

REPORT ON PROCEEDINGS BEFORE

**SELECT COMMITTEE ON THE PROPOSAL TO RAISE THE
WARRAGAMBA DAM WALL**

PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

CORRECTED

Virtual hearing, Video conference, Sydney on Monday, 8 November 2021

The Committee met at 9:30 am

PRESENT

Mr Justin Field (Chair)

The Hon. Wes Fang

The Hon. Shayne Mallard

The Hon. Taylor Martin

The Hon. Rod Roberts (Deputy Chair)

The Hon. Adam Searle

The Hon. Penny Sharpe

* Please note:

[inaudible] is used when audio words cannot be deciphered.

[audio malfunction] is used when words are lost due to a technical malfunction.

[disorder] is used when members or witnesses speak over one another.

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The CHAIR: Welcome to the sixth hearing of the Select Committee on the Proposal to Raise the Warragamba Dam. Before I commence I acknowledge the Gadigal people who are the traditional custodians of the land on which the Parliament sits. I also acknowledge the traditional custodians of various lands on which my colleagues are joining today, as well as all the people who are participating in today's hearing. I pay my respect to Elders past, present and emerging and extend that respect to all Aboriginal people present today.

Today's hearing is being conducted as a fully virtual hearing. This enables the work of the Committee to continue during the COVID-19 pandemic without compromising the health and safety of members, witnesses and staff. As we break new ground with the technology, I ask for everyone's patience through any technical difficulties that we may encounter today. If participants lose their internet connection and are disconnected from the virtual hearing they are asked to rejoin the hearing by using the same link already provided by the secretariat.

Today the Committee will hear evidence from Aboriginal representatives, ecologists interested in or involved in the development of the environmental impact statements of the proposal from various councils impacted by the proposal. Before we commence I will make some brief comments about the procedures for today's hearing. While parliamentary privilege applies to witnesses giving evidence today, it does not apply to what witnesses say outside of their evidence at the virtual hearing. Therefore, I urge witnesses to be careful about comments they may make to the media or to others after they complete their evidence.

Committee hearings are not intended to provide a forum for people to make adverse reflections about others under the protection of parliamentary privilege. In that regard, it is important that witnesses focus on the issues raised by the inquiry terms of reference and avoid naming individuals unnecessarily. All witnesses have a right to procedural fairness according to the procedural fairness resolution adopted by the House in 2018. There may be some questions that witnesses could answer only if they had more time or with certain documents to hand. In those circumstances witnesses are advised that they can take a question on notice and provide an answer within 21 days. Today's proceedings are being streamed live, and a transcript will be placed on the Committee's website once it becomes available.

Finally, a few notes on virtual hearing etiquette to minimise disruptions and assist Hansard. I ask Committee members to clearly identify who questions are directed to, and I ask everyone to state their name when they begin speaking. Could everyone please mute their microphones when they are not speaking and remember to turn their microphones back on when they are getting ready to speak. If you start speaking whilst muted please start your question or answer again so it can be recorded in the transcript. Members and witnesses should avoid speaking over each other so it can all be heard clearly. I remind members and witnesses to speak directly into the microphone and avoid making comments when their head is turned away. I now welcome our first series of witnesses for today's hearing. I remind all witnesses that as they have appeared previously before the Committee to give evidence they will be examined on their former oath or affirmation for today's hearing.

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SHARYN HALLS, Gundungurra Elder, Gundungurra Aboriginal Heritage Association, on former affirmation

KAZAN BROWN, Gundungurra traditional owner, on former affirmation

TAYLOR CLARKE, Gundungurra traditional owner, on former affirmation

PAUL KNIGHT, Chief Executive Officer, Illawarra Local Aboriginal Land Council, on former affirmation

DANIEL CHALKER, Indigenous representative, on former affirmation

MICHAEL JACKSON, Archaeologist and Cultural Heritage Adviser, Jackson Ward Archaeology, on former affirmation

HELEN LARDNER, President, Australia ICOMOS, on former affirmation

The CHAIR: We will kick off with opening statements. If the six participants in this section of today's hearing give long opening statements it will take a substantial amount of time. I invite you to make a statement as you see fit, but perhaps consider keeping it short. I will start with Aunty Sharyn Halls. Do you have an opening statement?

Aunty SHARYN HALLS: Yes, I do. I am just going to read it and hopefully you can all hear me well enough. As you know, I am a Gundungurra Elder. I am here to address the concerns that I, and our organisation, the Gundungurra Aboriginal Heritage Association [GAHA], have with the environmental impact statement [EIS] for the dam raising. We at GAHA do not accept the Aboriginal section of the EIS as it is not a true survey of the area that will be impacted. I am a bit nervous; I do not normally read but I am going to read this today. An incomplete document, we feel, has been produced. Only offsite cultural and heritage sites [CAHS] have been looked at and 27 per cent with Aboriginal stakeholders occurred during the walkover.

To our knowledge no-one has bothered to talk to Helen Brayshaw about the report done in March 1989, *Warragamba Dam—Archaeological Study Sample Investigation of Areas Upstream to be Affected by Increased Water Retention*. When this flood mitigation report was done by the Water Board the report also stated that over 400 sites are likely to be affected by inundation. Since then we are doing the same thing that was done back in 1989. This report is under 100 pages and easier to navigate than the report that we have now. We have had very little time to actually review it, even though it has been increased to the end of November.

The concerns are that we do not accept the recommendations. We still have very low importance on a lot of our sites—I actually have figures here that I have not put in—and it appears also that the recommendations that were put up back in 1989 were never addressed. We believe that that report actually recognised the significance of Aboriginal cultural heritage, more than we have today. I have no faith in the process around the dam raising. From day one our Elder committee stated to water in the beginning that the process was flawed and we still believe the process has been flawed with the Department of Planning and WaterNSW. We will not change our views on that.

Obviously, we do not support the dam raising. We also have read the recommendations that this council put out—16 of them—which we think are very reasonable for the Government to answer to as well. The Aboriginal history of Burratorang is so important and I do not think the report and the sites reflect that because we still have, in that report, a lot of sites that are considered low significance—and, of course, everything is significant in a cultural landscape. I do not think people have been listening properly to the Aboriginal wishes over this site. We do not support any damage to any of our sites in any shape or form, and never will.

The other thing—a dam wall will not stop the flooding; everyone knows that. We feel that people are not being listened to by the Department of Planning. I think to come out of this the EIS has failed to address the importance of Burratorang and our cultural lands and our waters. The other thing I would like to say in my statement is because of what happened in 2019 and 2020 the Gundungurra cultural and spiritual lands were impacted as a result of eight years of drought and 81 per cent of our country was burnt. After that we had two major rain events but the EIS has not addressed the impact to the sites. There has to have been some impact of some sort because they have not done any scientific study, as recommended back in 1989 to actually address what water does and the impact of rain events. That was a recommendation that should have happened anyway, without where we are today, and it was never taken up.

For us we do not accept the EIS. I do not also accept the process. We have no faith in the process and that is why we have not gone to meetings and been online. Water did do an update to the Eora committee about last month. They did it and it was not really an informative meeting; it was just to say that there are meetings going on and we should be doing the meetings. The other thing around that is that we really feel that the time extension, as I said before, is not enough even though it has been extended to the end of November. We do not

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have the resources that everyone else has to have a lot of people going through an EIS. We have to do this ourselves and we need to be able to get around and talk to people as well and see how they feel about the EIS. Okay, we have been invited to meetings but there is no point going to a meeting if you have no faith in the meeting process. I guess that is where I will stand at the moment. But I have other things to say during this.

The CHAIR: Ms Brown do you want to make an opening statement?

Ms BROWN: No, I am fine, thank you, Justin. I think Sharyn has covered it all.

The CHAIR: Is Ms Taylor Clarke online?

Ms BROWN: I think she is having issues connecting.

The CHAIR: Mr Knight, do you want to make an opening statement?

Mr KNIGHT: Yes, just a very brief one if I could. First of all, I just want to pick up on a point made by Aunty Sharyn around cultural landscape and its recognition in terms of intangible cultural heritage and how that is continually not prioritised in terms of assessment. The archaeological context of discrete sites always takes precedence over the intangible heritage. For Aboriginal people the intangible heritage is actually much more important and needs to be valued in an appropriate way. As Aboriginal people we do not see that happening. In that instance, I also want to acknowledge that the process for undertaking Aboriginal cultural heritage more recently has looked to investigate Aboriginal cultural values, so looking at the intangible heritage, if you like.

My concern around that is we have got non-Aboriginal people that are actually investigating these issues and recording them and there are time frames put on these investigations—culturally completely inappropriate. From a cultural perspective when the only time you get to understand or appreciate or be provided with the intangible heritage and understanding of that in a particular area is once you have been, in a traditional sense, initiated or understand your obligations to that landscape, and the protection of those cultural values. What we are doing here is getting people to actually process that information from Aboriginal people that culturally should not be passing that on. It is actually a fabricated process that we need to be thinking about in the context of this inquiry.

A final point that I would like to alert to, and I am happy to explore all these things later, would be the whole idea of risk mitigation. We understand, you know, it has been proposed that this raising of the dam wall is around risk mitigation in terms of flooding to that lower valley area. I would like to understand what other proposals have been looked at in terms of risk mitigation. I have not seen any evidence to this fact and I would like to see it explored. Has the Government considered almost a self-insurance statutory insurance scheme—because I understand insurance is one of the issues for those developments that have already occurred in that flood area—whereby the Government actually recognises that risk for what has already happened, does not increase it and instead of putting the money into raising the dam wall, it actually puts that money into a statutory fund to address the risk that already exists in that valley?

If you are looking at proper risk mitigation here, we not only have to consider the Aboriginal cultural heritage which, in my view, is extremely high and is going to be destroyed but also we need to be thinking of other ways to manage that risk for the people who are already impacted. That is all I would like to say at this stage and would be keen to explore those things later.

The CHAIR: Mr Chalker, would you like to make a short opening statement?

Mr CHALKER: Thanks Justin. Thanks for inviting us along today. Firstly, I would just like to say "Aniuiima, Koowa, Dharawal, Junga". "Aniuiima" is the First Nations families of all this country, who the country belongs to; "Koowa" is the sunrise country; "Dharawal" is my family group; and "Junga" is me. I would like to acknowledge our connection with the Gundungurra family through our lineage line from west to north, from north to east, from east back to west. That is our lineage line that we connect with. I guess, going through the EIS process, I have been involved from the beginning. I personally have gone to every meeting that I have known about and been notified about. I did all but three days in the field during the site assessment.

But recently, through circumstances, I have moved on. I was working under Cubbitchbarta at that time. I have moved on from that in recent circumstances. From that point the process, the archaeologists, SMEC and WaterNSW have left me out of this process. I believe that is a deliberate action because of my opinions and my knowledge from a cultural sense. I believe that they have not been adequate in including all of community. They are abiding by their statutory obligation, and that is it. Reading through the EIS that has been put forward for you to consider, it is an underwritten statement of what is actually there. I believe the figures are incorrect. I believe the information that was captured onsite is not represented in that EIS and it underwrites the cultural values of nearly every site that is recorded in that document. For example, there is one site listed in that document—one resource site. The country provides everything. The 5,000 hectares that this potential area will affect is the resources in that area as a cultural perspective. Thanks.

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The CHAIR: Ms Helen Lardner, would you like to make an opening statement?

Ms LARDNER: Thank you very much; I would like to do that. I am the President of Australia ICOMOS—the International Council on Monuments and Sites. I would like to pay my respects to Elders past, present and emerging. Today I am on the land of the Boonwurrung and Woiwurrung people. We have provided an additional written submission following the release of the EIS. Australia ICOMOS has serious concerns about the proposal to raise the Warragamba Dam wall and remains critical of the EIS process. We strongly endorse recommendations contained in the interim report of this select committee. So in my opening remarks I would like to address the EIS by highlighting some recommendations from the interim report and reiterating our concerns in relation to obligations under the World Heritage Convention.

Firstly, I would like to address the potential impact on the outstanding universal value [OUV] of the World Heritage property. The area affected by the proposal is on the World Heritage List and recognised globally for biodiversity and rare species. But it was originally nominated to the World Heritage List by Australia, with the support of the New South Wales Government, for cultural as well as natural values. While the inscription was for natural values, the important Aboriginal cultural heritage is explicitly included in the integrity of the property as expressed in the Statement of Outstanding Universal Value. This statement refers to the continuing Indigenous custodial relationship in the area:

Occupation sites and rock art provide physical evidence of the longevity of the strong Aboriginal connections with the land. The conservation of these associations, together with the elements of the property's natural beauty, contributes to its integrity.

Under the World Heritage Convention, Australia is obliged to do all it can, using the utmost of its own resources, to identify, protect and conserve the cultural and natural heritage of this World Heritage area. I have previously drawn this Committee's attention to the World Heritage Committee's decisions about dams within World Heritage properties and its view that this specific proposal was likely to impact the OUV of the Greater Blue Mountains World Heritage area. With regard to the Warragamba Dam, the World Heritage Committee decision urged that the EIS for this proposal fully assesses all future potential impacts on the OUV of the property and its other values, including Aboriginal cultural heritage. This is very clear about the obligations of the EIS.

Australia ICOMOS does not believe that the EIS fully assesses all potential impacts because it does not provide adequate identification, investigation or assessment of the potential impacts on the Indigenous cultural values which are attributes that contribute to the integrity that underpins the property's outstanding universal values. Australia ICOMOS reiterates its previous advice that the proposed raising of the dam wall has the potential to affect the integrity of the World Heritage area and, therefore, to impact adversely upon the outstanding universal value of this World Heritage property.

If I could just briefly comment on a couple of the recommendations from the select committee. In relation to recommendation 9—adverse heritage impacts should be avoided to the fullest practical extent in the Greater Blue Mountains World Heritage area. The EIS states in relation to Aboriginal cultural heritage that if the project proceeds "there is no capacity for directly applied management measures for the avoidance or minimisation of harm". So the mitigation and management measures in the EIS, which we consider unacceptable, include: recording of Aboriginal cultural heritage rather than the focus on avoidance of harm, and the Warragamba offset strategy. Here we say that the World Heritage area is a mapped extent inscribed in the World Heritage List. It cannot be replaced by purchasing alternative land.

Australia ICOMOS restates its view that alternatives to the proposal for the raising of the dam wall do not appear to have been thoroughly considered in the EIS. In relation to recommendation 11, the EIS states, "It has been clearly communicated by the RAPs that they do not support the project." I think we have already heard this strongly from Aunty Sharyn and the traditional owners at this hearing. In relation to recommendation 12, ICOMOS rejects the sampling and predictive model for the archaeological assessment of the area where inundation may result in loss of cultural heritage. The EIS notes that the cultural values assessment involved limited consultation, which again we have just heard, and cannot be considered comprehensive. However, it still found that the cultural landscape was of very high significance. The EIS found the impacts from the proposal included harm to the cultural landscape to 43 known archaeological sites and an additional predicted 131 archaeological sites and 11 cultural places within the upstream impact area, and cumulative harm to the intangible values of the cultural landscape.

As mentioned earlier, greater than 81 per cent of the World Heritage area was impacted by the 2019-20 bushfires. Bushfires can cause damage but also can reveal Aboriginal cultural heritage sites. The EIS states, "It is not possible to quantify the effects of the 2019-2020 wildfires on Aboriginal heritage values or individual sites or places in the study area." This is completely unacceptable in our view. The impact of the fires is unknown because further fieldwork was not undertaken. The extent of fieldwork, and the lack of survey, post the 2019-20 fires is a serious and unacceptable shortcoming of the EIS.

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Lastly, in relation to recommendation 13, as to whether the EIS complies with the Burra Charter, the Burra Charter requires that the values of a place of cultural significance should be identified prior to decisions which affect those values. It also requires, while considering and managing other factors, that a primary objective should be the conservation of those values. As already outlined, the EIS has not undertaken adequate consultation or survey work in relation to the Aboriginal cultural heritage assessment. There would also appear to be insufficient consideration of alternatives to the proposal. Therefore, the EIS does not appear to meet Burra Charter standards. In conclusion, Australia ICOMOS is concerned that the EIS is fundamentally deficient and that the very nature of the project is at odds with both appropriate cultural heritage obligation and obligations that arise from the World Heritage Convention. Thank you.

The CHAIR: Ms Taylor Clarke is on the phone. Do you want to make an opening statement Ms Clarke?

Ms CLARKE: My name is Taylor Clarke. I am Kazan's daughter, a proud Gundungurra woman. Before I say anything else I would like to acknowledge the traditional lands of the Gundungurra, Dharawal and the Darug people, which are the lands that we are gathered here today to discuss. I hope that, as we move forward, we keep in mind those who have walked those sacred lands before us. I have been involved, as many of the registered Aboriginal parties [RAPs] here have since the start, and attended most of the meetings. I think one of the biggest issues I have found from day one has been accessibility. As I received the report to my house, and it was thousands of pages, I really asked, "How is this accessible?" As well as the process up until this point not being transparent, not being fair to RAPs, not being scientifically accurate, the report is so difficult to read.

We have had to request for this report to be sent to Elders and luckily that has occurred but during lockdown we have not been able to have these conversations with Elders to build our submissions, making sure they are grounded in culture. As I look at these reports I wonder how many of the Elders have actually been able to get through it. What sorts of submission will we be able to get from this? They have not been able to be involved in the consultation process up to this point and we missing out on all of that knowledge, all of that expertise. But even the knowledge and expertise that has been shared throughout the consultation process is not accurately represented within the report. Consistently we have given our feedback on certain stories, on certain sites. I did not hear mum's opening statement but I know that it has been a big issue for us in talking to the historians up to this point. But they cannot even record our stories correctly—still referring to the leading lady's story as a dreaming story rather than an actual occurrence, and this is just the tip of the iceberg.

The biggest thing I would like to emphasise here is that I am young and I had always expected to have my whole life to learn all of this and to get out onto country. They would say, "Do you know country is to walk country." That has been something I had always expected to do and, consistently, as I come into these meetings and be involved in this process it does seem inevitable, and they are not taking our opinions or point of view on board and it just feels like we are running out of time. As a young Aboriginal person it is very discouraging. I would like to thank everyone for being here today. Thank you to the Chair for inviting me to speak.

The CHAIR: Thank you Ms Clarke, and thank you to everyone for your opening statements. I will kick off with questioning. Recommendation 11 in the interim report issued by the Committee last month states:

That the NSW Government not proceed with the Warragamba Dam wall raising project should Registered Aboriginal Parties not give free, prior and informed consent for the project to proceed ...

That was based on advice provided to the Government by the Commonwealth department. For clarity, can I check if the registered Aboriginal parties who are a part of this panel this morning have been asked or have they given free, prior and informed consent for this project to proceed? I will start with Aunty Sharyn.

Aunty SHARYN HALLS: No, we had an Indigenous Land Use Agreement [ILUA] meeting when it first started the process, and Niche came, SMEC came and WaterNSW were there and we made it personally clear that we do not support the Warragamba Dam wall to be raised. We are not going to give consent to destroy one Aboriginal site or any of our cultural landscape because the landscape and the site, and everything that falls within it, is part of who we are. That is our Aboriginal history, as Aboriginal people. But the thing everyone is forgetting, this is Australia's history. This is Australia's first history of this country. Why would we give consent to destroy our sites and everything? It is our birthright.

