around whether a wetter or dryer future will eventuate, particularly in the northern Basin.*

That's also your opinion, isn't it?

45 MS SLATTERY: Yes.

THE COMMISSIONER: The Authority's consideration of the Northern Basin SDL has also been informed by the Basin's long-term climate record covering a 114 year

period. And I think that's clear, isn't it? The date they have presented, the conclusions they have expressed in a number of different places call on that 114 year record.

5 MS SLATTERY: The 114 year record is quite misleading because there's not very many places in the Basin at all that you have 114 years' worth of data.

THE COMMISSIONER: What do you mean when you say misleading? I mean, the record such as it is, is one that they've used. Right?

10

MS SLATTERY: Sorry. Climate record?

THE COMMISSIONER: Yes.

15 MS SLATTERY: I'm not sure. I know that there's - - -

THE COMMISSIONER: I am just anxious we shouldn't, under privilege, accuse somebody of being misleading if they haven't been. There is a long-term climate record. I mean, I'm not saying it's perfect but there is one and it covers a 114 year period.

20

MS SLATTERY: The modelling – a lot of the modelling is based on say the northern Basin, the only place you've got 114 worth of gauged data is Wilcannia.

25 THE COMMISSIONER: Maybe so but that's the record and they have got it and they've used it. Is that right?

MS SLATTERY: That's my understanding. Yes.

30 THE COMMISSIONER: That doesn't seem to me to be misleading. Can you explain to me why you would say that was misleading?

MS SLATTERY: Can I withdraw it?

35 THE COMMISSIONER: Yes.

MS SLATTERY: Yes.

40 THE COMMISSIONER: Thank you. The next one, is the long-term data set – that's a grand way of talking about this imperfect report – the long-term dataset includes considerable natural climate variability, from very wet periods, three prolonged droughts, including the Millennium Drought. Now, that's brief but true, isn't it? That's an entirely accurate summary, isn't it? It may be an understatement, considerable natural climate variability, that's true.

45

MS SLATTERY: Yes.

THE COMMISSIONER: So you don't have a problem with that sentence?

MS SLATTERY: No.

5 THE COMMISSIONER: Then it says a sentence that we will put to one side because it may be argumentative. The Basin Plan takes an adaptive approach to climate change. That may well be a self-administered pat on the back by the Authority. We will leave that to one side at the moment. Then they go on:

10 *This means that the uncertain effects of climate change are shared between all entitlement holders, including the environment.*

Now, that's a very terse expression, treating the environment as an entitlement holder. In one formal sense, you've got the ... and, in another sense, you've got the
15 operation of an SDL. Do you have any other comment about that sentence?

MS SLATTERY: It's not clear whether they're talking about all non-licensed water or just the water that's held by licences and the sharing of the - - -

20 THE COMMISSIONER: It's not clear, I agree, it's very terse.

MS SLATTERY: Yes, yes.

25 THE COMMISSIONER: But it doesn't seem – I mean, it's a description by the Authority of how the Authority sees the Plan. So it's a question of conclusion by them may be a matter of argument. It doesn't seem to me, as it were, self-evidently right or wrong. It's an evaluative assessment by them, I think, isn't it? What they mean is in dryer times, everybody will suffer a diminution in available water. Isn't that right?

30 MS SLATTERY: That's what they are trying to say. Yes.

THE COMMISSIONER: But it's true too, isn't it? In dryer times, everyone will suffer a diminution of available water.

35 MS SLATTERY: All licence holders will suffer. Yes.

THE COMMISSIONER: Yes. And the environment, which doesn't hold a licence, the environment will also suffer because dryer times are dryer times.

40 MS SLATTERY: Yes.

THE COMMISSIONER: And then the final sentence is:

45 *The Authority considers this approach is appropriate to the adjustment of the northern Basin SDL.*

So they have said, in effect, the variability – the range of variability is such that over the period of the Plan, which is the adjustment of which was in question, the affectation of all holders or users of the water by variability of conditions will be sufficient to deal, for that period, with climate change. That’s what they’ve said, I think, isn’t it?

MS SLATTERY: Yes.