The Hon. WES FANG: Do you mind if I ask a clarifying question?

The CHAIR: I was going to ask each of the registered Aboriginal parties, but if you want to ask a clarifying question?

The Hon. WES FANG: I do, yes. Aunty Sharyn, in relation to that resolution of the Committee, in that instance there is no circumstance where you would give permission. Is that correct?

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Aunty SHARYN HALLS: That is right; we will never give permission and want to have the dam wall raised because we know they tried to raise this dam wall as you know before and there was not a greenfield consultation with Aboriginal people back then anyway. But that report that I spoke about before in 1989—it could have been 1988; it could have been a little bit earlier but that is when it was officially a report that went to the Water Board—also had some very strong recommendations in it, which we do not seem to have today either. But since then we are a World Heritage area. When we entered the ILUA we believed that all this area because—okay we had an Indigenous Land Use Agreement that we considered would protect everything that falls within that. Of course, we are now having these conversations about destruction. We thought that the Government, by entering an agreement, realised the importance of Aboriginal connection to country. Why would Aboriginal people spend decades to have an agreement with a government if they thought that the agreement meant nothing?

The CHAIR: I am not quite clear on who the registered Aboriginal parties are who are participating in this call so I will ask each person. Ms Brown, in regard to my first question, have you been asked or have you provided that free prior informed consent?

Ms BROWN: No, we have not been asked. Even if we did, we are not going to give it.

The CHAIR: Ms Clarke?

Ms CLARKE: Absolutely, we have not been asked and I have found that we will absolutely never give our consent to destroy this valley.

The CHAIR: Mr Chalker?

Mr CHALKER: Yes, through the consultation process I think, yes. And this is the thing: are the notes of these meetings a true and accurate record of what actually happened? There seems to be with the notes a version which is in favour of what they want. But it has been made in the meetings very clearly that we do not support the raising of the wall because of the impact on the sites.

The CHAIR: Mr Knight, I might confirm with you whether the Illawarra Local Aboriginal Land Council is a party that would have to provide that consent, or you personally?

Mr KNIGHT: From that perspective I would not necessarily say that we are in that position and the same for me personally. I am a Dharawal person. However, the landscape and the area that will be impacted and the catchment area does come into the land council's area. For me I would be taking leadership from the Gundungurra people. I am here to assist them in that process. I will make a comment about the free prior informed consent, in that from what I have observed that has not occurred in this instance to any of the parties that I would consider traditional custodians of that land. I would additionally say that the whole process, the way it is structured, does not allow for free, prior informed consent to occur.

The CHAIR: Ms Lardner can I ask you for your thoughts on this? What would the normal process be to obtain that sort of consent?

Ms LARDNER: Mr Field, I feel that the traditional owners might be better placed to answer that question or I can take it on notice. I did want to highlight, as I did in my submission, that the EIS itself does acknowledge that the registered Aboriginal parties do not support the project. I think it is pretty clear that the EIS is acknowledging that fact.

The CHAIR: Yes, absolutely. I will ask a follow up question and then I will pass to another member. I think you were quite clear in your opening statement but I will ask it simply: Does the raising of the Warragamba Dam wall, as it is described in the EIS, comply with Australia's commitments under the World Heritage Convention?

Ms LARDNER: My very clear concern is that it does not comply with that because I think Australia's obligation is to avoid harm and also to investigate fully before making a decision. My concern is that the EIS has neither consulted enough nor surveyed enough to understand the values to make a decision to recommend going ahead with the proposal. Indeed, it acknowledges the harm that will be done to unknown sites. This is, in my view, of concern in terms of Australia's obligations under the World Heritage Convention.

The CHAIR: Ms Sharpe, do you have any questions?

The Hon. PENNY SHARPE: Yes. I thank everyone for coming along today. I feel like we have been having this conversation for a very long time and I am sure you are more tired of it than the rest of us. Ms Lardner I want to explore the impact and, I suppose, the process that occurs if this goes ahead unchanged or it goes ahead altogether, given the issues raised here. What happens with the World Heritage Committee? Is the world heritage of the Blue Mountains National Park at risk here?

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Ms LARDNER: I believe that it is at risk. The World Heritage Committee has made it very clear that it is concerned with this proposal and further, it has made a specific decision which is about the EIS and the fact that it must include Aboriginal cultural heritage and adequately address this. Obviously, as we all know, the EIS is out for comment at the moment. Australia ICOMOS will be making a submission. I am sure that the World Heritage Committee will refer the matter to its advisory bodies which includes ICOMOS internationally and the IUCN looking at the natural values as well. I believe that it would be of extreme concern to the World Heritage Committee if the EIS which is used to inform decision-making is found to be inadequate. It is our position at the moment that it is inadequate. I do believe that this is a matter that would be raised at the World Heritage Committee in regard to Australia's obligations.

The Hon. PENNY SHARPE: If Australia fails to meet its obligations, what options are available to the committee in relation to that?

Ms LARDNER: The committee's starting point of course, because this area is of value globally, is to try to retain and assist the State party to assist Australia to keep the values. There are a number of options available to the committee but one of them, for example, would be what is referred to as a mission where experts from other countries come out to actually meet with the State party, with the stakeholders, and try to work through what are the options. In particular, they would be interested in what alternatives could be considered to avoid harm to the values. Australia would have the option to respond to recommendations. It is a kind of iterative process with the aim of trying to keep what is valued globally.

The Hon. PENNY SHARPE: What are the trigger points for that? Would that be after the conclusion of the EIS, given the criticism of the EIS? I am trying to understand the various processes along the way of the World Heritage Committee.

Ms LARDNER: Yes, the World Heritage Convention is independent of any actual piece of legislation like the EIS. Comments probably would go forward on the EIS but the timing, in terms of the World Heritage matters, would be determined through the World Heritage Centre and the committee meeting, so that is independent of the statutory process in Australia. In effect, they could be happening concurrently.

The Hon. PENNY SHARPE: I assume that they are often quite slow processes. Is it feasible then that the Government could get to the end of the EIS process, basically approve the project and so at some point it has triggered this assessment of the impact on World Heritage status. Could we just find that we go ahead with this and then World Heritage status could be removed in the future? Is that a live issue?

Ms LARDNER: I do not think that that would happen in that way. This is a very serious matter that has been raised a number of times at the World Heritage Committee. People internationally are watching what is happening here. It would be my expectation that comments from the World Heritage Committee and the World Heritage Centre would come quickly through to the EIS process and to the Australian Government. I agree with you, it can be slow at times, but I think that this matter is of such significance that the reaction will be quite quick.

The Hon. ADAM SEARLE: Ms Lardner, given the evidence you have given about the current process not being consistent with our World Heritage obligations, what has to be done to bring the two back into alignment, in your view?

Ms LARDNER: I think that the process has been flawed and that there needs to be further consultation with traditional owners. I think that there needs to be serious surveying done and not just sampling and using predictive models. I think we need to be realistic about the impacts of events like the fires and, as mentioned, the major rain events that have followed since. In other words, we need to know the values of the place that we are dealing with before decisions can be made about its future. Further to that I would also say, from my understanding, and I am not an expert in this area, there needs to be further investigation of alternatives because the raising of the dam wall does not appear to be an acceptable choice.

The Hon. ADAM SEARLE: In short, more work needs to be done particularly around a proper reflection of the environmental and the cultural values of the impacted area? My second question is to the traditional owners—Ms Kazan Brown, Aunty Sharyn Hall and the others. From your perspective, given the evidence you have given about the lack of proper appreciation of your heritage, your history and the cultural heritage of the site to be impacted, what steps do you think need to be taken to properly ensure those things are reflected in any EIS and in any cultural assessment?

Aunty SHARYN HALLS: For me, we have discussed this with some other Elders who are a lot older than me. We feel that at the moment also the other thing that is being bantered around is offsets. We will not ever accept offsets for destroying our site near Burragorang as well. Unfortunately, people think that you can destroy something and then give something back. But if they are going to give us something back, they are just going to

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be giving us back what is already rightfully ours in the first place. So there is no gain by destroying our sites at any point around this whole process.

I think the most important thing here—we have got an opportunity to investigate Burragorang properly. Just because we investigate it further we know that there are thousands of sites out there that interconnect to each other but it still means, even if we know it and we get it into an EIS that people will probably use into the future for something. What we feel is that does not give anyone the right to destroy those sites. We need to investigate but it still does not change the fact. At the end of the day, this is about destruction. I am not convinced that the dam wall will just be used for flood mitigation. We always had it in the back of our minds that the water is going to be held there for a lot longer than as firstly stated. Because in the end we are not taking into consideration other means to supply water for Sydney. We need to actually push water recycling like the rest of the world does. The drinking water and to do with manufacturing with anything—we need to come into the rest of the world's mentality around water as well.

The health department needs to give the okay for better recycled water to be used instead of increasing dam walls. The rest of the world, they are not doing that; they know that recycled water is the way to go and we need to investigate more around recycling of the water, we need to scientifically study the impacts to the sandstone where our salts are—that has not been done and it is probably not going to be done because the EIS and the people who are running it we have no faith in; we do not believe it will happen. Someone has to convince the Aboriginal community that this can happen and then we can make an informed decision. At the moment we cannot make an informed decision. And even if we have all that, I know that our Elders and our people will still say no to the dam wall. I hope that covers a little bit of what you said; I am not sure.

The Hon. ADAM SEARLE: Thank you, Aunty Sharyn, it did.

The CHAIR: Ms Brown, did you want to make any comments on that question from Mr Searle before I pass over to Mr Fang?

Ms BROWN: Yes, I do. I think a quarter of the area surveyed is not good enough. If they are going to destroy something they need to know exactly what they are going to destroy. It is not good enough. I agree with Aunty Sharyn; even if they did survey the whole area, we would still not agree to them destroying our culture—this is all we have left.

The CHAIR: Thank you, Ms Brown.

Mr CHALKER: Is it okay if I just say something on that, Justin?

The CHAIR: Go for it, Mr Chalker.

Mr CHALKER: Like brother Paul Knight said there on his opening thing, in which Kate Walters in the cultural values assessment, there are a lot of remarks in there that the community would not talk to her. She does not hold no cultural knowledge or cultural understanding. If something is to be led in true, proper way, we as Aboriginal people, as a First Nations people, have to be given the responsibility to write our own story to then pass in through an EIS process, but it is led by the First Nations community. It has to be. There are too many people that are rewriting our story and putting it in their words. This was made very clear to WaterNSW and SMEC in a meeting that was held at Warragamba that she does not hold any cultural authority and should not be doing what she is doing.

The CHAIR: Thank you, Mr Chalker. Mr Fang, did you have any questions?

The Hon. WES FANG: Yes, thank you. Aunty Sharyn, first thing, I love that you were talking about recycled water; you were very much talking my language, so thank you for that.

Aunty SHARYN HALLS: That is all right.

The Hon. WES FANG: Ms Lardner, I just wanted to check with you, in your answer about what could be done about improving the processes in relation to the World Heritage listing of the area, you said that we needed to increase the engagement with the First Nations people of the area. But we have heard this morning that no matter what engagement we have with them, it is unlikely that they are going to support the project. How do those two differences reconcile with the process with regard to the World Heritage organisation?

Ms LARDNER: Thank you. I do not think it is surprising that the traditional owners are not wanting to engage with the process when the process as it has been presented causes harm and does not provide opportunities to choose other paths rather than raising the dam wall. So in my view, a realistically open consultation would be starting from a point where you are looking at avoidance of harm both from the point of view of the traditional owners but also from the World Heritage area and it would only be by starting from that kind of perspective and

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having consultation to actually hear about all of the values and to survey all of the land and consider those values fully before making a proposal that you actually get an open dialogue that is constructive for the process.

The Hon. WES FANG: But I guess in this instance the proposal that is on the table now, you say that we need to increase the engagement and the consultation, but we know that no matter what level of engagement or consultation we go through, it is not going to be supported. It does not reconcile in my mind that these are the things that the Government needs to do in order to get the proposal through, because no matter what the Government does it will not be supported. Do you understand what I am saying?

Ms LARDNER: Yes.

The Hon. WES FANG: It is [disorder] increasing the amount of consultation because no matter what we do I do not think it will be supported. Where does [disorder] lie in that instance then?

Ms CLARKE: Can I comment on that?

Ms LARDNER: Sorry, could I just finish that question? I think then the problem lies with the proposal and I suppose it is Australia ICOMOS's position that the proposal needs to be changed and the consultation needs to be changed. We cannot just stick with the same proposal, which would appear to cause harm, and just work on the consultation. We have to change the proposal and consider more factors on the table in undertaking the consultation.

The Hon. WES FANG: That is quite a different position then, increasing consultation and communication with stakeholders. You are saying it needs to completely change.

The CHAIR: Mr Fang and Ms Lardner, could we let Ms Clarke provide comment on that last one? I am conscious that because we cannot see her she might not have been heard. She was trying to step in before just to add a clarification. Ms Clarke, do you want to add something there?

Ms CLARKE: Thank you. I just wanted to comment. I understand why this conversation needs to be had; however, I think there is a real problem with the whole process if the only reason you would want to consult with Aboriginal people is to get the process through. I may be misunderstanding this whole process up to this point, but I was under the impression that the environmental impact statement, all of the consultations, the report writing, was in order to provide a detailed response that reflected all perspectives so the Government could make an informed decision, not necessarily just to push the process through. Now if that is not the case, I think now is the time for that clarification. But if we are talking about the ways this process can be improved in the future, I

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think if the Aboriginal people concerned in the area are giving their view that it should not go ahead, the Government's job is to ask why and to consider that in their decision making, not just to think, "Okay, well, they are disagreeing, so I guess we had better not talk to them in the future." I think that is a very problematic view.

The CHAIR: Thanks, Ms Clarke. Ms Lardner, did you want to conclude on that previous question from Mr Fang? And I just note that we have got one minute left in this session.

Ms LARDNER: I just support the comments just made by Ms Clarke. I think we really need to approach the proposal and the consultation with an open mind and hear what is being said in terms of alternatives, in terms of shortcomings and that the Government needs to reflect on what is being said about these aspects. Thank you.

The CHAIR: Thanks very much. I think that that is all the time we have for this session. I thank all of the witnesses for your participation this morning, particularly for coming online and experiencing this virtual hearing. Thank you very much and we will move on to the next witnesses for today's hearing.

(The witnesses withdrew)

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STEVE DOUGLAS, Consultant ecologist and environmental planner, on former oath

ROSS CRATES, Postdoctoral fellow, Fenner School of Environment and Society, Australian National University, affirmed and examined

The CHAIR: I might start with you, Dr Crates. Would you like to make an opening statement to the Committee?

Dr CRATES: Yes. My name is Dr Ross Crates, I am a postdoctoral research fellow at the Fenner School of Environment and Society at the Australian National University. I have been working on regent honeyeaters now for about 6½ years. I commenced my PhD on the species in 2015 and since 2018 I have been working as a postdoctoral fellow to continue the monitoring program that we have been planning over that time. The aim of our work really is to try to improve the quality and quantity of available monitoring data for the species to try to help save them from extinction. As many of you will probably be aware, regent honeyeaters are critically endangered. The estimated wild population remaining is probably less than 350 birds, and the majority of those occur within the Greater Blue Mountains area.

What we know from colour-banding studies, the marking of individuals and tracking their movements, is that regent honeyeaters will move between different areas of the Greater Blue Mountains to breed in different years, depending on the environmental conditions at the time. So what is really important for this species is to have a network of different places they can breed in different years. Other areas that are important in the Blue Mountains include areas in the Capertee Valley, the Upper Hunter Valley and the Lower Hunter Valley. What has become clear over the last few years as a result of the work that has gone on in the Burratorang Valley is that the Burratorang Valley forms a very important part of that network and even though regent honeyeaters are highly mobile and have the ability to disperse long distance they are extremely limited in the places they are actually able to breed and this is the reason why they are critically endangered already.

What we have found is that the majority of the habitat within the Burratorang Valley that regent honeyeaters would have bred in has already been submerged. So what is left is the current lake edge. This area within 14 metres of the current maximum supply level is critical breeding habitat for the species and this is evidenced—as SMEC engaged me as a subcontractor or a casual employee to help undertake the biodiversity surveys for the impact assessment—when we found a minimum of 21 birds and seven nests within the proposed impact area. I was also asked to write a draft impact statement as part of the report that has been released in the last month or so. So I wanted to comment briefly on the main issues that I see with the EIS as it stands.

There has been significant editing to the wording that I initially proposed for the upstream biodiversity assessment reports; that has been significantly diluted presumably to water down the envisaged impacts of the proposed development. However, to some extent this actually contradicts what has been written in the MNES report—the Matters of National Environment Significance—which is quite a good or very accurate depiction of the likely impacts of the proposed development on regent honeyeaters. Then finally, I guess my other main concern is the idea of offsetting for the species. If the development goes ahead it would appear to be the case that current offset calculations exclude the area between zero and 2.78 metres above the current maximum supply level and also between 10.25 and 14 metres above the maximum supply level. So this will be a huge area of mapped important regent honeyeater habitat that would not be offset in the current offset calculation strategy.

Finally, I would just like to say that with a critically endangered species that is already extremely habitat limited it simply will not be possible to offset this and the impacts by recreating habitat in other areas within a time frame that would be beneficial to the regent honeyeater, given the rate already of their decline.

The CHAIR: Thank you, Dr Crates. Dr Douglas, would you like to make an opening statement?

Dr DOUGLAS: Thank you, yes. I agree with what Dr Crates has noted, that there are some odd inconsistencies, evidence of selective editing. Because we have got access to the draft EIS, you can see that particularly acutely in many sections where the ecologists for SMEC have done, in my view, quite a good job of assessing the impacts within the limit of what their employer and their proponent would allow them to do, but then you look at the final document in the same sections and there are multiple instances of selective editing to favour the proponent's interests, as Dr Crates says, to essentially dilute the impacts to make it look not as significant as it is.

I also support his conclusions more broadly in relation to the inability of offsets to achieve what they are intended to. There are quite a few threatened plant species, including those that are listed as endangered, that cannot be offset; they simply do not occur—at least as far as current science is aware—outside conservation estate. We are not aware of any occurrences on private land that might be purchased and secured as a biobanking style of offset site. If that is the case, and the best available information to date is that that is accurate, those offsets

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simply cannot be achieved and there does not appear to be any measure to deal with those circumstances. So regent honeyeater is by far a very acute example, being critically endangered and you simply cannot replace that habitat; it is not available elsewhere outside conservation estate and it is already very limited with what it can access and use. But, equally, some of these plants are simply not known to be present elsewhere. So the offset strategy, I think, is flawed on that basis.

It is my understanding that it is common practice, certainly under the Biodiversity Conservation Act, to create a loophole for State significant development where, if the proponent is unable to achieve the offsets that they would ordinarily be obliged to purchase, they can make a contribution to the Biodiversity Conservation Trust, inclusive of a 15 per cent brokerage fee, or what amounts to that. But that just puts money in a bank that may never be spent. Essentially if the trust cannot purchase those offsets because they just do not exist anywhere, then the system falls apart, and we are definitely at risk of that with several of these species.

The CHAIR: Thank you, Dr Douglas. I might just go straight to Mr Searle, who I know has some questions.