THE COMMISSIONER: Now, I understand that there’s unlikely to be any one correct let alone perfect answer to how you deal with climate change, particularly over a relatively short periods like, say, 10 years. But all the more reason for me to inquire, what’s wrong with that approach? I don’t mean are there other approaches – maybe there are better other approaches but what’s actually wrong with that approach, if anything?

MS SLATTERY: I don’t think that they did do an up-to-date assessment of risk for climate change. I’m not aware of them doing that work.

THE COMMISSIONER: Yes. But that’s not really an answer to the question I’ve asked. What’s wrong with what they’ve said in these paragraphs?

MS SLATTERY: Well, what they are effectively saying is they are not going to – they’re not – they haven’t factored in how they’re going to manage for climate change other than this sort of vague adaptive management approach which doesn’t agree with their own definition of adaptive management.

THE COMMISSIONER: I understand the next point you make on your page 8 – I think I do.

MR BEASLEY: There’s no necessarily – no link, necessarily, between the assertion the Basin Plan takes an adaptive approach to climate change and what follows.

THE COMMISSIONER: No.

MR BEASLEY: Because, really, what they’re saying is our adaptive approach is to leave things as they are.

THE COMMISSIONER: No. I understand that. That is why I said that sentence might be a self-administered pat on the back about which - - -

MR BEASLEY: For doing nothing.

THE COMMISSIONER: - - - no doubt, further could be said. But I’m just wondering about in terms of saying, look, water availability, whether you are talking about allocations or any other way in which water availability occurs, water availability does vary with carrying conditions.

MS SLATTERY: Yes.

THE COMMISSIONER: And they're saying, I think, over the period in question, which is about 10 years, isn't it?

5

MS SLATTERY: Yes.

THE COMMISSIONER: That their understanding of climate change is that that's all you will need to do to adapt. Now, they might be right or wrong but I'm just wondering what's wrong with that reasoning?

10

MS SLATTERY: Well, it hasn't – they haven't taken climate change into account and they're just saying we're just going to do nothing. And they're required to take climate change into account.

15

THE COMMISSIONER: Well, let me make this clear. You don't fail to take into account into account because, having considered it, you don't alter your course. That seems clear to me. It may be that if you don't alter your course, people may doubt whether you've really considered something.

20

MS SLATTERY: Yes.

THE COMMISSIONER: But that's a different question. If you have considered something and you think that either its dimensions are such or its implications are such that present procedures are adequate to cope with any margins of error, then it wouldn't be fair to say they haven't taken account of it. It would be more accurate to say, having taken account of it, no need is seen to alter the present course. Do you agree with that reasoning?

25

MS SLATTERY: I agree with the reasoning.

THE COMMISSIONER: How can I – what should I look at in order to evaluate whether or not that was appropriate or not by the MDBA, apart from what they've said here?

30

MS SLATTERY: Yes. I suppose where was the consideration of climate change other than we've looked at the historical record and we've decided that we're just going to not put anything in place? Where was the risk assessment?

35

MR BEASLEY: Well, just go back. Just to help you, go back to page 7 and have a look at 6.063. So "having regard to" will mean - - -

THE COMMISSIONER: You've got to have an up-to-date assessment of the risks.

40

MR BEASLEY: The management – well, they have got to have regard to, which mean something to an administrative lawyer, but it certainly may not mean "base it

on” but simply consider. Having regard to (1) the management of climate change risks, and include an up-to-date assessment of those risks. Now - - -

THE COMMISSIONER: I don’t know where I find that. I don’t think - - -

5

MR BEASLEY: No. That’s what I was going to – I was - - -

THE COMMISSIONER: We haven’t seen it, have we?

10 MR BEASLEY: - - - going to ask the witness is that something that you are unaware that the Basin Authority ever did in relation to this?

MS SLATTERY: Yes, that’s right.

15 THE COMMISSIONER: And I certainly understand that point.

MR BEASLEY: And consider all relevant knowledge about – well, that’s a separate issue, is it, consider all relevant knowledge about the connectivity of surface and groundwater.

20

THE COMMISSIONER: So if I understand the point you’ve raised for my consideration about climate change as being particularly focused on an absence of any evident up-to-date assessment of those risks, would I be correct?

25 MS SLATTERY: That’s my understanding. I’m not aware that they did that.

THE COMMISSIONER: And that’s your – is that your - - -

MS SLATTERY: Yes.

30

THE COMMISSIONER: - - - main point, really?

MS SLATTERY: That’s right.

35 THE COMMISSIONER: Thank you.

MR BEASLEY: Well, that might be something that needs to be considered, because if you don’t do the up-to-date assessments of those risks, then you haven’t had regard to it.

40

THE COMMISSIONER: Absolutely. No. I agree.

MR BEASLEY: Again, to help the witness, in the quote at the bottom of page 7, where it says, the second sentence:

45

There is a large degree of uncertainty around whether a wet or a dry future will eventuate, particularly in the northern Basin –

Now, the witness gave an answer but the witness isn't a climatologist. I'm not sure whether that statement is true or not.

5 THE COMMISSIONER: Well, it's the north - - -

MR BEASLEY: No doubt there is uncertainty.

10 THE COMMISSIONER: The north has a greater possibility, on the latest material I've seen, of - - -

MR BEASLEY: Of being wetter.

15 THE COMMISSIONER: - - - a wetter future than the south, which doesn't have much - - -

MR BEASLEY: Sure.

THE COMMISSIONER: - - - prospect of that kind at all.

20 MR BEASLEY: Sure.

THE COMMISSIONER: But the north might also turn out to have a dry future.

25 MR BEASLEY: It might. And it might rain really intensely for very short periods and then not rain for a long, long time.

THE COMMISSIONER: In both places there would be more extreme events.

30 MR BEASLEY: But if there has been an up-to-date assessment of the risks, then that sentence is based on - well, who knows what it's based on.

35 THE COMMISSIONER: It seems to me that one would need to see, in the Northern Basin Review or in relation to it, the up-to-date assessment of the risks of climate change which involves identification - - -

MS SLATTERY: Yes.

40 THE COMMISSIONER: - - - and description, because that is mandatory. It's not optional. A review must include an up-to-date assessment. Just as an administrative lawyer, I understand the point if you can't find it, probably it didn't happen and that's a defect. That's the reasoning, isn't it?

MS SLATTERY: That's right.

45 THE COMMISSIONER: Thanks.

MR BEASLEY: And so what someone should make a note of is that, at an appropriate time, if it's available to the Commission, we should issue a summons to the Basin Authority to obtain their up-to-date assessment, if there was one, of climate change risks in the work done in relation to the Northern Basin Review. No doubt
5 someone has made a note of that. And yes, I suppose that's a separate issue. And then on page 8 the Authority has taken the position that this is too hard or "we haven't done it", or the best approach is to simply leave the risk with what the entitlement holders get allocated. I'm not convinced that – about why the environment needs to take that risk based on other parts of the Water Act, but we can
10 have a discussion about that later.

THE COMMISSIONER: Exactly. So it's not at all obvious to me how this is intended, as it were, to inform an SDL adjustment.

15 MS SLATTERY: Particularly when - - -

THE COMMISSIONER: That's probably the mysteries of the Act, as well as the brevity of the MDBA.

20 MS SLATTERY: And getting to whether that environment means all water to the environment, as defined under section 3 of the Water Act, so it's sort of like the residual of licensed water, or whether it means just licensed water, and how the licensed water is divided between the Commonwealth Environment Water Holder and other water holders and consumptive users.

25 THE COMMISSIONER: I understand.

MR BEASLEY: I wanted to move on to page 10 of your submission, where you talk about a concern you have about what you've titled the 'Reallocation of SDLs
30 Between Valleys.' And you've written two reports about that: 'It's Not Science; It's How You Use It' and 'Moving Targets.' Moving Targets is behind tab 6. Now, you explain in this – you have a copy of that – the document is called 'Moving Targets, Barnaby Joyce, Warrego Valley Buybacks and Amendments to the Murray-Darling Basin Plan,' February 2018, co-authored Maryanne Slattery, Rod Campbell.
35 And you have, on page 4, set out an extract of a – it seems to be a complaint by then Senator Joyce concerning the Labor government's purchase of – how do I say that, Toorale?