The Hon. ADAM SEARLE: Thank you, Mr Chair. My question is for Dr Crates. Doctor, you just gave us some evidence about some of your work for SMEC being changed. Was that just sort of a change of expression of grammar or was it a substantive change to the meaning or the importance of some of your work? And who did those changes and on what authority?

Dr CRATES: The changes I am describing are essentially the exclusion of some paragraphs—up to paragraphs, sometimes lines—and sometimes changing important words such as "will" to "could" or "but"—just words that are clearly designed to water down the impact of the proposal. I am actually not aware of who made those edits; it is someone within SMEC. I did contact SMEC—I have not worked for them now for over three years. I asked them if my name was associated with the report and I was assured that my name was not associated but that there would not be substantive changes to the wording of what I had initially written as a draft. I am very happy to send the Committee what is essentially a track changes version of this.

The Hon. ADAM SEARLE: Please do.

Dr CRATES: Yes, no problem.

The Hon. ADAM SEARLE: But this is quite disturbing. Organisations like SMEC are contracted to do certain work and a great deal of reliance is placed on the scientific integrity of that work and if the people who have done the constituent, salient bits of work, the specific parts, such as you, are having their work diluted in the way you have described, what reliance can the community have or can we have on the scientific integrity of the finalised product produced by SMEC?

Dr CRATES: That is a great question and, to be honest, I do not know. The interesting thing for me is that the MNES appendix in the report is extremely accurate, and that was not written by me, but I would assume that whoever wrote that component of the report used a lot of my original wording to write that section. In short, the answer is I do not know. It is worrying though.

The Hon. ADAM SEARLE: Yes, it is very worrying. Thank you, Mr Chair, those are my questions.

The CHAIR: Thank you, Mr Searle. I might just pop in there, Dr Crates. Obviously, you were the expert who contributed to the analysis, if I understand that correctly from your evidence. Is there anyone else in the field who may have challenged your work that led to those changes to the document?

Dr CRATES: There is no-one else in the field. We have been working extremely close over the last four years with BirdLife Australia, but in terms of anyone in the regent honeyeater recovery team that spends a large amount of time in the field and has significant expertise of the species, none of them would be interested in editing the original wording of the report.

The CHAIR: With regard to the comments that you made about the areas of the impact that were considered for potential offset and other areas being excluded, if I heard you correctly you made the suggestion that some of the areas that would be impacted of regent honeyeater habitat were not intended to be offset under the EIS. Can you just clarify what you mean by that?

Dr CRATES: If I have read the report correctly, if I have understood it correctly, current offset calculations for the area to be impacted are only the boundaries between 2.78 and 10.25 metres above the current maximum supply level. So what appears to have happened is that a band of the inundation zone, should the proposal go ahead, between current maximum supply level of 2.78 and above 10.25 and below 14 metres would not be included in the offset calculations.

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The CHAIR: What you know about regent honeyeaters and their sensitivities to these sorts of impacts, I imagine from the EIS, my reading of it, is that the Government is making a conclusion that particularly in that higher band, any impacts would be temporary or not that common and so, therefore, are suggesting that those impacts should not be offset in the first instance perhaps if there is a future impact. Is that something though that that species can sustain?

Dr CRATES: It really depends upon how long that upper band—if we are talking specifically about the upper band—it depends how long the areas would be inundated for because as you go higher up the edge of the valley the vegetation communities change, and obviously those plant and tree species are growing in areas that—they would not have evolved naturally to withstand inundation. So even if the inundation of those tree species may be less than four or five days to a week, that may be sufficient to kill those trees. So the main thing here is not that large flood events could lead to the loss of breeding birds; it is that large flood events would lead to the entire loss of their habitat through inundation.

The CHAIR: Just one final one. I think in your field work you identified seven nests and 21 birds, was what you stated before. Can you just put that in perspective in terms of the significance of the remaining population of regent honeyeaters?

Dr CRATES: Sure. Our best estimate is that there are probably less than 300 birds left in the world and there may be less than 150 to 200 birds occurring within the Greater Blue Mountains. So 21 birds and seven nests represents somewhere between 5 and 7 per cent of the global population detected breeding within a single round of survey visits. It is also worth noting that the survey effort only encompassed a very small proportion of the potential inundation zone. So there may well be more birds out there breeding in areas that would be impacted by the proposal; we simply do not know because of the difficulty in accessing the valley and essentially getting there to undertake surveys at the right time of the year.

The CHAIR: Okay, thank you. Ms Sharpe, do you have any questions?

The Hon. PENNY SHARPE: I do, thank you. Can you just remind the Committee what proportion of the inundation zone was actually surveyed?

Dr CRATES: I would have to take that question on notice, but a rough guess would be probably less than 20 per cent. To some extent we surveyed the most important areas, being the areas—

The Hon. PENNY SHARPE: Sorry, how do you judge the most important areas? How is that decided?

Dr CRATES: It is based on the vegetation communities. In large areas of the valley the sides of the dam are quite steep and in those areas you transition more rapidly into vegetation communities that are less suitable for regent honeyeaters breeding. So the areas around the Wollondilly River and the riparian zones where you have your box ironbark communities are the key areas. But, having said that, there are very likely to be other areas these birds are nesting that we simply do not know because we have never been there.

The Hon. PENNY SHARPE: You sort of touched on this earlier, but obviously there have been changes to the report that you made and that found its way into the EIS. I assume you have done other work on other EISs in the past?

Dr CRATES: My work on other EISs has been very limited because mostly I am an academic. I am very much focused on the research side of things and doing what we can to save the species from extinction rather than that assessment side of things.

The Hon. PENNY SHARPE: Dr Douglas, I am very concerned about the integrity of the EISs through our planning processes. Our planning process relies extremely heavily on having all of the information for it to be accurate for the Government to make decisions about that. It concerns me a great deal that even at the EIS process there is watering down of the frank and fearless advice that is supposed to be presented to government. Dr Douglas, have you done this work before? Are you able to comment on this particular process?

Dr DOUGLAS: I can. Thank you for raising the question. It is actually at the top of a submission that I am drafting on behalf of Wollondilly council and that is that this EIS is an example of a much wider problem, which is that the proponent—whoever they are and whatever the project might be—chooses their consultant. That, in itself, seems to me to be a recipe for undermining public trust in the assessment system. Then you have got the next layer—and I do not know whether this Committee has been able to explore it—where they were not aware of how SMEC, in this case, was chosen as one consultant of presumably quite a few tenderers for the job. Were they selected because they might have a favourable reputation from the proponent's perspective?

As someone who has worked in environmental assessment for 25 or so years, I am aware that certain firms have industry reputations as being leaning towards the interests of proponents which, frankly, most of them

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have to do if they want to stay in business. So we have got a legislative model that reinforces the business model where the proponent chooses the consultant, the consultant virtually has to give the proponent what they want to hear, to some degree, because if they do not they get a reputation as being too green or too scientific or unhelpful in some way to the proponent's case, and we are not talking about \$1,000, \$5,000, \$10,000 even \$100,000 here; these kinds of assessments are in the millions in terms of just the ecological assessment—relatively big money for consultancy—and that buys you influence, it has to. If you have got consultancy firms with numerous staff, office rentals, vehicle fleets, admin personnel, to stay afloat they have to keep their clients happy. So to that extent, I am not judging SMEC particularly or even this EIS; it is an example of a much more widespread problem that is inherently biased.

In this case we have got, as I understand it, a very significant complicating factor in that the lead ecologist for this project within SMEC resigned, citing interference with her work and that her work was being used in ways that did not align with her professional values and opinions. I believe she has objected to that situation formally and advised what is now the Department of Planning, Industry and Environment [DPIE] of this. Because this EIS is under the Threatened Species Conservation Act and its older regulatory framework, those kinds of difficulties where as an accredited assessor you make allegations of misuse of your accreditation by, for example, your employer or a proponent, I do not think the department, in my very limited knowledge of the situation, can do much about that, whereas had government chosen to place this proposal under its current legislation, the Biodiversity Conservation Act and the Biodiversity Assessment Method [BAM], the BAM takes a much stronger, dimmer view of that kind of operation, keeping in mind that this is just an allegation, that I am aware of—I have no evidence of it.

If, for example, I had been subcontracted to any consultancy firm and then I found that that firm was misusing my work, editing it without my consent, using my accreditation under the BAM to make representations that I did not agree with, I could report them. The department has a BAM accreditation division that can randomly audit or selectively investigate matters like this and there are significant penalties for breaches that are proven. I do not think that is necessarily the case under the old legislation. Nonetheless, it is a significant allegation and, to top it off, not only did that lead staff member resign under those very invidious circumstances; they were apparently replaced with an officer from the proponent. That, to me, as some have said—including the council that I am working on—surely is a matter for the ICAC when a supposedly independent private consultancy firm, appointed to provide what is legally meant to be an objective assessment in the public interest, loses its lead ecologist under very unpleasant circumstances where she is alleging interference with her work and misrepresentation, misuse of her accreditation.

She makes a formal complaint about that and then the proponent slips their own man into that very seat. That is about as concerning as—and I have seen a lot of EISs in my time and been required to review them—I have not heard anything that rivals that. Biased, selective editing, the client leaning on the consultancy firm, yes all too normal, sadly, as is selective tendering where the client knows which firms are likely to be favourable to their interests. They have a contract that, if it came under public scrutiny, would probably be seen as less than ideal and you have the possibility in this and many other cases—and, again, I am generalising; I do not know the specifics here—where the proponent can limit the budget through the tendering process and the proponent may not want all of the survey effort that the environmental assessment guidelines require. They might say—

The Hon. PENNY SHARPE: Sorry, can I just stop you there specifically on that point? Who oversees that process? Is the proponent supposed to make sure the limitation of budget—and, look, there are always budgets; you cannot survey every single centimetre. I do not think anyone thinks that is the case, particularly for a project like this. But throughout that process is there anyone watching that and asking questions about that?

Dr DOUGLAS: The Department of Environment and Planning in its various guises does set through the Secretary's Environmental Assessment Requirements [SEARs], the ministerial directions as to what has to be dealt with and, essentially, if those matters are not dealt with or variations agreed to, then the Minister could raise concerns through the department about that. But the survey guidelines that sit underneath that—in this case, the framework for biodiversity assessment and the BAM, they specify guidelines—they are not binding but they are guidance that causes certain regulatory outcomes if you cannot meet them. And I completely agree, in some situations the guidelines may not be appropriate; there may be no merit, it may be unsafe to try to survey everything as specified, but there is a feedback mechanism. For example, if an area was unsafe, you simply cannot put personnel in there for work health and safety reasons. That is a perfectly legitimate basis on which to say, "Hey, we can't survey that area. We can't meet those guidelines. Here is the justification." That would not cause a problem.

The assessment mechanism is such that where you cannot, or in some cases choose not to, comply with the survey guidelines, your next step is to simply presume that the thing that you are required to look for is present. That is a very economically prudent thing to do in some cases rather than spend a lot of time and money, given

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that those two things are closely linked logistically. It might be in the proponent's interest to say rather than spend an extra half a million dollars looking over every centimetre for something that may or may not be there, it might be in their interest, quite legitimately, to choose to instruct the consultants or for the consultants to reach their own conclusion that that koala, for example, the koala that is on the SEARs, the things that you must target in your survey, rather than trying to look for them, because they are difficult to find, you presume that they are there.

The next thing where that gets a little bit more challenging raises the question of where are they? It is easy enough to say, "We will take the relatively easy option"—potentially a cheaper option—"of presumed presence", but where are those koalas in relation to your impact area? How many of them might there be for this assessment purpose? And, of course, what is the impact of the proposal on them? When you do not know as an ecologist within the limits of data that is available where the thing is, in how many numbers, what kind of density, you go the next step and you request an expert report. That is generally done by someone outside the consultancy—I do not believe it has to be, but certainly under the current legislation an expert for a particular species or community has to be approved by the environment agency head—essentially DPIE; you have to lodge an application to be certified as an expert for that particular purpose and that entity. I am advised that the rules are not that onerous under the Threatened Species Conservation Act that this proposal is assessed under. It was explained to me somewhat jokingly that you can pretty much ring up a mate and say, "Hey, will you write us a report? Have you got at least some credibility as a prospective expert?"

The Hon. PENNY SHARPE: So the departures from the guidelines, are they documented along the process?

Dr DOUGLAS: They are, yes.

The Hon. PENNY SHARPE: Do you believe they have happened in this case?

Dr DOUGLAS: Yes. They are not concealing that in any way. The deviation from the guidelines is quite normal; it is not in itself a basis for concern because there are those two other options, which is presumed presence—and Dr Crates might want to speak about that in the case of the regent honeyeater where, a bit like koala or plants, for example, the problem is not so much whether you assume it is there or not, but whereabouts is it in relation to the impact zone, how many, what density? It is the specifics. What the EIS is saying is that it could not comply with the guidelines or it did not comply with the guidelines for many things—it did for a few—but I am advised that the consultant simply did not have the resources or the time to comply with the guidelines, noting that they are only guidelines, they are not mandatory.

The Hon. PENNY SHARPE: Do you know how many expert reports they commissioned as a result of the limitations?

Dr DOUGLAS: I am told that they could not get the number of expert reports that they needed to comply and I believe the EIS explains that they sought expert report authors but could not obtain their services.

The Hon. PENNY SHARPE: Thank you. That was very helpful. Dr Crates, is there anything you wanted to add to that?

Dr CRATES: No. I think regent honeyeaters is an interesting one. It is my understanding that the entire inundation area was mapped as regent honeyeater important habitat, following the conservative approach that Dr Douglas has been discussing. I guess that is the problem they have got in terms of translating that into offsets, given the size of the area of impact.

The Hon. PENNY SHARPE: Thank you. Nothing else from me at this point.

The CHAIR: Thank you, Ms Sharpe. Could I just check in with the Deputy Chair? Do you have any questions? Members of the Government? No, then I might ask another couple. Dr Douglas, your original submission to the inquiry focused a bit more on the assessment of World Heritage values, outstanding universal values. I was just wondering if you could speak on the adequacy of the analysis around impacts on World Heritage in the final EIS.

Dr DOUGLAS: To be frank, I have not had the opportunity to get that far. One of the problems is that this is a very large body of text. I think it would be probably a month of full-time work for me to go through all of the things that are related to my expertise, and workloads at the moment simply do not permit that. So I have not even looked at that component of the report. The work I am commissioned to do is upstream biodiversity and may be construction area biodiversity focused, but I am advised that there has been very little change to the concerns that I had about the earlier work—that it has not complied with the guidelines, it has not been prepared by a specialist. It is actually, I believe, prepared by a town planner. As someone with an environmental planning background, you might be able to get yourself up to speed on World Heritage issues and write a compliant report,

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but I am told from those who have had an opportunity to look at that section that that is not the case here, that it is not a competent compliant assessment by someone with relevant qualifications and experience.

The CHAIR: That raises another important point though. This is an 8,500 page report when you consider all of the appendices. There has been an extension in the submission period now to, I think, 60 days. Given the concerns that we have heard this morning about the integrity of certain parts of the EIS assessment and how expert advice that contributed to it may have been changed, it would seem to me to be quite impossible for a lay person to get across the detail, or even for external experts to be able to review the document and provide advice to government and the planning department or other stakeholders about the efficacy of the assessment. I just wonder if you could speak to that process and whether or not that is something that should concern us.

Dr DOUGLAS: I believe it should concern us all, but that problem is not specific to this instance. Most EISs are for major projects. By their very nature they often generate a lot of volume of text, some of which is highly technical; most of it would not be accessible to the public, most of it requires specialist interpretation. All too often, in my experience of EISs—and they do vary in quality depending on many circumstances—they are not really something that provides a clear, adequate picture to the public; they can readily mislead even experienced public servants who are required to review them. They can be tricky. They can be written by people who are expert in subtle deception sometimes.

Dr Crates has mentioned how his work was altered to some degree to downplay the significance of his conclusions and advice. That is all too common. Again, it is exactly what you would expect in a system where the proponent chooses the consultant. The proponent can influence the consultant by essentially saying, "Unless you give me what I want to read, something favourable to my proposal, I may not pay you your next instalment. I could put other pressure on you to try to extract an outcome that is a bit more favourable", and, sad though it is, I cannot blame most consultancy firms who are just trying to do their business; they are trying to survive economically. They would tend to want to give the client what they want to hear, even if that is subtle editing, changing the position of a comma, just altering the intonation of a sentence to raise something that this EIS does not very well. It is the misuse of uncertainty.

The Committee is probably familiar with the concept of the precautionary principle that is enshrined in New South Wales law and, I believe, other jurisdictions. In case law it essentially says we should have no regrets; we should look at the worst outcome within the scope of this proposal or whatever is before us and take a precautionary approach rather than trying to minimise, downplay, dilute, et cetera, the real impacts. This EIS inverts the precautionary principle, literally turns it upside down—it tries to avoid looking at the worst case scenario in order to minimise the damage on paper and minimise the offset obligations and therefore the very significant costs.

The CHAIR: Given the complexity of this assessment—it is a long assessment—and given the concerns you just raised that those sorts of subtle tweaks may swing the balance here, do you think that the planning department has the skills and capacity to be able to identify where the sorts of changes that Dr Crates mentioned may detrimentally impact their assessment, or should they be commissioning their own external experts to go and review this EIS and groundtruth some of the information that is in the EIS?

Dr DOUGLAS: That is a great question. I have worked for what is now DPIE—admittedly some decades ago—and I still have colleagues who work in parts of those agencies that assess these kinds of documents. They tell me they do not have the time; there are not enough personnel and not enough hours allocated to them. There are some great experts in those agencies. There are some people who really know their material; some of them have relatively broad expertise, it might be threatened plant species of the Sydney region; some of them are specialists in one particular species, maybe koala. But they also tell me that there can be pressure put upon them from management to get the job done quickly.

They can be juggling multiple tasks and at this time of year, which is probably the most demanding for ecologists—certainly plant ecologists because we are dealing at peak flowering time, but it can also be very important for some fauna surveys—I suspect that a lot of the departmental personnel who would have the skills to review this kind of document are simply not available. Many of them are telling me that, in part because of lockdown, they are now rushing out into the field to try to complete spring surveys that would otherwise have been written off because they were not allowed out of the office to do the work. So everyone I know in the industry, and certainly within the department, is extremely busy, whereas if you are suddenly given this kind of complexity and size and document to review on top of that existing workload—keeping in mind that some of these personnel manage up to 60 threatened species per person—that is ridiculous, it is not sustainable. And I all too often see the holes in the department's performance because of that under-resourcing.

CORRECTED

The CHAIR: I have one more question for Dr Crates and then I might see if others have some. Dr Crates, in the expert advice you provided did you do an analysis on the likely offset credit obligations with regard to regent honeyeaters?

Dr CRATES: No, I was not involved in the offset calculations in any way.

The CHAIR: Obviously you have the expertise around the potential impact on the species. How then does someone translate that analysis into making a judgement about the likely credits needed to offset that impact?

Dr CRATES: Unfortunately, I do not have the expertise in offset policy and calculations. It is sort of beyond my role, but again it is an extremely important component of this project and I would be very interested to know the reasons why the offset calculations have been limited to that band of inundation of 2.78 and below 10.25 because it does not make intuitive sense to be the case. I know there was an argument proposed in the report that if there was an extreme flood, which is defined as a one in 20-year event—which in my opinion is a relatively minor flood—that the area above the current maximum supply could already be impacted by flooding and therefore does not need to be offset. To me, that seems like a very weak argument and a good way of getting out of a large chunk of offset costs. So I think finding out more information on how the offset areas have been calculated would be extremely useful going forward.