40 MS SLATTERY: Toorale

MR BEASLEY: Toorale Station, the water licences from it – I'm sorry – in the Warrego Valley, and him suggesting that it's a complete waste of money, for the reasons that he sets out on page 4. And you've stated on page 5 that he was probably right in relation to those complaints, saying that only seven per cent in the Warrego
45 Valley reaches the Darling River and that's over a long-term average and not over a year. Then you point out that in 2017 he, as the now Water Minister, agreed to the purchase of another 10.6 gigs of water in the Warrego Valley for just under \$17

million. And that if we go to page 13, you explain that the purchase in the Warrego Valley has been – the saving water there has been used to – has been, effectively, transferred to pick up a saving of water required in another SDL area.

5 MS SLATTERY: That's right.

MR BEASLEY: All right. Okay. And you say that that undermines the scientific justification for the SDL. Why do you say that the SDLs cannot be based on best available science if they are changed by other parties for non-scientific reasons?

10 Explain your concern about using a purchase in one valley to be accounted for as a water saving in another valley.

MS SLATTERY: Because not all valleys have the same amount of contribution to the downstream river. So this is for a shared contribution. So each valley has a target for an instream environmental outcomes - - -

MR BEASLEY: Yes.

MS SLATTERY: - - - and shared environmental outcomes, so the environmental outcomes in the subsequent river. And if there's sort of a trading between shared components, depending on where you bought the water, based on this latest amendment that has gone through with the - - -

MR BEASLEY: It seems pretty obvious, doesn't it, that if the modelling done by the Basin Authority says that valley X needs to return a certain amount of water for the environment to achieve whatever environmental watering targets or requirements, that to suggest you can use a purchase of water from another valley and, in almost an accounting method, swap it over, it's difficult to see how that water has anything to do with meeting environmental watering requirements in another valley. Is that your principal concern there?

MS SLATTERY: That's right.

MR BEASLEY: And can you just – where are these? Can you just identify I've got a better one that has actually got the water resource plan areas on it. Can you just mark where the purchase is and which valley it has been swapped over to?

MS SLATTERY: Draw on this map?

MR BEASLEY: You can – yes – put crosses or whatever you want to do and just write a word that indicates. Tell me when you've finished that. I might just come over and see what you've done. So Warrego purchase is in surface water resource plan area 20.

MS SLATTERY: Queensland, yes.

MR BEASLEY: Which is Warrego ... and it has been swapped over to Border Rivers.

MS SLATTERY: Yes.

5

MR BEASLEY: Which is SW19. Is that right or not?

MS SLATTERY: No ...

10 MR BEASLEY: 16, yes, New South Wales ...

MS SLATTERY: ... Queensland ... 17.

MR BEASLEY: All right. Thank you. I will tender that.

15

THE COMMISSIONER: Thank you.

MR BEASLEY: Murray-Darling Basin ... surface water map marked by the witness Maryanne Slattery.

20

THE COMMISSIONER: I'm sorry. It might just be late in the day. Remind me again or inform me what we were referring to when we are talking about SDLs being swapped.

25 MS SLATTERY: So there was an amendment in the Northern Basin Review amendment that provided for shared reductions – the shared reduction contribution to be swapped between valleys.

30 THE COMMISSIONER: When you say “swapped”, do you mean that the values are being altered?

MS SLATTERY: Yes.

THE COMMISSIONER: Yes. What do you mean by swapping?

35

MS SLATTERY: So taking the shared reduction target out of the Border Rivers or the Condamine-Balonne and moving that to the Warrego, for example.

THE COMMISSIONER: You've lost me. I realise - - -

40

MR BEASLEY: No. I can help.

THE COMMISSIONER: Yes.

45 MR BEASLEY: If you go to the end of this paper - - -

THE COMMISSIONER: Yes.

MR BEASLEY: - - - you've actually got the amendment.

THE COMMISSIONER: It's the swapping and the moving that I don't understand.

5 MR BEASLEY: No, neither do I. So page 17 are the moving targets.

THE COMMISSIONER: Yes.