The CHAIR: Thank you. I might just check in with members of the Government. Have you got any questions for these witnesses? Mr Searle or Ms Sharpe, have you got any other questions for these witnesses?

The Hon. ADAM SEARLE: Nothing further, Mr Chair.

The CHAIR: Deputy Chair?

The Hon. ROD ROBERTS: No, nothing for me, thanks.

The CHAIR: We might end there. I thank you both for your evidence today; it is greatly appreciated.

(The witnesses withdrew.)

(Short adjournment)

CORRECTED

RACHEL MUSGRAVE, Principal Ecologist and Sydney Ecology Lead, Umwelt Environmental and Social Consultants, affirmed and examined

The CHAIR: I welcome our next witness, Ms Rachel Musgrave. Ms Musgrave, would you like to make an opening statement to the Committee?

Ms MUSGRAVE: I would, thank you. Good morning to the honourable members and to Committee staff. My name is Rachel Musgrave. I am an ecologist with over 13 years' experience carrying out biodiversity impact assessments for development, including assessments for State significant infrastructure and State significant development. I am an accredited assessor under the New South Wales Biodiversity Offsets Scheme and prior to the inception of the NSW Biodiversity Conservation Act 2016 I was accredited under section 142B of the NSW Threatened Species Conservation Act 1995. As I said previously, I am currently employed as a principal ecologist and Sydney ecology lead for Umwelt Environmental and Social Consultants. Prior to my role at Umwelt I was team lead of the New South Wales and ACT ecology team at SMEC Australia.

At the request of the Committee, I am here today representing myself as the former accredited assessor and primary author of the biodiversity assessment supporting the Warragamba Dam Raising Environmental Impact Statement [EIS]. My involvement on the Warragamba Dam Raising EIS commenced in 2017. I had some limited involvement as part of the SMEC team bidding for the work during the tendering phase of the project, and following project award and EIS commencement I led the field survey component of the biodiversity assessment, reporting to the then SMEC ecology team lead, and was responsible for field surveys, data analysis and technical inputs informing draft reports.

In June 2018 I became the team lead of SMEC's New South Wales and ACT ecology team and took over the role of ecology lead and accredited assessor of the Warragamba Dam raising biodiversity assessment. My involvement on the project concluded in September 2020 with my resignation and departure from SMEC. Prior to my resignation I self-reported to the Department of Planning, Industry and Environment [DPIE] with regard to my involvement on the project and potential risks to my accreditation under the Act. My role in the project is, and I imagine will continue to be, a highlight of my career. My team and I were fortunate enough to carry out surveys across large areas of significant biodiversity value, and the assessment itself was technically challenging and rewarding. I am proud of the body of the work that my team and I produced, often in challenging circumstances.

I am a firm believer in the process of environmental assessment in accordance with relevant legislation in order to support a robust assessment and the cost benefits of development. I believe for this to occur a decision-maker must be made fully aware of the scale and the nature of potential impacts to biodiversity values, and under different circumstances I would have liked to have delivered a scientifically robust report in line with legislation that properly assessed the impacts of the proposed dam raising. I am happy to answer any questions about my role on the project for the Committee here today. Thank you.

The CHAIR: Thank you, Ms Musgrave. I might just hand over now to Mr Searle to lead off the questions.

The Hon. ADAM SEARLE: Thank you, Chair. Thank you, Ms Musgrave, for coming to give evidence today. You mentioned in your evidence that you reported to DPIE potential risks to your accreditation under the legislation. What were those potential risks?

Ms MUSGRAVE: There were a couple of things to that. I was not comfortable with the impact assessment approach that was being employed by the projects, that being at the time that the assessment was to interpret the impacts as being indirect as opposed to direct and I felt that that was not my interpretation of what the impacts were likely to be. Then prior to the draft report being sent to the agencies for adequacy there was some disagreement with regard to some of the terminology in the report, which I felt needed to be stated in a certain way, and I was ultimately overruled on that. As I felt that the changes were not immaterial—they are substantive changes to the impact assessment—I requested that my name be removed from the report, but I was told that I was deemed and considered to be the author and the report was sent with my name on it. At that point I felt as though there was a risk; we have certain obligations under our code of conduct as an accredited assessor—those obligations sit with the accredited assessor themselves—and I felt that I needed to just inform DPIE of what had happened, just to protect my accreditation and professional reputation.

The Hon. ADAM SEARLE: Just to be clear, you were the ecology lead for SMEC on this project. You were responsible for helping to collect the data and to provide the scientific assessment and analysis and you are now telling us that someone in SMEC overruled the way in which you wanted to present that material. Who overruled you and what were their qualifications, and had they done any of that primary research and analysis that you had done?

CORRECTED

Ms MUSGRAVE: They were not ecologists; they were senior members of the project team. They felt that the wording that was suggested by WaterNSW provided a better balance of the likely or potential impacts of the biodiversity assessment, but they did not carry out any biodiversity field surveys or data analysis.

The Hon. ADAM SEARLE: And were those people inside SMEC or were those people from WaterNSW suggesting to you how your report should be changed?

Ms MUSGRAVE: Both.

The Hon. ADAM SEARLE: So hang on, WaterNSW is the proponent of the dam wall raising proposal; it had engaged SMEC to do arms-length scientific work; and you were the lead on that. You are telling this Committee that senior people in SMEC and in WaterNSW wanted to rewrite, essentially, your work and present it in a different way—a way that in your view was not accurate. Is that correct?

Ms MUSGRAVE: Portions of the report, yes.

The Hon. ADAM SEARLE: Is that why you left SMEC?

Ms MUSGRAVE: Ultimately that is one of the contributing factors, yes.

The Hon. ADAM SEARLE: What were the other contributing factors?

Ms MUSGRAVE: Just I had been in the role and at SMEC for four years; I felt that it was time to move on.

The Hon. ADAM SEARLE: Okay, but was this interference in the integrity of your research and work in relation to the wall raising, was that sort of the icing on the cake? Was that the pivotal reason for your departure?

Ms MUSGRAVE: Yes. I enjoyed my role and I loved the team that I worked with.

The Hon. ADAM SEARLE: In March of this year there was an ABC News report, and documents revealed by the ABC indicated that the Government had tried to avoid the \$2.8 billion worth of offset if the wall raising went ahead. The documents also showed there was a difference of opinion between the lead ecologist in relation to the EIS on that, urging her to downplay the impacts of the project. Were you the ecologist referred to in that news report?

Ms MUSGRAVE: Yes.

The Hon. ADAM SEARLE: And is that an accurate assessment of what happened?

Ms MUSGRAVE: Certainly up until mid-2019 the approach for the impact assessment was to consider impacts up until the 1 per cent "AEP" (Annual Exceedance Probability) as a direct impact in order to calculate offsets. As we finalised the draft report the idea was floated to consider an alternative way to consider the impacts, that being indirect. The difference between direct and indirect impacts can appear to be semantic, but it can have a material difference on whether a project and a proponent needs to have an offset obligation at the end. Whether that was the reason or not I cannot comment. I did not hear directly from WaterNSW, "We are doing that because we want to reduce the offsets", but around the same time we had provided offset calculations. So whether it may have been I cannot really comment.

The Hon. ADAM SEARLE: Okay, but in relation to the offset calculations, was it in the magnitude of \$2.88 billion in terms of the impact of the project? Is that roughly correct?

Ms MUSGRAVE: It was of the order of around \$2 billion.

The Hon. ADAM SEARLE: Was that the most recent information you have about the upstream offsetting costs for biodiversity that you calculated while you were at SMEC?

Ms MUSGRAVE: We calculated another offset cost in December 2019 using a different impact area, but I would have to have a think about what that value was. I will take that question on notice.

The Hon. ADAM SEARLE: If you could take that on notice. Do you think that lowering the offset costs was a primary objective of the proponent during the drafting of the EIS? Was that something that was made clear to you during your work?

Ms MUSGRAVE: Most proponents or proponents are interested in reducing their offset costs. That is not a surprising or unusual thing for a proponent to do; it feeds into the feasibility of a project. The estimate was done using the biodiversity offsets payment calculator, which is a tool available from DPIE. It is not the only way to generate or create offsets; there are other ways that can be done that are less expensive, feasibly less expensive.

CORRECTED

The Hon. ADAM SEARLE: Were you ever encouraged in your work to make certain findings about the impacts on the environment or threatened species?

Ms MUSGRAVE: I felt that some of the impacts would likely be significant to threatened entities upstream of the dam wall as well as downstream of the dam wall. Certainly there was robust discussion around those assessments, as there quite rightly should be.

The Hon. ADAM SEARLE: But did anyone try to influence you in the way in which you presented your material based on your own research?

Ms MUSGRAVE: Yes. There were discussions about whether it was significant or, as I said previously, changing some of the terminology that I had used, that I felt substantially changed the impact assessment itself, that being "likely impact" to "may be an impact". That was probably the key areas, yes.

The Hon. ADAM SEARLE: And were those changes that were suggested to you to make your report less definite in the impacts that you saw as being likely or almost certain? The language suggested to you to change that was to make that sort of less definite? Is that what we should understand?

Ms MUSGRAVE: Yes. There is certainly with this project uncertainty around impacts, that was never in question, but I thought that the way that I had presented that uncertainty allowed for the interpretation of "likely", which was in line with a definition used within the Environment Protection and Biodiversity Conservation [EPBC] Act significant impact guidelines, which states that "likely" does not have to be a 50 per cent chance, or greater than 50 per cent chance, but can be a real or not remote chance or possibility. So in that context I felt "likely" was an appropriate assessment of the potential impact.

The Hon. ADAM SEARLE: And were these suggestions coming from senior management within SMEC or were they coming from WaterNSW, or both?

Ms MUSGRAVE: Primarily from comments from WaterNSW but supported by SMEC.

The Hon. ADAM SEARLE: You have made your views known to DPIE about the potential risks to your accreditation. Have you heard back from DPIE?

Ms MUSGRAVE: They did get back to me. They confirmed that my accreditation would not be put at risk from this work and they appreciated my proactive nature and that they had carried out an investigation around the incident.

The Hon. ADAM SEARLE: And did they indicate what other steps they might take?

Ms MUSGRAVE: No.

The Hon. ADAM SEARLE: All right. I have lots of other questions but I might just end with one and see if there is any other time. Can you provide all correspondence and documentation relating to the development of the EIS, your accreditation and self-reporting to this inquiry on notice?

Ms MUSGRAVE: I can provide what I have, but as I am no longer part of project team I do not have a lot of material.

The Hon. ADAM SEARLE: Just whatever you have. Mr Chair, I have lots more, but I daresay there are other Committee members who want to ask questions as well.

The CHAIR: Thank you, Mr Searle. Thank you for your attendance today, Ms Musgrave. I might just ask a couple of questions. You indicated in your opening statement that you wanted to provide a scientifically robust report. Do you think that the report that has formed part of the EIS is scientifically robust?

Ms MUSGRAVE: Apart from a very brief look over it, I have not read the report to comment. So I would have to take that on notice.

The CHAIR: Okay. The survey effort that went into the EIS has been described by some as inadequate or low. I note that the framework for the biodiversity assessment requires an expert report where the survey is not sufficient or not possible. How many expert reports were commissioned? Did you have the resources to commission what was needed?

Ms MUSGRAVE: We commissioned a number of expert reports. We commissioned one for the upstream biodiversity assessment. The assessment was split into three separate reports. We commissioned one for the upstream, we commissioned four or five for the construction area assessment, and none for the downstream assessment. We did not have the budget to allow for expert reports for all species that required them.

CORRECTED

The CHAIR: So you do not think the resourcing that you were provided was adequate to obtain the expert advice to inform the report. Okay. Are you aware of any World Heritage specialists that were engaged for the project or did you or any of the other ecologists involved have any input into the World Heritage aspect in the EIS?

Ms MUSGRAVE: I am not aware of any World Heritage experts that were engaged as a part of the assessment. My team and I had very limited involvement. I read the report once after it was drafted, provided some feedback, and that was the extent of my involvement.

The CHAIR: I have one last question. When you resigned, Mr Kevin Roberts—who I am sure you know is giving evidence after you today—took over the role. I understand that he was previously commissioned by WaterNSW in another role before he took that over. Do you have any comments about him coming into that role? Was that an appropriate person to put into that position, given his previous involvement in the project?

Ms MUSGRAVE: I am not privy to the contractual arrangements between Cardno and WaterNSW or Cardno and SMEC, so I cannot really comment too much, but I will say as an accredited assessor that it made me a bit uncomfortable that there might be a perceived conflict of interest and it was somewhat selfish in that I thought that might raise questions around my involvement as well.

The CHAIR: Thank you. Mr Mallard, I might hand to you and then to Ms Sharpe.

The Hon. SHAYNE MALLARD: Can you hear me?

The CHAIR: Yes, we can.

The Hon. SHAYNE MALLARD: Good. I had some technical issues. Sorry about that. Ms Musgrave, thank you for your evidence. You have obviously had some experience on preparing these sorts of reports. Do you want to talk to us about the structure? Is there an editorial overlay in getting a whole group together to compile a report like this? How does the structure work?

Ms MUSGRAVE: Typically you have an accredited assessor that is responsible for the content of the report. We then have, depending on the size of the report, a team that works with the accredited assessor to support and prepare the inputs, that will be from technical field surveys to drafting a report and data analysis. Often we do utilise experts in the field, relevant subject experts, where it is necessary to report on information that exceeds what us as—we are typically generalists in the ecology space, so we do bring in subject matter experts on occasion to report on entities and specific types of impacts that sort of exceed our level of experience and expertise.

The Hon. SHAYNE MALLARD: So how many people would classically be in a group that is working on a report like this, as complex as this EIS is?

Ms MUSGRAVE: There were about 12 of us across SMEC working on various aspects of the assessment. That is not just the—

The Hon. SHAYNE MALLARD: Would I be right in saying there is an overlay of—I do not want to use the word "editorial", but there is an overlay of management that looks at all the different components coming together to get a narrative going in the report that they want?

Ms MUSGRAVE: That is correct. We have graduates; that information is reviewed by the fauna and flora ecology leads, that data is reviewed by myself as well as other senior members of staff.

The Hon. SHAYNE MALLARD: I have not been involved in environmental reports but I have had some experience in heritage reports and certainly a lot of experience in environmental reports as a member of committees of inquiry. It is very rare you will get a uniform view of 12 people agreeing fully on aspects of the report; so someone has to, or the team has to, hammer out a position.

Ms MUSGRAVE: That is correct, yes.

The Hon. SHAYNE MALLARD: When they were hammering out, you got hammered out. That is essentially what happened, right?

Ms MUSGRAVE: Yes. We sat down and we discussed what the impacts would likely be.

The Hon. SHAYNE MALLARD: Winners and losers. So the issue that really was the straw that broke the camel's back in your leaving—there are obviously other issues that you referred to Mr Searle about—was that essentially around that definition of "direct" and "indirect" impacts?

Ms MUSGRAVE: Partly, yes, that had something to do with it. I felt that it was going to be direct impacts. I was prepared to have the report sent to the agencies for comment. When the agencies came back and supported my view of what the impact should be and I sought confirmation from within SMEC as to whether

CORRECTED

WaterNSW would be willing to change or alter their approach and was told that they would not, that is it—I did not feel that I could defend that position in court if it came to that.

The Hon. SHAYNE MALLARD: But your colleagues went down the indirect path. As I was saying before, there was hammering out and that is the position they took—indirect. How do you see the difference between direct and indirect? It is put to me that "direct" is like building a road—you bulldoze down the trees and destroy the habitat—and "indirect" is like a bushfire, it comes and it goes. The Government is arguing that the irregular flooding of this zone is an indirect impact, and that is actually the EIS position. I note you said you had not read it; I am still ploughing through it—it is an interesting read. But the indirect impact is the fundamental argument between the two. Do you acknowledge that? Is it the difference between the two? How do you see it, the direct and indirect impacts? How do you see the two differences?

Ms MUSGRAVE: A direct impact is an impact on biodiversity values that is a direct result of vegetation clearance from a development.

The Hon. SHAYNE MALLARD: The dam wall itself will do that, but that is just that little ribbon.

Ms MUSGRAVE: Not necessarily. The clearing of native vegetation is taken from section 60C of the Local Land Services Act, and that includes not only cutting down and felling of vegetation, like it would be through an excavator or—

The Hon. SHAYNE MALLARD: A road.

Ms MUSGRAVE: —a road, or the like, but also includes uprooting, thinning, killing and destroying of native vegetation.

The Hon. SHAYNE MALLARD: Are you arguing that the occasional submerging falls into that category—permanent damage?

Ms MUSGRAVE: Yes, there would be a loss of biodiversity value with the reduction of vegetation cover. The depth and duration of the flooding with certain flood events would be of the nature that it would effectively drown the vegetation such that there would be a loss of a proportion of [disorder].

The Hon. SHAYNE MALLARD: I am going to ask you a question that needs to be asked just to clear the air. Did you leave SMEC on good terms?

Ms MUSGRAVE: Yes, I did.

The Hon. SHAYNE MALLARD: Okay. Thank you. That is the end of my questions, Mr Chair.

The CHAIR: Thanks, Mr Mallard. I think Mr Searle has one more and this might be the last one.

The Hon. ADAM SEARLE: Ms Musgrave, Mr Mallard was putting it to you that essentially you are working in a group, you are all having a bit of input and sometimes you win, sometimes you lose in the outcome. But in the group that you were working with, you were the lead, you were the accredited assessor. Is that correct?

Ms MUSGRAVE: Yes.

The Hon. ADAM SEARLE: And it was your name that was being attached to whatever outputs were being produced. Correct?

Ms MUSGRAVE: Yes, that is correct.

The Hon. ADAM SEARLE: You did not feel that the outputs were reflecting your best professional judgement about the scientific material. Correct?

Ms MUSGRAVE: That of mine and that of my team, that is correct.

The Hon. ADAM SEARLE: Nevertheless, the current offset credit report in the EIS still bears your name. Why is that and have you taken steps to try to have your name removed?

Ms MUSGRAVE: I have notified the author of the report that the credit report that is appended to the back is one that I printed off from the biodiversity credit calculator in 2019 and then in April 2020. I cannot comment on why that happened. It should not have happened; an accredited assessor needs to check the data in the report in the biodiversity calculator; they need to print out the credit reports, make sure that the output of the credit reports are consistent with that detailed within the body of the report, and submit the data inputs to DPIE.

The Hon. ADAM SEARLE: Given the difference between the way you saw things and the way the team at SMEC saw things going, do you feel that perhaps SMEC is trying to hide behind your credibility as an authorised person to put a view that is not necessarily your view?

CORRECTED

Ms MUSGRAVE: As SMEC was directed by WaterNSW to take an indirect impact approach, WaterNSW is acting in what they thought was in their best interest; SMEC was acting within theirs. As I said, I was happy for the draft report to go to agencies for adequacy assessment. When the agencies supported my approach, and it was unlikely that WaterNSW, from my understanding, was going to change, I felt that I needed to act in my best interest.

The Hon. ADAM SEARLE: Sure, but—

The CHAIR: Mr Searle, I am sorry but we have run out of time. I might take one liberty just to seek a clarification from you though, Ms Musgrave. You indicated that the offset costs that you had originally forecast based on a direct approach was around \$2 billion. Was there an updated costing? It is not in the EIS. Was there an updated costing based on an indirect assessment, that you are aware of?

Ms MUSGRAVE: As part of a compensatory package I believe an amount that WaterNSW was looking to, I guess, compensate for the impacts, but I do not think that is in the EIS and I do not know if that would be published anywhere.

The CHAIR: You do not know what that amount was?

Ms MUSGRAVE: I would have to take that on notice and think about that.

The CHAIR: If you could that would be great. I really do appreciate your attendance here today. Sorry we have such limited time. I note that you have agreed to take that question on notice but also gave an undertaking to provide documentation that you might have as well backing up your statements here today. The secretariat will be in contact with you with regard to that. You have 21 days to provide that information. Thank you very much for your attendance.

(The witness withdrew.)

CORRECTED

KEVIN ROBERTS, Technical Director, Environmental Services, Cardno, affirmed and examined

The CHAIR: Would you like to make a short opening statement? I note that your submission has been circulated to members of the Committee.

Mr ROBERTS: I do not have a lot to add to that submission. I have no particular questions to address in advance. The purpose of doing that submission was to give the Committee an understanding, I guess, of my background and my role on the Warragamba project.

The CHAIR: Thank for your submission and for outlining your role and various involvements with the project starting from August 2018. I have an email that has not been circulated—I can arrange for that afterwards—from Mr David Harper, WaterNSW as a result of a Government Information (Public Access) Act request. This has to do with your appointment to fill the position that was vacated by the resignation of Rachel Musgrave. On 28 September Mr David Harper wrote to SMEC in response to its email acknowledging Ms Musgrave's resignation and said, "WaterNSW has no objection to you filling that role." In your submission to the inquiry you indicate that from September 2020 Cardno was contracted by SMEC to finalise two technical reports: the Construction Biodiversity Assessment Report and the Upstream Biodiversity Assessment Report.

I assume that refers to the point at which you took over Ms Musgrave's role in the project. Cardno is until that point—and I think you, through Cardno—was contracted by WaterNSW but then it appears that you went to work for SMEC. I want to understand who you were working for at the time when you came to be in that position?

Mr ROBERTS: Cardno was originally contracted to provide the peer review services. That was the original engagement and that was way back in 2018, or whatever I put down in that report. For a period of time we had a variation to that contract to support them in terms of doing some of the work of coordinating the EIS—it was effectively the same contract—which was because of the maternity leave of the person in WaterNSW. So that was the job of coordinating and working with all the technical assessors to make sure their work was coming in on time, and all of that sort of stuff. That role had completed and Rachel had resigned. SMEC approached me to be involved as an accredited assessor who had knowledge of the project to see if I was able to take on that role for the completion of the reports. It was only for two aspects of the biodiversity reports which was the Upstream Biodiversity Assessment Report and the Construction Biodiversity Assessment Report because they were the two reports that required an accredited assessor.

The CHAIR: Immediately before you took on that role you were not engaged by Water NSW?

Mr ROBERTS: That role as being the acting person assisting with the coordination of the EIS had finished and completed because Emma had returned, yes.

The CHAIR: Ms Musgrave's old role. Cardno was engaged directly by SMEC and you as an individual were basically engaged to move into Ms Musgrave's role?

Mr ROBERTS: Into the role as the accredited assessor. She had all sorts of roles. The EIS one, that role I was asked to do was only to be the accredited assessor for those two reports.

The CHAIR: We just heard from Ms Musgrave. The reasons for her resignation were multiple but one was with regard to the view within the project team that the biodiversity impacts be assessed as indirect for the purposes of assessing offsets. Was that a question that was up in the air at the time you took over that role?

Mr ROBERTS: Not specifically. This report has gone through a number of different iterations over quite a long period of time. The indirect question was one of those questions that was around for quite a period within the development of the document. Whether it was a moot question at the time, I do not think so. The nature of the way that the assessment was being finalised removed that question of indirect and direct because there was an agreement for the impact area and it was assumed that the impact would be 100 per cent within that impact area, and the calculation would be based on that process. My role as the peer reviewer before I took on that final role was to raise questions and do the sorts of things that are standard in a peer review: Where is the evidence for this? What is the basis of this? Does this make sense? It was not a role that was able to say to someone they must do things in this way, or other ways. I was not part of those discussions that SMEC or WaterNSW may have had with Rachel regarding those decisions.

The CHAIR: That question of the impact area was already resolved when you started?

Mr ROBERTS: I would have to go back and look at the timing of those sorts of things. I am not 100 per cent sure.

CORRECTED

The CHAIR: Ms Musgrave indicated that she had gone to the agencies to effectively seek an adequacy assessment. Those documents have subsequently been leaked to the media and were the subject of a previous hearing held by the Committee. State and Federal agencies seem to be broadly supportive of the assessment that all the impacts should be assessed as being direct. Were you aware of those agency responses?

Mr ROBERTS: Yes, totally.

The CHAIR: As an accredited assessor how did you feel having to put your name to a report when the agencies were asking for one thing but the proponent had suggested another? How do you fulfil your obligation as an accredited assessor to make sure that the document ultimately that you sign off on is scientifically robust in its biodiversity assessment?

Mr ROBERTS: There are all sorts of ways that you do that. As an accredited assessor you are accredited in the operation of the assessment methodology. The assessment methodology in this case was the framework for biodiversity assessment and it asks a number of questions to go through that process. This project was particularly difficult in that it is not like a normal project where someone clears a large area of land and, therefore, you know what the impact is going to be. The challenge was: How do you determine what that impact is going to be. The tool is not particularly—the calculator—well set up for dealing with those sorts of questions. It is a challenging question. So I have got no problems. The report itself does not refer to direct or indirect impacts; it refers to determining what an impact area is and then determining effectively that that impact area, on a precautionary basis, would be considered to be totally lost and, therefore, the basis of the calculation is to assume a total loss of that area and, therefore, to calculate credits on that basis.

The direct and indirect question was not an issue. So as an accredited assessor my job is to use the knowledge that I have to see whether the assessment is reasonable. I have gone through that, made those choices and I was able to rely on the work that the SMEC team had done in terms of the field assessments, collecting the data. I had a number of discussions with the SMEC team to make sure that I was comfortable with how they had done that work and then moved forward to finalise the report. I am relatively confident that the report itself presents a whole bunch of information there on what the potential impacts, what the likely impacts are of the project and then also proposes the number of credits, based on that area that was agreed by meetings of WaterNSW, the agencies and the Commonwealth to be that area that was subject to the assessment.

The Hon. ADAM SEARLE: Thank you, Mr Roberts, for coming to give evidence and for your brief submission. I just want to check a couple of things. You say you have worked for Cardno since August 2014?

Mr ROBERTS: Correct.

The Hon. ADAM SEARLE: All along it has been your direct employer. Is that correct?

Mr ROBERTS: Correct.

The Hon. ADAM SEARLE: In that employment you have had three exposures to the Warragamba Dam wall raising. The first two, you have given evidence of here, from January 2019 to October 2019 to essentially peer review specialist stakeholders and the EIS consultants. Is that correct?

Mr ROBERTS: Yes.

The Hon. ADAM SEARLE: The other one was specifically to review the biodiversity assessments. Is that correct?

Mr ROBERTS: Correct.

The Hon. ADAM SEARLE: Both of those things you did in your employment with Cardno but working for WaterNSW as the proponent of the project? Correct?

Mr ROBERTS: No, I was working for Cardno as a contractor to WaterNSW. I do not know how you—

The Hon. ADAM SEARLE: Yes. Just going back—

Mr ROBERTS: I was employed by WaterNSW in that—

The Hon. ADAM SEARLE: Okay, but Water NSW is the proponent of this project. You understand that, do you not?

Mr ROBERTS: Correct, yes.

The Hon. ADAM SEARLE: Your third exposure from September 2020 is essentially now being the accredited assessor?

Mr ROBERTS: Correct.

CORRECTED

The Hon. ADAM SEARLE: Under the biodiversity legislation. That is not working for the proponent. You understand that is meant to be a sort of more independent function to make sure that the reporting is robust?

Mr ROBERTS: Correct.

The Hon. ADAM SEARLE: So you have had two lots of work for WaterNSW, the proponent, and now you are doing some extra work, ostensibly an independent scrutiny of whether the project scientifically stacks up?

Mr ROBERTS: No, it is to do the work as an accredited assessor in accordance with the FBA.

The Hon. ADAM SEARLE: Okay, we will come to that. I refer to the accredited scheme for the application of the Biodiversity Assessment Method Order 2017 made by the former environment Minister. Clause 19, one of the conditions applying to accredited persons, is that you comply with the accredited person code of conduct. Do you understand that?

Mr ROBERTS: Correct.

The Hon. ADAM SEARLE: The accredited person code of conduct which I have here requires all persons in your role "must not act in circumstances where there is actual, perceived or potential conflicts of interest". Do you see that?

Mr ROBERTS: That is correct; I am aware of that.

The Hon. ADAM SEARLE: If, in your employment, you have essentially done work for WaterNSW in its capacity as the proponent for this project and now you are doing the independent scientific checks to make sure that the project scientifically stacks up, which is a more independent function or should be, given that you are the same person, is there not at least a perceived conflict of interest? A person in the community looking at you doing these three bits of work for WaterNSW could easily draw the conclusion that you are just working for the proponent all along, including at the moment?

Mr ROBERTS: No, and I have tested that thinking. As you can see from my experience I have worked for 34 years on these sorts of projects.

The Hon. ADAM SEARLE: Sure.

Mr ROBERTS: I am very well aware of requirements of conflict of interest and the codes of conduct that we sign and take them very, very seriously.

The Hon. ADAM SEARLE: In this matter how have you addressed the perceived or potential conflict of interest here, given your work for Cardno has seen you work for WaterNSW in connection with this project—

The Hon. SHAYNE MALLARD: Point of order: Mr Roberts was answering and he was interrupted and cut off by Mr Searle. Mr Roberts should be allowed to continue his answer before Mr Searle asks his next question.

The CHAIR: On the point of order, I understand it is difficult when a witness is trying to clarify a question or take advantage of an opportunity to answer in the limited time available. It is always hard online. I uphold Mr Mallard's point of order and ask Mr Searle to give the witness an opportunity to answer.

The Hon. SHAYNE MALLARD: This is a serious allegation against Mr Roberts. He has a right to procedural fairness to explain his position.

The Hon. ADAM SEARLE: I have not made any allegations. I am just asking how he has addressed the perceived or potential conflicts of interest here.

The CHAIR: We will give the witness an opportunity to answer.

Mr ROBERTS: In terms of addressing the potential conflict of interest, I have no interest personally, my family or anything in the outcomes of this project. It does not affect my employment with Cardno. I have no direct interest in whatever the outcome of this project is. It is very common for major projects such as these sorts of EISs to have multiple roles. It is not unusual to undertake different parts of a project for a project of this sort of size. When deciding whether or not I would accept the additional role of doing this, I checked with our legal people. I checked with WaterNSW and I checked with the team from SMEC as to whether or not there was a reasonable perception of me having a perceived conflict of interest and we decided that because all of the jobs were similarly based on providing advice to WaterNSW, as the proponent of this project, there was no fundamental or potential for a perceived conflict of interest on those matters.

I am very concerned that this issue is being raised. I have had a career, I think, where I have been required to apply judgement on matters relating to environmental management. I have managed that right through my

CORRECTED

career and to suggest that I have not applied my professional knowledge or my professional skills or judgement to this project, outside of just simply to apply those skills and knowledge, is incorrect. I absolutely reject that there is an inference that I have done that in some way. The project itself, the report, is a published document. It is now subject to review by agencies, by the community. They can make a judgement on the technical merits of those things but I have totally applied my own professional judgement to those decisions without any pressure or concerns raised from WaterNSW or any other player in the matter.

The Hon. ADAM SEARLE: I just want to take you to a part of your evidence that you just gave. You said that you have done all of this work for WaterNSW as the proponent of the project. In this most recent role, you are not really meant to be working for WaterNSW as the proponent; you are meant to be providing that independent scientific check, if you like, on whether or not the project scientifically stacks up. That is the perceived or potential conflict of interest that I am putting to you. I am not suggesting that you have done anything wrong but just because you have done that other work for WaterNSW as the proponent that now you are not really in a position to do that independent scientific scrutiny—not in a technical sense. There is no question about your technical skills or your background. Just because you have done that earlier work, how can you now be working as an independent scrutineer of the project?

Mr ROBERTS: The job of being an accredited assessor is not to be an independent scrutineer it is to prepare a report—

The Hon. ADAM SEARLE: Is it not? Okay.

Mr ROBERTS: —based on the requirements of the FBA. The job is to do that using the information that you have to hand as best you can.

The Hon. ADAM SEARLE: Okay. Again I do not want to put words in your mouth but your position is that in this current work that you are now doing through SMEC in New South Wales—

Mr ROBERTS: I am not doing any work at the moment for SMEC.

The Hon. ADAM SEARLE: Sorry, that third bit of work at the bottom of your written submission—the work you did as the accredited person.

Mr ROBERTS: Yes.

The Hon. ADAM SEARLE: You say your job is not to provide an independent scientific scrutiny of the project?

Mr ROBERTS: My job is to prepare a biodiversity assessment report.

The Hon. ADAM SEARLE: For WaterNSW as the proponent?

Mr ROBERTS: For the upstream and construction assessments. I was doing that for SMEC who were reporting to—who were contracted by WaterNSW. Every biodiversity assessment report is commissioned by a proponent, and every assessor is doing the assessment in accordance with the methodology and the rules that they have done. It is not my job to determine the merits or otherwise of the project. My job is to prepare that assessment report in accordance with the methodologies that the Government has given us to do and I think we have done that.

The Hon. PENNY SHARPE: Thank you for coming today to talk to us about this. I was interested in your comments before when you talked about the advice that you took before taking on the role of assessor. I was very interested in that. If any red flags had been raised what would you have done?

Mr ROBERTS: As I said in my previous answer that I take issues of conflict of interest very seriously. It would have been a good chance, if it was raised as a concern or there was likely to be a perceived conflict of interest, that I would not have taken on that role.

The CHAIR: We heard evidence this morning from Dr Crates who did some of the expert analysis on the regent honeyeater impacts. The suggestion from him was that his finding, or his assessment about the impact of this project on the regent honeyeater, in his words he described it as being watered down in the final EIS. Could you comment on those suggestions by Dr Crates and why he might feel that way?

Mr ROBERTS: I cannot really address it because I do not really know what he is referring to. As I understand it, there was some advice provided from Dr Crates, based on his knowledge and his survey effort within the catchment regarding certain fauna and flora, presumably the honeyeater. That advice is still within the biodiversity assessment report as I am aware, and that information was presently largely as it was provided. I did not see any written report from Dr Crates. I saw work based on advice that he had provided to the previous assessor. I would have thought, again, if the document is read, that the implications of the project to the regent

CORRECTED

honeyeater, the knowledge and advice that he has of the populations and how they relate to the broader population, is still largely intact in the document.

The CHAIR: Sorry?

Mr ROBERTS: Unless I concede some specific things, but I certainly did not aim to or change anything in terms of advice that people had provided. I am very careful not to do that, in fact.

The CHAIR: As the accredited assessor—as I understand it Dr Crates is one of the foremost experts with regard to that species and the habitats—in his words he described his assessment as having been watered down. Did you speak to him or to any of the other scientific experts who had provided advice or input that might have come in before you took on this role? Given you would have needed to sign off on the potential offsets here, what confidence do you have that the impacts as assessed by various scientists have been fully reflected in the final documents?

Mr ROBERTS: No, I did not speak to him directly or other technical experts. I relied on the work that had been done previously by the SMEC team. That is the first question. What was the second question?

The CHAIR: What confidence do you have that their work has been translated into the final documents? It seems that Dr Crates' view was quite clear to us. He felt like his work had effectively been changed in the final report. I am just hoping that something has not got lost in translation between the various accredited assessors who have worked on this project.

Mr ROBERTS: The third, I am not aware of changes to the advice that has come from previous experts. I am happy to look at that further if you wanted me to take that information. But I am confident that the impacts on those species are fully addressed within the bar—to the extent of the way that the assessment methodology works and what we were required to deliver as part of the EIS SEARs.

The CHAIR: Referring to the biodiversity offset costs, it has been a substantial point of debate with regard to this proposal from the start. It is not clear in the EIS what the likely biodiversity offset costs would be based on the impact area assessed in the EIS. That seems unusual for a project which, according to the SEARs, was supposed to put forward a biodiversity offset proposal. What is your understanding of the likely cost based on the proposal, as proposed in the EIS?

Mr ROBERTS: I am not aware of what the total offset costs would be. You said that it is unusual. In fact, it is quite usual not to have a full understanding of what the biodiversity offset costs will be until you actually deliver on the offsets. So what I did was provide that advice to WaterNSW on how they might be able to calculate offset costs. There are a number of ways that that can be done. One is to use the offsets payment calculator that exists on the web and you simply plug in the number of credits and it will give you a figure as to what the offsets are. Anyone can do that, and I am sure people have taken the offsets and—

The CHAIR: Do you know what that figure is?

Mr ROBERTS: No, I do not. The other way is you can do some back-of-the-envelope type calculations. You can estimate an average price for offsets and come up with some estimates. If you look through the biodiversity offset strategy it proposes about three or four different approaches as to how you might deliver offsets based on the number of credits that you need to do. You will not actually know what the ultimate cost is until you actually go and deliver those because it involves negotiations around purchase of land. You have got to estimate the costs of the works that are required. So an offset is not just simply purchasing land and adding it to the national park estate or leaving it; you have got to actually deliver the conservation improvement outcomes. So you have got to work through what sorts of costs of the works are going to be. And that is going to differ from the nature of the offset site.

So if it is an offset site that is largely intact, you could potentially do a series of small-scale works that would deliver the offset values but you would not necessarily get a lot of offset credits. Or you could have land which you have to spend a lot of money to get the values on and that would cost a lot more money. To come up with any logical estimate is really, really difficult and a major challenge under the current framework that we have to predict what those offset costs may be. In other projects, in some projects, they have come up with an agreed figure that sits up top, subject to change at a later date. They did not do that for this project. They did that for Western Sydney Airport, largely based on estimates of credits. There is a large uncertainty here in the costs of delivering and finding habitat for the threatened species that are affected by it, and there are hundreds of threatened species that are potentially affected and need to be offset. The uncertainty of that would be, if I was going to advise WaterNSW on a figure, I would be pulling a figure largely out of the air. All I can say is that it is a substantial program to deliver offsets for this project.

The CHAIR: Mr Searle do you have a question?

CORRECTED

The Hon. ADAM SEARLE: Yes, I have one more question. I want to clarify Mr Roberts' evidence. Did you have any role in data collection and input, or is it just your role, coming in when you did in the project, to simply analyse the data that had already been collected by others?

Mr ROBERTS: Correct.

The CHAIR: Mr Roberts, how much time did you spend out in the field as part of this project?

Mr ROBERTS: I did not spend any time in the field.