10 MR BEASLEY: So redistribution – I think you've highlighted where the changes are:

15 *Redistribution of shared reduction amounts at request of Basin State. A Basin State may make a reallocation adjustment request. A reallocation request means a request by a Basin State to the Authority to adjust the SDL resource unit shared reduction amounts for SDL resource units that are within a zone mentioned in subsection (2), being a request that –*

Etcetera, etcetera.

20 THE COMMISSIONER: Well, when you work your way through all of that, in particular, the requirement for the effect that the total of the SDL for each zone remains the same. That's the genesis of what you mean by swapping or moving?

25 MS SLATTERY: Yes, so you move a target from one valley to another valley.

30 THE COMMISSIONER: I'm really uncomfortable with the idea of moving anything, but I know what you mean. But is the objection that valleys are a subset of the whole system which have their own environmental requirements? Now, the watering to meet those requirements remains a matter of science, regardless of decisions about adjusting SDLs.

MS SLATTERY: If the original environmental sustainable level of take was based on best available science - - -

35 THE COMMISSIONER: Yes.

MS SLATTERY: - - - and that assumed that, you know, the contribution from – say in the Barwon-Darling that assumed a contribution from different tributaries.

40 THE COMMISSIONER: Yes.

45 MS SLATTERY: So that would – you know, whatever comes out of the Condamine-Balonne or Border Rivers goes towards the Barwon-Darling target. If you change the contribution from Border Rivers to the Warrego and the Warrego comes in below Bourke, so you're missing out on a lot of the Barwon-Darling, but, more importantly, it hardly ever flows into the Barwon-Darling. So you're not going to get the same contribution, the same flows in the river.

THE COMMISSIONER: Why doesn't that all simply end up in an incapacity to show equivalent environmental outcomes?

MS SLATTERY: Why doesn't it?

5

THE COMMISSIONER: Yes.

MS SLATTERY: Well, it should. That's what I'm - - -

10 MR BEASLEY: You can help yourself by looking at what you've written on page 13 of your paper here, because I think that's where in more detail you set out what the concern is about shifting valleys. In the second paragraph, "secondly" - - -

MS SLATTERY: In the - - -

15

MR BEASLEY:

Secondly, moving SDLS - - -

20 MS SLATTERY: Yes.

MR BEASLEY:

- - - between valleys will have implications on downstream flows.

25

Etcetera. That's really what you were referring to in the answer to the Commissioner then, isn't it?

30 MS SLATTERY: That's right. If you have 10 gigalitres in the Border Rivers and you expect that to contribute 40 per cent to the Barwon-Darling and four gigalitres gets in, if you've got 10 gigalitres in the Warrego and less than 10 per cent ever comes into the Barwon-Darling, you're getting one - - -

35 THE COMMISSIONER: Which means you won't be able to demonstrate the equivalent environmental outcomes.

MS SLATTERY: Yes. So if the SDL was originally based on ESLT and you're moving around where that contribution and how much that comes from - - -

40 THE COMMISSIONER: I actually don't think anything is moving, for what it's worth. I think they're just figures of speech. If you make these determinations, you will not be achieving equivalent environmental outcomes, whereby you can't make the adjustment.

45 MR BEASLEY: You're not actually recovering water - - -

THE COMMISSIONER: That's right.

MR BEASLEY: - - - in one valley; you're saying, "We have, because we recovered more in another valley."

MS SLATTERY: That's right.

5

THE COMMISSIONER: There's no procession of trucks or pipelines which is - - -

MS SLATTERY: No.

10 THE COMMISSIONER: - - - transferring the water. SDLs are just an abstraction, a statutory fiction.

MR BEASLEY: I know the - - -

15 THE COMMISSIONER: They're real for us as lawyers, but they don't have an effect on a single drop. Water does.

MR BEASLEY: I know section 21(4) of Water Act which we've gone to many times requires all of the things that the Basin Authority does in exercising its
20 function to be based on the best available science, but I have to say the amendment to the Basin Plan is a little short on addressing how this is being done in relation to - - -

THE COMMISSIONER: I agree.

25 MR BEASLEY: - - - any concerns about scientific method or environment or ecological outcomes, etcetera. All right. So that's the point of that particular paper.

MS SLATTERY: Yes.