The CHAIR: You came in after the field work had been—

Mr ROBERTS: Correct, I was not involved in the data collection.

The CHAIR: Our time has concluded. I appreciate your evidence today. I think you may have taken one question on notice. If that is the case the secretariat will be in contact with you and you will have 21 days to provide an answer. There may be some questions that members want to put to you, but we will talk about that at the end.

(The witness withdrew.)

(Luncheon adjournment)

CORRECTED

MATTHEW SCARD, Chief Executive Officer, Celestino Pty Ltd, sworn and examined

The CHAIR: Would you like to start by making a short opening statement?

Mr SCARD: Yes, thank you Chair. I would like to make an opening statement. I am the chief executive officer of Celestino. I have been with the organisation for seven years and in the role of chief executive officer for the last six months. Celestino is a western Sydney based property development organisation and is part of the Baiada Group. Baiada is one of Australia's largest and vertically integrated poultry companies and owns the brands Steggles and Lilydale. Celestino has been operating for over a decade. It has completed a residential development at Box Hill in Sydney's north-west and its next big project is Sydney's Science Park at Luddenham which is a mixed-use smart city.

Of relevance to this Committee, we also own land in the Hawkesbury local government area and Blacktown local government area. Within the Hawkesbury local government area one site is a development called Jacaranda located in Glossodia and the other is at North Richmond. These sites are going through the planning process at the moment. Jacaranda has received biodiversity certification and we are working with Hawkesbury council on other community matters. Our site at North Richmond is in the investigation phase as we consider the best way to utilise the land for the benefit of all stakeholders. The site we have in Blacktown local government area is at 211 and 235 South Street. This property is adjacent to the Sydney Business Park and Blacktown Council is managing a planning review of the area at the moment.

Celestino has not made a submission to this inquiry or the EIS as our landholdings, as far we know, are not affected by the height of the Warragamba Dam. I am in attendance today in response to an invitation we received to appear before this Committee. As we have not made any submission and we have not been asked in advance to address any specific matter in response to this Committee's terms of reference, please excuse me if I am only able to answer some questions generally. I may also need to take some questions on notice if I think I will be able to help with a response after having some time to look into it.

After receiving the invitation from the Committee I have read the terms of reference and some submissions made to the Committee and other material on the website for the inquiry. Because of those matters, I stress, as I have mentioned, I am not an expert on issues regarding the dam but I will do my best to answer your questions relating to the terms of reference. Thank you.

The CHAIR: I thank you Mr Scard and, yes, you are welcome to take any questions on notice and you will have 21 days to reply to them. I will refer to that at the conclusion of the inquiry. I will hand over to Deputy Chair Mr Roberts to ask some questions.

The Hon. ROD ROBERTS: Thank you, Mr Scard, for your attendance this afternoon. It is much appreciated. Thank you for your opening submission as it answered a couple of questions for me. Who are the major shareholders of Celestino?

Mr SCARD: Celestino is owned by the Baiada Group which is a privately owned company, so the family that owns the Baiada Group.

The Hon. ROD ROBERTS: Am I correct that that family is the Camilleri family?

Mr SCARD: The Camilleri family is part of that family, yes.

The Hon. ROD ROBERTS: You mentioned other developments that Celestino is undertaking. One is at Box Hill, I think you said, and the company is doing one at the Sydney Science Park. Is that right?

Mr SCARD: Yes, we started Box Hill; it is called the Gables. We are no longer involved in that development. Our next project we are involved in planning at the moment is Sydney Science Park which is within the aerotropolis.

The Hon. ROD ROBERTS: Have you completed any other developments before Bella Vista?

Mr SCARD: No, we have not.

The Hon. ROD ROBERTS: You mentioned that you have ownership or control of parts of the land in the Hawkesbury-Nepean Valley, and that is the area of my interest. I do not think I will touch it from the Blacktown local government area, as that is not of interest to this Committee at the moment. Would I be correct in saying that your projects are the Jacaranda estate in Spinks Road, Glossodia, and the second one at North Richmond is Hambleton Park. Is that correct?

Mr SCARD: Yes, that is correct.

CORRECTED

The Hon. ROD ROBERTS: When was the purchase of the Jacaranda estate planned?

Mr SCARD: Sorry, I missed the question. Can you repeat it please.

The Hon. ROD ROBERTS: Certainly, no problem. When did Celestino purchase the land at Glossodia, the Jacaranda estate?

Mr SCARD: I do not have that exact year with me but we have owned it for quite a number of years,

The Hon. ROD ROBERTS: Will you be able to provide that on notice later on?

Mr SCARD: Sorry?

The Hon. ROD ROBERTS: Would you be able to provide that on notice later on?

Mr SCARD: Yes, of course, I will take that on notice.

The Hon. ROD ROBERTS: When did you purchase the Hambleton Park allotment at North Richmond?

Mr SCARD: That was purchased in 2019.

The Hon. ROD ROBERTS: What is your intention for the development of the Jacaranda estate? I am assuming it is going to be a residential development.

Mr SCARD: That is correct. Recently it has been rezoned as a residential development.

The Hon. ROD ROBERTS: What about Hambleton Park? What is your intention as far as development of that is concerned?

Mr SCARD: We have not come to a conclusion. We are still working and considering all the options available that would best suit all stakeholders involved and also the best use of the land and response to the environmental conditions.

The Hon. ROD ROBERTS: Are any of those sites at Glossodia or Hambleton Park subject to flooding?

Mr SCARD: No, both of the projects are not impacted by the PMF and are not in the Nepean-Hawkesbury floodplain.

The Hon. ROD ROBERTS: When Celestino purchased both of those allotments was it concerned at all about the reputation of flooding in the Hawkesbury Valley at all?

Mr SCARD: No. As per my opening statement, we have not been following the Warragamba Dam inquiry because our landholdings are not impacted by the dam.

The Hon. ROD ROBERTS: I will put a proposition to you and you can answer it in any way you wish. The Hawkesbury Valley beyond Richmond, down through Pitt Town and that sort of area has a reputation as being an area that floods. Do you agree with that proposition?

Mr SCARD: Yes.

The Hon. ROD ROBERTS: And the natural assumption—it is only an assumption—is that areas that flood have a taint about them regarding land ownership, construction or building or residential developments?

Mr SCARD: I am not a specialist in that area but I would say that if land is flood impacted it needs to be considered with all the variables that come with assessing land development.

The Hon. ROD ROBERTS: Was Celestino concerned at all about the reputation of all that area when it purchased it?

Mr SCARD: No.

The Hon. ROD ROBERTS: According to local maps that we have from Hawkesbury City Council and State Emergency Service, Terrace Road, Freemans Reach Road, Florence Lane and Creek Bridge Road are access roads to both of those developments—being Jacaranda and Hambleton Park estate. While residences themselves might not be subject to flooding, all the access roads are. Can you comment on that at all?

Mr SCARD: No, I do not have that detail in front of me.

The Hon. ROD ROBERTS: Did Celestino conduct a review to see whether the developments or access roads to your land would be subject to flooding or not?

CORRECTED

Mr SCARD: We work with Hawkesbury City Council when we put planning proposals together. Those go through the Department of Planning in terms of looking at evacuation routes, the roads into and out of the development. That is how they get approved.

The Hon. ROD ROBERTS: Let us take it a step further then. When working with Hawkesbury council have you since become aware that the roads that I have mentioned that are access roads to your developments are subject to flooding?

Mr SCARD: Sorry, will you repeat your question?

The Hon. ROD ROBERTS: No, that is fine. You say that you are working in consultation with Hawkesbury council, and I accept that. During this work with Hawkesbury council have you since become aware that the access roads that I have nominated—Terrace Road, Freemans Reach Road, Florence Lane, Creek Bridge Road; the access roads to your developments—are subject to flooding? Has that been raised with you by Hawkesbury council?

Mr SCARD: I am not aware, no.

The Hon. ROD ROBERTS: So it is not an issue?

Mr SCARD: I will take that on notice and come back to you.

The Hon. ROD ROBERTS: If you could. You can see what I am getting at. I think it quite a crucial factor that all the access roads, all the access points to all of your holdings are dependent on roads that are subject to flooding. If you could come back to us with those answers at a later time, that would be appreciated. My next question I feel is superfluous: Did these access roads to these holdings have any bearing on your decision to purchase the land?

Mr SCARD: No.

The Hon. ROD ROBERTS: Did you make inquiries with the local council regarding flooding of the access roads before you purchased that land at all?

Mr SCARD: No.

The Hon. ROD ROBERTS: How much did you pay for the land at Glossodia, the Jacaranda Park estate?

Mr SCARD: I do not have the number exactly with me right now but that can be found, I think, in public records. I can take that on notice and report back to you.

The Hon. ROD ROBERTS: If you would please. And also the Hambledon Park estate. How much did you pay for that?

Mr SCARD: That is the same. I can take that on notice.

The Hon. ROD ROBERTS: That would be appreciated. You can see where I am coming from. I am assuming [inaudible] around a number of these purchases, yet you tell us that you did not make any inquiries at all of council about the flooding of the access roads. I am quite interested in that. Are there homes down in the valley in areas where the access roads to your land is flatter. [Inaudible]

Mr SCARD: I am sorry, Mr Roberts, I am having trouble hearing you. You are breaking up. Can anyone else hear him properly?

The CHAIR: Mr Roberts you are sounding quite distant at the moment. I do not know if you can connect a headphone to your computer and move a little closer to your computer. Your microphone is quite muffled at the moment.

The Hon. ROD ROBERTS: I apologise Mr Scard. I did not realise you were having difficulty hearing me. Is that any better?

Mr SCARD: No, sorry.

The Hon. ROD ROBERTS: I do not have any headphones or accessories to use.

The Hon. PENNY SHARPE: Come in closer, Rod.

The Hon. ROD ROBERTS: Mr Scard, can you hear me better now?

Mr SCARD: I can hear you a little bit better, yes.

CORRECTED

The Hon. ROD ROBERTS: I apologise for the inconvenience. [Inaudible] that has access roads that are the subject of flooding, when Celestino [inaudible]?

Mr SCARD: I am sorry, everyone. I am struggling to hear that. Mr Chair, is there anything else we can provide?

The CHAIR: Deputy Chair, come down to my office. That might be the easiest thing.

Mr SCARD: Sorry, Mr Chair.

The CHAIR: I think we were all having difficulty hearing him on that line. You were doing very well and I appreciate your patience, Mr Scard.

The Hon. PENNY SHARPE: Can we get one of Rod's staffers to put him on mute in his office? He has left it on and he is now not on mute.

The CHAIR: I will do that.

The Hon. ROD ROBERTS: We are back. Can you hear me now Mr Scard?

Mr SCARD: That is better.

The Hon. ROD ROBERTS: I apologised before and I extend my apology again to you and to other Committee members. Local council maps and State Emergency Service maps show the access roads to your developments are subject to flooding. Taking that into account, what are Celestino's thoughts on the raising of the Warragamba Dam wall?

Mr SCARD: As I mentioned in my opening statement, I have not put a lot of thought into the raising of the Warragamba Dam. But as I mentioned also earlier, the projects are not impacted by probable maximum flood. So the raising of the dam wall, on my understanding, would not impact our sites.

The Hon. ROD ROBERTS: Certainly, I agree with you that your land is not subject to flooding but, as we have discussed, the access roads certainly are. Hypothetically, if the dam wall is built do you think that would change the position relating to the access roads?

Mr SCARD: I do not know because of the height of those roads relative to the freeboard that the dam would provide if it was increased in height.

The Hon. ROD ROBERTS: I think you said that Hambleton Park was bought in 2019, so the plan to raise the dam wall has been out for a considerable period. Did that have any impact on the decision to purchase Hambleton Park at all?

Mr SCARD: No.

The Hon. ROD ROBERTS: None whatsoever?

Mr SCARD: No.

The Hon. ROD ROBERTS: If the dam wall raising was to go ahead what impact do you think that would have on your proposed developments in the Hawkesbury Valley?

Mr SCARD: I do not think it will have any impact at all.

The Hon. ROD ROBERTS: Would it change the flood levels on the access roads?

Mr SCARD: That is not the development site; those are the access sites. I have not looked into the access sites.

The Hon. ROD ROBERTS: I agree that they are not the development sites and that is not an issue. I am not suggesting that your land is flood-prone. But, as I say, State maps, State Emergency Service maps and Hawkesbury City Council maps show that all access roads to both of your developments are subject to flooding. It is pretty hard to get in and out of any sort of development—residential, commercial or industrial—if the access roads are under water. I will put the proposition to you again: If the dam wall was raised and it alleviated the flooding down the valley, would it have some impact on your developments?

Mr SCARD: I am not sure without understanding those road levels.

The Hon. ROD ROBERTS: You are the chief executive officer of the company. You are in control of all the developments. You hold the land. You do not know anything about the flooding issues on the access roads to your land?

CORRECTED

Mr SCARD: I am aware of former projects. I am the chief executive officer. I am just not across the detail of what the reduced impacts would be with the raising of the wall relative to the number of access roads to and from the Hawkesbury.

The Hon. ROD ROBERTS: I will put this proposition to you and you can choose how to answer it. We have determined that the access roads to your developments are subject to flooding but your land is not subject to flooding. If the raising of the dam wall went ahead do you think it would increase the saleability of your developments at a later time?

Mr SCARD: I do not think so.

The Hon. ROD ROBERTS: You do not think that if the dam wall were to be raised and the access roads were not subject to flooding any more that it would have no effect on the marketability and saleability of your property?

Mr SCARD: No.

The Hon. ROD ROBERTS: Therefore, I will ask the next question: Would it increase the sale price of any of your allotments if the access roads were now not subject to flooding?

Mr SCARD: Will you repeat that?

The Hon. ROD ROBERTS: Yes, sure, I will spell it out for you nice and simply. At the moment the access roads to your developments are subject to flooding.

Mr SCARD: Yes.

The Hon. ROD ROBERTS: If the dam wall is raised and those roads no longer become subject to flooding, would the sale price of any of your development lots increase?

Mr SCARD: Mr Roberts, I do not think so. When we price our developments it is all to do with the local amenity and what the customers are buying into in the development.

The Hon. ROD ROBERTS: It is pretty hard to buy into a development if you cannot access it because the roads are under water.

Mr SCARD: I might have to take on notice an assessment of those roads in and out of the developments.

The Hon. ROD ROBERTS: All right. Have you or anybody from Celestino had any communications with WaterNSW in relation to the raising of the dam wall?

Mr SCARD: No.

The Hon. ROD ROBERTS: Have you or anybody from Celestino had any communications with any government departments in relation to the proposal to raise the dam wall?

Mr SCARD: No, we have not made a submission to the raising of the dam wall.

The Hon. ROD ROBERTS: I am not asking about a submission. Have you had any form of communication with any government departments relating to the proposition of raising the dam wall?

Mr SCARD: No, not that I am aware of.

The Hon. ROD ROBERTS: Have you or anybody from Celestino had any communications with Minister Ayres over the proposal to raise the dam wall?

Mr SCARD: Not that I am aware of.

The Hon. ROD ROBERTS: Have you or anybody from Celestino had any communications with any staff members of Minister Ayres relating to the proposal to raise the dam wall?

Mr SCARD: Not that I am aware of.

The Hon. ROD ROBERTS: Celestino has a proven record of close contact and partnerships with various government agencies, especially the Sydney Science Park, so would it not be the same with your land developments and interests in the flood issues at North Richmond?

Mr SCARD: It may be. At North Richmond that is a new project. We have not really started the assessment of what are the opportunities there. Jacaranda has been rezoned and approved by State and local governments. So they are the current situation. Sydney Science Park is a completely different type of project; it is quite complex in terms of the arrangements and the infrastructure that goes there. As I mentioned, it is in the aerotropolis, so we have been working with all levels of government, as with every landowner in the aerotropolis,

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in terms of assessing Sydney Science Park and that landholding and how we can best work with government to deliver on the Government's principles for the area.

The Hon. ROD ROBERTS: Thank you, Mr Scard. That is it for my questions. I might now hand back to the Chair.

The CHAIR: Thank you, Mr Scard, and thank you for your patience. I have one question. I think I might have heard you correctly before—that rezoning was done with the Jacaranda site. Is that the case?

Mr SCARD: It has actually been done twice. It was only recently rezoned last month; it was gazetted, and that was due to when we went back—there was better environmental outcomes by rezoning it in terms of alignment with the biodiversity certification compliance at the time. So we went back through that process with Hawkesbury City Council, with Environment, Energy and Science [EES]—a New South Wales government department—and that was, as I mentioned, just recently rezoned or gazetted last month.

The CHAIR: One of the arguments that has been put by the Government with regard to the proposal to raise the dam wall is that it would slow the rate of flood rises in the Hawkesbury-Nepean to allow more time for evacuation. Because one of the issues with the Hawkesbury-Nepean is this idea that flood islands get created as the waters rise and evacuation routes get cut off. From what I understand, hearing the Deputy Chair's questions, that may well be the case for that site there. Was the potential for evacuation routes out of that development or that rezoned area raised at all in discussions around the planning proposals?

Mr SCARD: They would definitely have been in part of the process of going through the rezoning and putting through our water cycle management strategies. The flood risk assessment that the team and specialist consultants put together, part of that is the assessment of the flood-prone land evacuation routes and ensuring housing and people remain safe in any given flood event. So yes, it would have been part of that process with Hawkesbury council.

The CHAIR: What sort of time frame would you be expecting to put forward for development applications to build on that land?

Mr SCARD: We are still working on a few planning matters with Hawkesbury City Council, but it may be a matter of years before we are on the ground.

The CHAIR: Have there been any discussions with Hawkesbury or with State government agencies, in particular Transport, with regard to the need to upgrade the roads into and out of that development area?

Mr SCARD: We have not had any particular direct discussions on those transport accesses in and out of the area, no. But we did make a submission to the duplication of the North Richmond bridge.

The CHAIR: Can I just check with Government members if there are any questions for this witness? Okay, then thank you very much for your attendance here today, Mr Scard, it is much appreciated.

(The witness withdrew.)

(Short adjournment)

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NEIL PERRY, Research Lecturer, Corporate Social Responsibility and Sustainability School of Business, Western Sydney University, affirmed and examined

STUART KHAN, Professor, School of Civil and Environmental Engineering, University of New South Wales, affirmed and examined

The CHAIR: I welcome everyone back to the Committee's hearing for today into the proposal to raise the Warragamba Dam wall. I welcome our next witnesses. Thank you both for your submissions to the inquiry. I invite you to make a short opening statement to the hearing today if you would like. I will start with you, Dr Perry.

Dr PERRY: Just in terms of an opening statement, I am just going back to the original submission which was made in September 2019. As I point out in that document, I am an environmental and natural resources economist. I have 25 years of experience, researching and teaching in economics and particularly the field of environmental economics. I have qualifications in cost-benefit analysis from the Institute of Public Administration and I also created and teach that unit at Western Sydney University. As I said in the submission in September 2019, there is not enough detail to assess where the benefits are greater than the costs for this project, and I have not seen anything since then. I have been focusing on the environmental impact statement recently and I have not seen anything since then that has been able to convince me that benefits do outweigh the costs, and I can certainly speak to that later on today.