30 MR BEASLEY: I think there was another reference to the same point in your publication behind tab 5. 'It's not the science, it's how to use it.' But it's the same point, isn't it?

MS SLATTERY: That's right, yes.

35

MR BEASLEY: Now, page 11, turning off parts of the Basin Plan. You have a concern in relation to the MDBA's interpretation of section 614 of the Basin Plan. Correct?

40 MS SLATTERY: That's right.

THE COMMISSIONER: Would you mind just starting to help me with indicating – one example will do to start with – when you think they've done this?

45 MS SLATTERY: This is a position paper that MDBA developed which is part of the guidance material for the water resource plans.

THE COMMISSIONER: Yes. No. Leaving – when they’ve actually done it, though.

5 MS SLATTERY: When they did the position paper?

THE COMMISSIONER: No. No. When they have interpreted 614, apparently, to permit overriding the objects of the Act.

10 MS SLATTERY: That will happen when the States bring forward their water resource plans for accreditation.

THE COMMISSIONER: Which means it hasn’t happened yet.

15 MS SLATTERY: That’s right.

THE COMMISSIONER: So you are directing my attention to position statement 1H. Is that right?

20 MS SLATTERY: That’s right.

THE COMMISSIONER: And you’re warning that on your reading of it, if the MDBA proceeded on that basis, they may, come the middle of next year, make the error of departing from the statute.

25 MS SLATTERY: Yes.

THE COMMISSIONER: Thank you. Now, as you understand it, this arises from an understanding from this odd statutory wording:

30 *Nothing in the Basin Plan requires a change in the reliability of water allocations of a kind that would trigger subdivision B of division 4 of part 2 of the Act.*

35 MS SLATTERY: Yes.

THE COMMISSIONER: Which, again, is quaintly Australian legislative drafting. You have to then go to those provisions in order to see what triggers those provisions. Your apprehension, as I understand it, is that somebody in the Authority has produced an interpretation whereby other provisions of the Act yield or are
40 dispensed with as to compliance if there would be a triggered change in reliability of water allocations.

MS SLATTERY: That’s right.

45 THE COMMISSIONER: Well, that’s pretty much just a pure legal question.

MS SLATTERY: Yes. I do have another concern with that, with the test that
MDBA are proposing of what will trigger reliability. Because they're using an
incredibly narrow test that they've developed that doesn't have any precedence that
I'm aware of in the industry over the last 30 years that is not backed by statutory
5 definition.

MR BEASLEY: Before we go to that, though, can I just understand your principal
concern about 614. Is it – do you say that the Basin Authority is reading – nothing in
the Basin Plan requires a change in the reliability, etcetera, as being a prohibition
10 from a change in reliability? Is that how they are interpreting it?

MS SLATTERY: Yes, that's right.

MR BEASLEY: Well, that can't possibly be right if that's what they're doing?
15

THE COMMISSIONER: It's just a matter of law. There it is.

MR BEASLEY: Yes. I will come back to that, if I may, at another time when I
have the correct document in my brief. When you say at the bottom of page 12 in
20 relation to the same point, and I will come back to the position statement in a minute,
but down the bottom you've said:

*Some of the MDBA senior executives service SES considered that the Basin
Plan could subject the Commonwealth to future liability arising from a
25 demonstrated impact on reliability –*

etcetera. What's the source of that – what you say, that consideration the SES has?

MS SLATTERY: Just working there and being part of this – part of this argument
30 for several years.

MR BEASLEY: Sorry. So that final paragraph on page 12 is based on being
involved in discussions about this section or hearing people talk about this provision
of the Basin Plan?
35

MS SLATTERY: Yes. I nearly – that – from the part about subject the
Commonwealth to future liability to the potential liability should be avoided at all
costs was nearly a direct quote, as I recall it, from - - -

THE COMMISSIONER: This is the section 83 liability under the Act, is that what
40 we're talking about?

MS SLATTERY: Yes, that's right.

MR BEASLEY: And you say – you then say:
45

I unsuccessfully advocated that the MDBA undertake a risk assessment of the likelihood of that liability occurring and the likely cost before adopting a position that could negate key parts of the Basin Plan.