In general, the document does provide some details about comparing the different possibilities of reducing flood. I cannot speak to the ecological or water hydrology aspects of that. Certainly that is something that we do in cost-benefit analysis, but it is more related to what we call cost-effectiveness analysis, showing that one project is better than another in terms of a given objective. But what we need to see is that the benefits outweigh the costs and I have not seen the details of that, and from what I have seen I do not see how the benefits could outweigh the costs. Thank you.

The CHAIR: Thank you. I am sure there will be specific questions around that, Dr Perry. I know it is a key feature of your evidence today. Professor Khan, would you like to make a short opening statement? I understand you may have a quick presentation.

Professor KHAN: Yes, if I could, that would be great. I will just pull it up. I assume you can see that?

The CHAIR: We can.

Professor KHAN: Thanks for the opportunity. Again, I would also like to go back and touch on some of the things that I raised in my initial submission in 2019, some of which have been addressed in the environmental impact statement, but I would like to talk about the degree of detail to which they have been addressed and the adequacy really of some of the considerations. Among the requirements, one of those requirements is actually a requirement to identify and estimate the quality and quantity of all of the pollutants that might be introduced to the water cycle as a consequence of this project. I note that that was not able to be achieved. It says in the impact assessment document—chapter 27 that's the water quality chapter—because of various considerations and difficulties, no meaningful load assessment of pollutants was able to be undertaken. So there is still a lot of information that is missing there.

When the assessment did go through they looked at surrogate-type events. Obviously we do not have a dam wall there, we do not have that flood mitigation zone, so instead of being able to look at real data they identified surrogate events where the water levels at the time were below the full supply level and a big rainfall event simulating a similar sort of flood event comes along and fills it up to the full supply level. And they talk about how those selected surrogate events are conservative, and in some ways I agree they are conservative, because you are talking about, as it says here, bare earth as opposed to a forested catchment; it is going to be much more prone to erosion. However, I think there are some real differences that need to be considered and one is that a lot of the catchment within the full supply level is not just bare earth at all, it is actually sandstone—it is rock—so you do not get erosion in the same way from that rock as you might get from other parts of the catchment which are not normally inundated. So you can have muddy pools and you can have all sorts of environments that will produce very different water quality.

They also looked at pollutant loads from some parts of the catchment, which are considered to be pristine parts of the catchment and which would be a new run-off area, and they looked at how they produce relatively low sources of nitrogen and phosphorous. But again, these are averaged over a long period of time—this is gentle, regular rainfall; this is not an extreme flood situation. So I think some of the circumstances that were looked at in order to try to provide surrogate circumstances for the types of events that we might be considering are not as appropriate as you might think. One of the important water quality management strategies that we have is being

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able to take water from different levels in the reservoir, because the reservoir can be quite stratified at different times of the year, and that is important. We saw through the recent bushfires how important that was being able to avoid the worst-quality water. But it is important to remember that that degree of stratification changes throughout the year: it is highly stratified in the summer; it is much less stratified in colder months, after colder periods, and therefore you can get a lot more mixing in colder periods and so you can rely less on this ability.

Even just recently in Sydney we had a minor water-quality event where people were complaining of taste and odour produced from cyanobacteria, and that was because of disruption to the stratification—there was wind and turbulence which caused mixing in the reservoir. So I think it is important to remember that that is not a failsafe solution under all circumstances.

Just to quickly run through some of the key risks that are identified in the risk matrix or as a consequence of using the risk matrix, in the report they looked at natural organic matter. I think this is really undercooked, this natural organic matter assessment; they talk about the key risk coming from natural organic matter, and it simply refers to trihalomethanes [THMs]—disinfection by-products. I think there are a few problems with that. One is that that enables it to be ruled out because THMs in drinking water, the cancer risk from them is not very clear. That is absolutely true, but that is not what we monitor trihalomethanes for; they are surrogates, they are an indicator of a much broader range of chemicals of public health concern in water. So I think whoever wrote this did not have a good understanding of disinfection and why we monitor some of these disinfection by-products.

It talks about how generation of natural organic matter from these soils would not happen very often because the frequency of these types of events is very low. But, in fact, once it happens, once you introduce a large amount of natural organic matter into the reservoir, it is there for a long time. So it is not the gap between these events that matters; it is the time to dissipation that really matters, and that is not considered here. They talk about how the overall likelihood is rare because of the rare frequency of those events, but if it is a long-term impact, you would not think of it as a rare event because it would be ongoing over many years. The mitigation measures that they look at, monitoring is not a mitigation measure in itself, but they talk about sourcing raw water supply from other sources—Prospect Reservoir itself and also the southern dams. Again, really important risk management strategies for Sydney; however, they only apply for Prospect water filtration. There are two other important supplies that come from Warragamba—Orchard Hills supply and Warragamba township itself. They do not have access to these back-up sources that are the key mitigating strategies for these risks; so it only applies to some of the population.

Adjustment of treatment processes: yes, great, there are things that we can do, but really, if you have a very high load of natural organic matter in your raw water, adjusting treatment processes to deal with that is not a simple concept; that is a major undertaking to better manage natural organic matter in the water. Use of multilevel offtake: as I said, it is not as reliable as we might hope. So I think all of these mitigation measures they can all play a role definitely, but none of them are really necessarily going to solve the problem under all circumstances. So I think it is key to remember that natural organic matter is something that we need to take seriously. And natural organic matter is not all about THMs and it is not all about disinfection by-products. There are many reasons why we need to be concerned about natural organic matter: one is blackwater events. You look at the Hunter River: every time there is a flood you wash all the leaves and the organic matter into the water and you get a blackwater event, which leads to deoxygenation, leads to water-quality impacts, leads to fish kills—these are the sorts of events that we should be focused on associated with a big influx of natural organic matter after a rainfall event, not trihalomethanes. So it is important that we take that into account.

Natural organic matter will also influence the reliability of chlorine disinfection. When we are distributing water out to customers we are trying to maintain a stable chlorine residual. Having a higher concentration of natural organic matter in the water makes that more difficult, so it makes it more likely that you will have a pathogen exposure that is uncontrolled through disinfection if you have fluctuating or high concentrations of natural organic matter. If you have a blackwater event, you have other water-quality impacts that can occur. You will start to solubilise iron and manganese because of the low dissolved oxygen concentrations, and these can cause major water-quality impacts to customers as well—colour, but also difficulties in filtering water.

They looked at impacts from erosion, and these ones are really important. They identified that there would be increased levels of erosion, therefore high levels of turbidity in the water. Again, it talks about the frequency being low. But in this case I think what really matters is the fact that the frequency is low, the fact that these are rare events, means that there is a long time to build up in the catchment. So the rarer they are in some sense, potentially the worse they are because the catchment has this longer and longer opportunity to build up sediment, which can then be delivered into waterways. Without the mitigating measures, this is considered a high risk. The mitigating measures, again, are the same sorts of things that we have already talked about, all of which have challenges. The first two are around managing erosion in the catchment. That is great, but if you have just

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had a major bushfire like 2019-20, all that is out the window; you are not going to manage erosion, you are going to have a lot of sediment sitting on the catchment floor, which will be washed off into waterways.

We talked about how the multilevel offtake and sourcing of water from the other dams are important strategies but not completely reliable. And adjustment of water treatment processes to manage turbidity is really challenging because all that turbidity hits your filters and the filters start to clog up and you are backwashing constantly. It is a real challenge at water treatment plants. Then there are the nutrients—nitrogen and phosphorous—and it talks about how we could end up with higher concentrations of nitrogen and phosphorous in Warragamba Dam. They came up with a consequence of an algal bloom. We have seen significant algal blooms in Warragamba Dam before. We can talk about how the circumstances might have been quite different but we know that there are nutrients available that can produce very significant water quality impacts as a consequence.

This is the last slide I will pull up which is, perhaps, the most important. The reason that the Sydney Catchment Authority was established after the 1998 cryptosporidium incident is because big, wet weather events that cause unusual circumstances really challenge the operation of the catchment and challenge the raw water quality. That is how we ended up with cryptosporidium and Giardia in the water in 1998 and that is the key risk, I think that we put ourselves into another situation which steps outside of normal, comfortable operating procedures which we would, anyway, I accept, in a major rainfall event.

But when you have inundation of a catchment where water would normally run off, instead of allowing it to run off you have got the dam wall there so you are pooling it up, then you are lifting water up out of muddy areas, out of areas where pathogens could have accumulated. I think this is a risk that we need to take very, very seriously, especially in conjunction with the other risks that challenge the treatment processes—high turbidity and high natural organic matter, potentially low dissolved oxygen in the water as a consequence of a blackwater event. All of these things together, I think, set us up for really difficult situations, none of which would I have rated a low consequence risk. Even if it might be a rare event, we are setting up the situation for this to occur so it would be less rare now than it would have been had we not enabled these particular circumstances. Thanks. Sorry for going on a bit long.

The CHAIR: No, I appreciate the detail and I am sure all the members do. Professor Khan. I will lead off with questions. I will put it in a simpler way and ask you to respond. Given the risk to water quality that you have identified here, do you think that the EIS, as it is out for public submission, adequately identifies, quantifies and assesses the risk to water quality as a result of this project?

Professor KHAN: No, because we saw upfront that they were required to quantify contaminant inputs to the water, to the reservoir and also downstream as well. It clearly states in the water quality chapter that they were unable to achieve that because it is challenging and that requirement has not been achieved. There are no numbers. There are no predicted concentrations presented for any of these key water quality contaminants.

The CHAIR: With the mitigations that have been suggested, do you think that if this dam wall raising went ahead, with those mitigations in place, that we would have a more risky circumstance in water quality and public health than we currently have?

Professor KHAN: Yes, I do believe we would have a more risky circumstance in water quality and public health. But for all the reasons that we have just been through we would introduce additional contaminants to the water and we would introduce additional challenges to the treatment process effectiveness and reliability. Not all of the mitigation measures that have been identified in the environmental impact statement equally apply to all customers that receive water from Warragamba Dam.

The CHAIR: You raise the issue of time to dissipation, particularly with regard to natural organic matter. Of course, this is vegetation being washed in. The impact area that the Government is using to assess upstream impacts is based on assumptions of a more common flood event, largely around a one-in-20-year type event. But you indicated that it is not so much the frequency; it is how long that material sits in the dam, if I have understood that properly. What is the length of time that you are having a potential impact on water quality as a result of that organic matter coming into the water supply?

Professor KHAN: That is a number I would have liked to have read in the environmental impact statement. I do not know the answer but the hydraulic residence time in the dam—obviously it is much longer when the dam is not spilling than when it is. But once you get to the point where it is no longer spilling, the outflows from that dam are relatively small. There are only two real sources: one is delivery to the water filtration plants for customers, so 1,500 megalitres per day, and the other one is the environmental flows which are also small. The hydraulic residence time under normal circumstances when the dam is not spilling is very long.

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The CHAIR: The fact that there is going to be a dam wall there now, a flood mitigation air space that gets filled up, by holding back those floodwaters does that mean that the organic matters and the sediments are more likely to settle and be permanently retained rather than flow with the floodwater?

Professor KHAN: Yes, so we actually rely on this big basin that is Warragamba Dam. The gorge area is a very long distance for the water to have to travel and it is a natural sedimentation basin. Yes, that is how you remove sediment before taking off water to deliver to customers. Ideally, you do not end up with high sediment loads at the dam wall like we have previously. Yes, the only other way out for that sediment is to settle to the bottom and that is where it will accumulate. In future it can be resuspended. It can cause water quality problems from the bottom of the reservoir which is exactly what happened in 2007 when we had that big cyanobacterial bloom on Warragamba Dam. It was very cold. It was winter July-August and there was a big rainfall event in the catchment so a cold water plume entered the gorge area upstream in the catchment. WaterNSW can monitor temperature and the stratification at different heights within the reservoir and you can actually watch a simulation of the water moving right along the bottom of the reservoir all the way up to the dam wall and then it hits the dam wall and it bounces off. During that process it has resuspended a lot of the sediment from the bottom of the dam, bringing the nutrients—the phosphorous—to the top up to where the sunlight is available and that is how we ended up with the big sign of cyanobacterial bloom in 2007.

The CHAIR: Dr Perry, you made a comment that there was not enough information to show whether the benefits outweighed the cost. Having seen the final EIS now do you feel there is sufficient information for you to make a judgement about that? If not, what do you think should be in there that is not?

Dr PERRY: Sure. Basically there is not enough detail in the EIS at the moment. Specifically, you have got to go chapter 4 in the EIS to have a look at this. There is not a lot of detail elsewhere. They cite documents in there like CIE, INSW 2020-21, WaterNSW 2020-21 that backs up their figures. Basically what they are trying to do is compare all the different options that are available for reducing flood impacts downstream. So they are looking at all those different options—raise it by 14 metres, raise it by 20 metres, do all these other types of things that you could possibly do—lower the permanent supply of water and stuff like that. They provide figures comparing all those and kind of come up with the idea that a 14-metre dam raising is the best option amongst them.

That is effectively what we call a cost-effectiveness analysis. They have got an objective and they said, "Okay we want to reduce the flooding back downstream. What is the cheapest way to do it?" In this case they have said, "It is a 14-metre dam raising", which I cannot confirm because the details are not there in terms of how they have valued the different aspects of the benefits of 14 metres versus 20 metres, or versus a reduction of 12 metres or something like that. So I cannot actually verify that. But even taking that as given, it is not enough. It is a cost-effectiveness analysis. It is not saying, "This is how we should use government funds." For that you need a cost-benefit analysis. You have to look at whether the benefits are greater than the costs.

Again I cannot determine how they have worked out the benefits. For example, you need things like: how have they taken into account the issue of a one-in-500-year flood which, of course, if you look at an expected value of that you divide the total impact of \$7 billion by 500, and that is per year, and then you go out into the future for 30 years and you discount back the New South Wales Government's discount rate of 7 per cent and that determines the benefit of reducing the impact of that one-in-500-year flood. But I do not know how they got that \$7 billion. I do not know if that is what they have done to assess the value of that 14-metre dam rising versus the other options. And then there is the one-in-100-year flood and one-in-50, et cetera. They all need to be explained to us how they have worked out these valuations.

If I could go on a bit longer here and focus on the costs for a minute. Page 49, chapter 4 says there will be \$1.61 billion in construction costs. It says that includes design and construction, project management, insurance, environmental controls—but, as I explained, that takes into account mitigation, not offsets from my reading—stakeholder engagement, legal and regulatory requirements, project risk and contingency. None of those are broken down but the document becomes confusing. It says that those figures are out to 2027-28 in their P50, meaning there is a 50 per cent chance they could be higher or lower than that. And then they say that if we look at that in a present value sense—so that is over those years out to 2027-28—that becomes \$1.075 billion. I put that into my calculator that looks at present values and the only way I can get to \$1.075 billion is to really stack that \$1.61 billion towards 2027-28—more than one-third in 2028 and more than one-sixth of that in 2027.

In the early years they are quite low cost and really high cost at the end and that gets that \$1.61 billion down to \$1.075 billion in present value terms. They would need to explain why that is. Why are all the costs weighted to 2027-28? You cannot get it down to that figure in any other way. But then table 4.9 says there are an extra 250 or 350 in escalation and contingency risks out to 2027-28. That seems to be in addition to the \$1.61 billion. It then says below that table—that is, below table 4.9—in referring to table 4.10 for the discounted

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net present value of \$1.075 billion does take into account construction and our operating costs. The costs of environmental offsets as well, even though that \$1.61 billion did not include that, I cannot get that \$1.61 billion down to \$1.075 billion without those additional costs.

Furthermore, below table 4.10 it then says the \$1.075 billion includes the \$1.61 billion in capital costs and then it says, something like, the final out-turn costs which refers to the actual rather than predicted costs, would also incorporate that 250 to 350 in escalation and contingency costs, plus now the environmental offsets which are going to be substantial, plus the operating costs now and less the cost of any work not needed on the dam. That last paragraph could be read in a couple of ways. It could mean that the \$1.075 billion already includes those additional costs, and that is kind of what the early part of the paragraph says. But once they mention the out-turn costs it implies that it is not including all those additional costs. So then you have got a \$1.075 billion cost, which is just capital costs, and then you have got all those additional costs which would easily push those costs over the benefits from the project, as they are stated but not valued. What I need to see is all those details about costs and I need to see the way that they have valued the impact on the downstream flood benefits in much more detail to be able to provide a recommendation that this is legitimate. From what I can tell, there is no way the benefits outweigh the costs.

The CHAIR: Dr Perry, from what you say as an environmental and resource economist, a lay person would have no hope of making sense of the Government's figures and making a judgement about the costs and benefits. You must have looked at these sorts of documents in the past. Is this par for the course? Is this often the way it is done or are EISs normally far more rigorous in being able to identify and quantify the costs and benefits?

Dr PERRY: In all honesty, I have not seen a good one through an EIS so it is not unusual. Basically, what you have got to do is really get it down to the issues and try to get some more detail in pretty much every one that I have looked at. So it is not an uncommon issue, but I do not see why we cannot be given the details to be able to assess them.

The CHAIR: From what you have seen in this document and the other documents that are referenced in here—you mentioned the CIE and I asked some questions about this in budget estimates—the Government has not made the case, and no-one in government can really claim, based on the publicly available evidence, that this is the best option in costs and benefits for the community?

Dr PERRY: That is correct, and there is no way you can claim that the benefits outweigh the costs and, therefore, it is not the best use of the Government's funds and we do not say it is even the best option to reduce flood impacts downstream.

The CHAIR: Do other members have questions?

The Hon. ADAM SEARLE: Nothing from the Opposition.

The Hon. ROD ROBERTS: Nothing from me.

The CHAIR: I might continue with Dr Perry. There is nothing clear in the EIS about the likely biodiversity offset costs.

Dr PERRY: Yes.

The CHAIR: I found that extraordinary, given the SEARs. The Secretary's Environmental Assessment Requirements seem to require a strategy to be put forward in the EIS which I would envisage would include potential costs. There are real concerns about the ability to even offset the impacts, particularly given the threatened species that would be impacted by this proposal. Were you able to identify anywhere in the EIS where likely offset costs are identified? If not, is that normal for an EIS or would you have expected more information around costs for biodiversity offsets to be identified, particularly given the significance of them to this project?

Dr PERRY: The offset costs are going to be massive. From my knowledge of the different methods of looking at offsets and the number of credits they are going to have to buy, which is greater than \$150 million, so that is a lot to bring into this equation. I would absolutely expect that an EIS would cost those. It is fairly easy to do. They just have to go to the offset calculator and do their calculations through that, so it is very, very easy to do. I would be happy to do some analysis around that, if you like, to give you my assessment, more detail of what those offsets might be.

The CHAIR: Could you identify anywhere in the document where they quantify the biodiversity offset costs? You took us through a section of a chapter that tried to find a net present value if the biodiversity offsets are incorporated in that calculation. In one part it suggested that they did not and in another part it suggested that perhaps they were. Were you able to extrapolate from that information and give us an indication of the offsets they are anticipating?

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Dr PERRY: No, I could not find how that \$1.075 billion either did or did not include environmental offset costs at all. The detail was not provided around the cost of those offsets. Like I said, they are going to be substantial. There is also the issue that they do not really, you know, they are not valuing the biodiversity itself. They use a market price or a replacement cost approach. The actual willingness to pay, which is our valuation in economics, the actual willingness to pay to not have this environmental damage would be far in excess of that. That is just the replacement cost; it is an underestimate and really the offset prices in the market for biodiversity offsets are based on land values ultimately. A demand comes from development which is required by government but the supply of those credits comes from landowners so it really relates to their land values. It is not relating to biodiversity value in and of itself.