5 So explain what you were suggesting there and who to?

MS SLATTERY: So the way that the position statement has been prepared, it explicitly says that if the States can demonstrate an impact on reliability, then, that will override other parts of the Basin Plan. And it particularly mentions the
10 environmental watering provisions. My argument in relation to that is if there is a risk to a potential liability for the Commonwealth – sorry, first of all, if we were to accept that that is the legal interpretation of 7614, and if there was going to be a potential case for compensation, before we turn off all the environmental watering provisions, we should at least get an understanding of what that risk is. How likely
15 that risk is going to occur and what the potential liability would be. And if we invested \$13 million into the reform, it seems very strange to me that we would be happy to turn off a significant part of the reform without some sort of quantification.

THE COMMISSIONER: At the moment, at least, I don't – I'm not quite sure I
20 grasp your – the point of your criticism. The Act provides for circumstances in which the Commonwealth may become liable to make, in effect, compensatory payments to people whose reliability of allocation has been diminished.

MS SLATTERY: Yes.
25

THE COMMISSIONER: Offhand, that sounds a socially just notion.

MS SLATTERY: Sure. Yes.

30 THE COMMISSIONER: But it also seems fiscally responsible to consider the need to compensate before doing something that might attract compensation.

MS SLATTERY: Yes. I agree.

35 THE COMMISSIONER: In fact, partly, at least, that's the idea of having compensation regimes, isn't it?

MS SLATTERY: Yes. I don't - - -

40 THE COMMISSIONER: To make people in the Authority think appropriately hard before they do something.

MS SLATTERY: I don't have a problem with that at all. I do have a problem with the way 614 has been interpreted, that it can turn off any other part of the Basin Plan
45 if the States - - -

THE COMMISSIONER: Again, it's maybe your language is throwing me. And maybe we are talking about water too often, when you say turning off you mean dispensing the Commonwealth from complying with it.

5 MS SLATTERY: Yes. Stop. It means the States don't have to implement that part of the Basin Plan that they – if they can demonstrate a provision in the Basin Plan has impacted reliability. And in the position statement, it specifically points to examples of where that might happen, and mentions the environmental watering provisions.

10 MR BEASLEY: Now, the position statement is in different parts of the volume. But in mine it is behind 16 and in others it is behind tab 14. But I was going to come to it next time.

15 THE COMMISSIONER: No. We won't have time for that now. Can I just – 614, of course, is in the Plan.

MS SLATTERY: Yes.

20 THE COMMISSIONER: And the Plan doesn't change the Act. Sorry. That's a statement by me, you don't have to – I'm persuaded of that. 614, on its face, is capable of being used to read everything in the Plan so that where the language permits, you have to choose an interpretation which avoids triggering the compensation provisions. I think that's how you would see it.

25 MS SLATTERY: Yes.

THE COMMISSIONER: Is that really all that these people have concerned you with?

30 MS SLATTERY: No that's not how they've interpreted it. They have interpreted it as it overrides any other part of the Basin Plan. And it also overrides the objects of the Water Act. And that if the States can demonstrate an impact to reliability, then, they can – they're not obliged to implement that part of the Basin Plan that has caused that impact to reliability.

35 MR BEASLEY: Let me give you one example, Commissioner. If you go, I will deal with this in detail next time but if you go to that position statement and look at paragraph 15, I think this is what the witness' main concern is.

40 THE COMMISSIONER: Who wrote the - - -

MR BEASLEY: It's just a – who knows who the actual author is but it's a position – was this publicly available?

45 MS SLATTERY: Yes. It's on the website.

MR BEASLEY: Yes.

THE COMMISSIONER: Did you say 15?

5 MR BEASLEY: 15:

10 *For example, the operation of section 614 means that a water resource plan need not include new rules to give effect to particular requirements of chapter 10, if it is not possible to include without causing a change to reliability. Sections of the Basin Plan where this may become relevant include 10.17, 10.18, 10.21 and 10.27.*

15 Now, 10.17 is about prioritising water for environmental assets and priority ecosystem functions.

15

THE COMMISSIONER: But my point is, I think, just as a matter of interpretation that 614 obviously speaks to things in the Basin Plan.

20 MR BEASLEY: It does.

20

THE COMMISSIONER: And I can understand why people might see it as something in the nature of an override. I wouldn't choose that word myself but I understand it. Because 614 starts with the word "nothing", which is pretty emphatic:

25 *Nothing in the Basin Plan requires –*

30 now, there are a different range of ways you could read that but it would certainly involve the possibility that when you come to chapter 10 of the Basin Plan, if the language permits and only if the language permits, 614 is an interpretive provision that tells you the words of, say, chapter 10 don't trigger compensation. When I say "don't trigger", I mean don't, of their own force, bring about – that is, nothing in the Basin Plan requires a change. It doesn't mean you can't do something under a Basin Plan which will bring about a change.

35 MR BEASLEY: Of course. That's the point.

40 THE COMMISSIONER: It just means that the Basin Plan itself can't be flourished by a disappointed farmer who says, "Pay me. You've promulgated a Basin Plan. I want compensation for that." And I certainly understand that as a – it seems a hyper cautious provision to include but I certainly understand that. And if that's what the MDBA is thinking, and I at the moment, at least, don't see much of a problem with it, but you've drawn to my attention it goes further.

45 MS SLATTERY: It goes much further than that and it's explained in their position statement. And they - - -

THE COMMISSIONER: They don't talk about the objects of the Act being overridden.

5 MS SLATTERY: No. The objects of the Act – I think that this – the way they have interpreted it, would mean the objects of the Act become overridden.

THE COMMISSIONER: Well, I can't – I must say, at the moment, I can't see any of their own words saying that.

10 MS SLATTERY: No. That's - - -

THE COMMISSIONER: They don't seem to say any part of the Act is overridden.

15 MS SLATTERY: No. Sorry. That's my reading of what would happen if – if they implemented it that way.

MR BEASLEY: Paragraph 15 does seem rather alarming that they would make that note to themselves. But that might be me overreacting to things.

20 THE COMMISSIONER: Well, to be fair, they say if it is not possible to include such rules without causing a change in reliability. Anyhow, we will give consideration to it.

25 MR BEASLEY: All right. Now - - -

MS SLATTERY: Can I just add one extra point to that.

THE COMMISSIONER: Of course.

30 MS SLATTERY: They have proposed a test of reliability and the test is without precedent and it is so narrow that virtually anything - - -

THE COMMISSIONER: So this is a related point but it's a different point.

35 MS SLATTERY: Yes, yes.

THE COMMISSIONER: I've just noticed the time.

40 MR BEASLEY: Is this a published position?

MS SLATTERY: Yes, it is.

MR BEASLEY: All right. We will find that.

45 THE COMMISSIONER: I'm just worried about the time.

MR BEASLEY: Yes. No. The witness will have to come back.

THE COMMISSIONER: Yes.

MR BEASLEY: And we will either do that in person or on Skype. I think there's a
5 preference being expressed for in person at the moment. I'm not sure what your
preference is, Commissioner.

THE COMMISSIONER: I'm so sorry to be uncertain about this but would you
10 mind if we – the Commission staff liaises with you to find out what is the most
convenient?

MR BEASLEY: I think that's the plan. Yes.

MS SLATTERY: Sure.

15 THE COMMISSIONER: I'm very appreciative of the trouble you have taken today
and I'm sorry about the delay.

MS SLATTERY: That's okay.

20 THE COMMISSIONER: I'm very grateful for your assistance.

MR BEASLEY: My apologies too. We completely under estimated the time that it
would take with the Cotton Australia, which happens from time-to-time.

25 THE COMMISSIONER: Very well, then. At that point, with this evidence
incomplete, - - -

MR BEASLEY: Yes.

30 THE COMMISSIONER: - - - but not necessarily that it will resume immediately,
the - - -

MR BEASLEY: It will resume on a date that is mutually convenient to everyone,
including the witness.

35 THE COMMISSIONER: But the Commission hearing itself will adjourn to next
Tuesday, 17 July in these premises.

MR BEASLEY: That's right.

40 THE COMMISSIONER: Thank you very much, in an interim sense.

45 <THE WITNESS WITHDREW [3.24 pm]

MATTER ADJOURNED at 3.24 pm UNTIL TUESDAY, 17 JULY 2018

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