The CHAIR: On that last point about biodiversity offsets, effectively the price of the replacement value is often based on land values, which is quite different from the cost to the community of losing biodiversity. At some point we will see a business case developed. The public may not see it until a decision is made on a project, which is the unfortunate way these things normally go. Would you expect those types of costs, the loss of biodiversity, to be reflected in a full business case, or do governments not tend to do that?

Dr PERRY: No, they absolutely have to and they will. So those environmental costs will be added onto any construction operating costs. Fundamentally it has to get through Treasury. They will use the market price. They tend to favour market prices instead of something like bringing in a price from overseas or getting a local valuation done which is quite expensive to do. They have got the market price there so they do tend to use that as the cost of biodiversity. But, like I say, it does not reflect the entire cost. As a society, we still value the environment being in situ in its original place. So even though we can replace it elsewhere, that is not our valuation of it. So there is an additional willingness to pay to keep it in place even when offsets occur.

The CHAIR: I will direct some costs questions to Professor Khan. Given the likely increase in risk to water quality from a raised dam wall, I imagine that that would also translate to increased costs of mitigating or managing that risk.

Professor KHAN: Yes. I cannot give you numbers, if that is what you are hoping for but the factors, the ways in which that would lead to increased costs. So, for example, if you have higher natural organic matter in the water and you need to treat that, that is going to require additional coagulant use. It might require a larger footprint. It will require the filters working a lot harder than they had previously worked, doing a lot more backwash cycles, especially if you have got a high sediment load in that water. You may still have high organic carbon coming out at the end of that treatment process and that is going to increase the chlorine demand. So you need to add more chlorine to treat the water and to make sure that pathogen risks are properly managed. And so you have, as we said, have higher concentrations of disinfection by-products and more difficulty maintaining a stable chlorine residual through the distribution system. So that might require more monitoring and management as well.

If you actually got to the point of trying to remove some of the more soluble natural organic matter you would be adding additional treatment processes. If you were trying to remove nutrients, for example, from water you would be adding an activated carbon process upfront. Some of the smaller plants—I think Warragamba Treatment Plant has the ability to dose powdered activated carbon into their system during emergencies and, therefore, remove some of the organic matter that way. Activated carbon is a very expensive technology to use, particularly in Australia because of the energy that is required to regenerate and produce fresh activated carbon. The likelihood that we would treat all of the water running through the Prospect Water Filtration Plant with activated carbon over a long period of time, or even under emergency circumstances, is very, very low. It is not a simple process and it would be a very expensive process to have to implement.

The CHAIR: Dr Perry, did you see any indication in the EIS of this plan, taking into account those potential increased operational costs?

Dr PERRY: No, there are no details of operating costs at all, certainly not those, but there is none of that operating cost. Sometimes it is said that it is part of the \$1.075 billion; sometimes it is not. The operating costs are quite substantial so to me that cost is not included at all.

Professor KHAN: Of course, those costs would be costs to Sydney Water, not to WaterNSW treatment plants.

The CHAIR: I guess that raises an additional question. This is not a project that just sort of starts and stops with WaterNSW. Obviously it has pretty profound impacts for all water ratepayers and other ratepayers. I anticipate that they would have to weigh up those whole-of-government costs and/or benefits?

Professor KHAN: Yes.

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Dr PERRY: They do in a cost-benefit analysis anyway. It does not matter where the costs are imposed.

The CHAIR: Thank you for your time and your expert and specific knowledge about at least two aspects of this proposal. The Committee appreciates that.

(The witnesses withdrew.)

(Short adjournment)

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MARK GREENHILL, Mayor, Blue Mountains City Council, on former oath

MATTHEW GOULD, Councillor, Wollondilly Shire Council, on former oath

ANDREW KEARNS, Manager, Strategic Planning, Hawkesbury City Council, on former affirmation

The CHAIR: Thank you for your attendance here today, councillors. This is the final session of today's hearing by the committee looking into the proposal to raise the Warragamba Dam wall. Do you want to make a short statement, now that the final EIS is out, on the position of your respective councils with regard to this proposal?

Mr GOULD: Our council remains steadfastly opposed to the proposal, and having had a chance to review large sections of the EIS we remain with a large number of concerns. In fact, it looks like in several places that the EIS is more a justification for the project rather than an objective assessment, as it is supposed to be. If we look at a few of the key issues that concern our council, as far as the Indigenous heritage impacts within the Burratorang valley and surrounds, that valley is incredibly rough terrain. There is simply no way that a comprehensive Indigenous report could possibly have been done in the time frame that they claim that it was done. The terrain is too hard; it is far too difficult an area.

We also continue to have significant concerns around the environmental impact and the potential impacts it will have on the Greater Blue Mountains World Heritage area, a large amount of which falls within the Wollondilly shire. And then in looking to some of our concerns from our residents, given that we are the upstream council and will bear the brunt of a lot of these negative impacts, I think the modelling is just all over the place, to be honest. The proposed routes include load-limited roads that are not capable of taking the sorts of trucks that they are talking about bringing. It is going to take it through past a number of schools. It is going to go through a number of high traffic areas. We are a rural council still. We simply do not have the roads to be able to take the loads of trucks that they are proposing. There is absolutely no suggestion that they are going to take on the maintenance of the roads during the project. All we get is a promise that at the end they will do some repair work. Our residents should not have to bear the brunt of the damage that those trucks will do to our roads during the construction phase.

We are also very, very concerned about the impacts to the village of Warragamba which will be the most severely impacted. We have seen firsthand what happened when that dam precinct was closed for construction when they built the auxiliary spillway. The economy of the Warragamba area completely collapsed. We had less than half the shops occupied at one point, and we have worked incredibly hard over the last 10 years to try to get it back on its feet. It was closed in 1999 and it only really got back on its feet in the last couple of years after a lot of council investment. We are very, very concerned that with the closure that they are proposing that it will make everything collapse again and we will be in a worse position. The report does acknowledge this but the mitigation that they propose is tokenistic. There is absolutely no assessment of whether it will actually do anything. A lot of the proposed mitigations are things that they tried when we had the auxiliary spillway being built and they failed then. We do not see how it will be any different now.

The CHAIR: I want to confirm that Councillor Greenhill is on the phone. Is that right?

Mr GREENHILL: Yes, we do.

The CHAIR: Councillor Greenhill, would you like to make an opening statement?

Mr GREENHILL: Yes, thank you very much. I do thank the Committee. In summary, the key points of concern for the Blue Mountains City Council are as follows—and there are five: significant damage to the cultural heritage of the Gundungurra First Nation; impacts to the biodiversity of World Heritage values of the Greater Blue Mountains World Heritage area; a watering down of environmental protections, in particular, New South Wales legislation before the completion of the EIS to enable the project to proceed; whether fair and accurate calculation of the environmental compensations required under the New South Wales and Commonwealth Biodiversity Offsets Scheme has occurred; and, finally, the application of the minimal public exhibition period of 45 days that, in our view, is too short to enable adequate review and preparation of a submission on a 1,500-plus page EIS.

The Gundungurra traditional owners have advised our council that the area subject to inundation, including the Coxs and Wollondilly rivers and the Burratorang Valley are a highly significant part of their country, being the living embodiment of the significant creation stories about the formation of the landscape by ancestral beings. Council has consulted extensively with Gundungurra Elders regarding this proposal—the proposal to inundate the area in question. We understand from them that the area is a significant cultural landscape embodying highly important creation stories. It is council's view that this will not only have a profound impact on

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the health and wellbeing of Gundungurra people but also result in the loss of a spectacular and extant cultural landscape, now so rare within close proximity to Sydney and, as such, an important cultural symbol.

We accept the views of the Gundungurra people that traditional heritage assessments done to support the EIS, whether anthropological or archaeological are inadequate and not proportionate to the context and importance of this rich cultural landscape. Council also draws the attention of the Committee to the Gundungurra Indigenous Land Use Agreement [ILUA] to which the New South Wales Government is a party, in particular, part 14 which refers to the alternative regime. Council's view is that the State Government is obliged to consider and to demonstrate how it has considered whether the proposed inundation is a class 1, post-registration act under clauses 14 (3) (4) and (5) of the ILUA.

Council's view is that there is a high likelihood that the proposed action would result in an impact to native title and as such there is no leave to carry out the act other than through dealing with the native title interests through the relevant provisions of the Native Title Act itself. It is council's view that, as a minimum, the State Government should be open and transparent about this matter, including how it has or intends to come to terms with the matters I have raised in relation to native title. Council notes recent cases which compare to the matter in hand where significant compensation was payable due to the loss of native title rights, specifically resulting from the inundation of sacred areas. Council urges the State Government to, most importantly, meet its moral obligations to the Gundungurra native title interests and to be mindful of the potential for compensation to be triggered in this matter and its fiscal obligations to the taxpayers of New South Wales.

In terms of the environmental impact assessment it is meant to be an investment of environmental consequences, both positive and negative, of the project prior to the decision to move forward with proposed action. The purpose of the assessment is to ensure that decision-makers consider the environmental impacts when deciding whether or not to proceed with a project. It is council's view that the passing of the WaterNSW (Amendment) Warragamba Dam Bill 2018, which has the effect of amending the National Parks and Wildlife Act 1974 to allow the temporary flooding of the World Heritage listed Blue Mountains National Park represents a highly specific enabling piece of legislation which should have been informed by the EIS and not enacted prior to the completion of the EIS, or indeed the commencement of the assessment process. Pushing legislation through to allow this project, before environmental, cultural or economic impacts have been assessed has, in our respectful submission, made a mockery of due process. These assessments risk becoming little more than a box-ticking exercise with the New South Wales Government making clear it will press ahead regardless of the findings.

We do note ecologists' concern that the critically endangered regent honeyeater both feeds and nests in areas of old growth forests slated to be drowned by the dam wall raising in the Burragorang valley. Therefore the project will impact on one of the handful of known breeding sites for one of the rarest birds on earth, and the most threatened bird in New South Wales, of which just 400 remain in the wild. Inundation is likely to impact one of two major sub-populations of the vulnerable Camden white gum, up to several hundred hectares of critically endangered White Box-Yellow Box-Blakely's Red Gum woodland threatened ecological community.

The endangered Macquarie perch, a member of the family percichthyidae, is a species found within the area. Raising the dam wall by 14 metres will desecrate kilometres of pristine rivers, including 65 kilometres of wild rivers and up to 1,400 hectares of bushland—for context, more than 4.5 times the area of Sydney's central business district. The land to be flooded is not only of the highest conservation value; it is among the most highly protected and significant natural landscapes in Australia in or adjacent to World Heritage listed national park, declared wilderness, declared wild river and national heritage status. For the moment that would be my respectful submission.

The CHAIR: Mr Kearns, would you like to make an opening statement?

Mr KEARNS: Thank you for the opportunity to address the Committee again. As previously advised to the Committee, the current Hawkesbury City Council's view on the raising of the Warragamba Dam wall is that the council would wait until the environmental impact statement was completed before it adopts a final and informed position. Council is currently preparing a draft submission that is scheduled to be considered by council at its ordinary meeting on 23 November. Completion of the environmental impact statement is essential in order to consider the height of the dam wall in the context of downstream flood mitigation and upstream environmental and Aboriginal cultural heritage considerations.

The draft council submission will be considering a number of matters such as: the fact that the Hawkesbury-Nepean Valley is considered to have the highest flood risk in New South Wales, if not Australia; the estimated number of buildings and damage to buildings within the Hawkesbury River Floodplain within the Hawkesbury local government area at risk of potential flooding and various design flood events, and the reduction in the number of those buildings and damage to buildings that the Warragamba Dam raising project could potentially achieve; details about the impacts and damage from flooding on the Hawkesbury local government

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area from the 2020-21 flood events and progress in terms of recovery; infrastructure issues during flooding, including potential loss of power, failure of sewerage systems and lack of access to emergency services; concerns about development along existing evacuation routes, including in neighbouring local government areas which could slow evacuation by Hawkesbury residents; bank erosion and impacts to wetlands as a consequence of flooding and potentially prolonged flooding with the holding back of floodwaters from the raised wall; post flood releases and whether there is a clear understanding of the potential issues caused by that prolonged flooding; and the need for greater understanding of all catchments that contribute to flooding in the Hawkesbury River such as flood studies for all tributaries that lead into the Hawkesbury River.

Also the fact that it is not currently feasible for many of our residents to access flood insurance with either prohibited costs or simply not being offered by insurance companies which creates significant resilience issues for the Hawkesbury and for our community. We are awaiting the release of further details of a range of targeted actions across the nine key outcomes contained within the Hawkesbury-Nepean Valley Flood Management Strategy, the Resilient Valley Resilient Communities document that includes: outcome 3, the strategic and integrated land-use in road planning and, in particular, the strategic land-use framework; outcome 4, accessible contemporary flood risk information, noting obviously that the regional flood study was released by Infrastructure NSW in 2019 and that a 2D model is currently being prepared; outcome 8, being adequate local roads for evacuation which we understand Transport for NSW is working on a plan for upgrades to local roads as part of the evacuation routes.

Also considered is the need for greater clarity or certainty about the legislative changes that would keep the use of a raised dam for flood mitigation purposes and not for future water supply; understanding the extent of the Blue Mountains World Heritage area that would be affected by temporary inundation in the event of a major flood event; understanding the impacts on biodiversity and also assessment of the potential impacts on Aboriginal cultural heritage. The council's flood policy adopted in 2020 recognises the need for a collaborative approach to floodplain management across the Hawkesbury-Nepean Valley and demonstrates our commitment to providing up-to-date, relevant, best practice controls based on consideration of flood hazard and risks. Finally, I reiterate that the draft submission will be considered by council at its ordinary meeting on 23 November which is in time to lodge the submission with WaterNSW prior to the closing date on 29 November. If required, I can make myself available to highlight council's submission following the formal consideration by council.

The CHAIR: Mr Kearns, I appreciate that Hawkesbury council has not yet made a decision and it seems like you have outlined a lot of work that you have to do to help inform that decision. Are you putting together the draft submission for consideration by councillors?

Mr KEARNS: Yes, I am responsible for preparing that submission.

The CHAIR: You mentioned in your introductory statements that you are aware, at least, of this requirement for legislation to pass the Parliament to operate the dam as a flood mitigation dam. I think that became public knowledge as a result of the leaking of an historical document from WaterNSW—I think it is a couple of years old now—that indicated it would require legislation. The substance of the leaked document seems to suggest that the concerns were that operating the dam as a flood mitigation dam would create potential legal and financial liability on the dam operators in potential claims of negligence or property damage, or the like, downstream. What is your understanding of the liability that might exist for WaterNSW and the need for that legislation?

Mr KEARNS: Obviously we understand that at the moment the operation of Warragamba Dam is for water supplies. It was that 2018 change to legislation mentioned before by the Blue Mountains mayor, and I guess that why we are seeking as part of our submission greater clarity regarding those legislation changes. It is certain in terms of what is proposed and what will be brought about. So essentially we are highlighting that we are seeking further clarity.

The CHAIR: My understanding of that document is that it is not so much the operation of the dam itself for flood mitigation; it is a potential concern that if there is a failure in its operation or if flood waters exceed the capacity of the dam or, for whatever reason, it is not able to prevent flooding that it could create a circumstance where the dam operator or the State Government might be liable for claims of compensation from downstream residents affected by a flood. Essentially, WaterNSW is seeking immunity from those sorts of claims from downstream residents, including your ratepayers. Do you think it is reasonable that the Government would seek limitation of that liability or indemnity from those sorts of claims and that effectively that risk could be passed on to people downstream?

Mr KEARNS: Just recognising that I am not an expert in terms of indemnities and so forth, it is reasonable for us consider all the potential impacts that are caused by the raising of the dam. So the EIS should consider all scenarios there and that is why council has waited until the release of the EIS before we can make an informed decision in terms of our position.

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The Hon. ROD ROBERTS: I direct my question to Councillor Gould. You touched upon this matter in your opening submission but I want to take a decent dive into the village of Warragamba. I have grave concerns for the businesses in Warragamba and the impact that any potential dam raising will have on them. As you are aware, I have been to Warragamba and spoken to business owners out there. For the benefit of the rest of the Committee, the businesses are small—mum and dad business owners, if I could use that terminology. There are no large corporate-type entities in Warragamba village. They have expressed to me their concerns and fears about their livelihoods if construction goes ahead. Can you speak to that a bit further at all?

Mr GOULD: Yes, absolutely. Thank you very much for the question. As you said, all of the shops are mum and dad businesses. Pretty much everybody is local who runs them and there is significant concern. Warragamba relies, and always has, very heavily on tourism. That tourism is derived from the visitations to the dam. What happens at the dam affects the village and always has. History has shown that when the dam has been closed for major construction, that it has an absolutely devastating impact on the economy of Warragamba, on shopkeepers and on shops. Of a weekend now, 80 per cent of the trade of some of our shops is tourists that are coming through from visiting the dam. If the dam is closed they do not come.

When we saw the auxiliary spillway built we went from a situation where we had every shop populated and the village was doing incredibly well. The auxiliary spillway project was started. The tourists stopped coming and the economy completely collapsed. That was followed by the devastating Christmas bushfires in 2001 which destroyed a lot of the village. However, even after they reopened the dam, after they completed the auxiliary spillway, it took a good 10 years before we started getting everything back on its feet. At the worst of it, we had more than half the shops empty. It has only been in recent years that council has invested a large amount of money. We have developed an all-ability playground in the village which helps to draw the tourists in. They get tens of thousands of tourists visiting the dam a year, and we rely on them coming to the village.

Our concerns with the EIS around some of the mitigation is it identifies that there will significant impact. It identifies that in some cases it may be critical impact. They propose a number of mitigation methods that they say will resolve this. A large number of these mitigation methods were tried previously and they failed. There is no assessment. There is nothing in the EIS to justify why those particular measures were chosen. It does appear that they just identified that there was a problem and then threw some solutions at them. They certainly did not engage with the local shopkeepers. They certainly did not engage with any of the local representatives. They certainly did not engage with council on what may or may not work. They are incredibly concerned.

I spoke to a number of them in the last couple of days and they are concerned for the very livelihood of their business. One of the counters that we have had from WaterNSW has been that there will be additional workers who will come and use the village and that will offset the impact we will have from tourism. Once again, our experience shows that that is not accurate. Whilst there are a small number of businesses that may have some minor benefit, it is unlikely to offset the loss of tourism and I cannot see tradies and other workers in the dam being particularly interested in visiting the gift shop, or visiting a number of the other tourism-based businesses that we have in the village. I really do not see that it is going to resolve the problem.

The other big thing they say is that they can use the viewing platform that they put for the dam when they were doing the auxiliary spillway and that tourists will still come because of that. That platform is certainly better than nothing but it is not really going to help. You are looking at the dam from over a kilometre away through trees. Nobody is going to come to specifically to look at that. If they happen to be in the area, sure, they might but it is not going to draw the tourists, and without the tourists, Warragamba is going to be on its knees again.

The Hon. ROD ROBERTS: I draw your attention to your submission about the roads. As I said, I have visited and driven around the whole area for that purpose—to have a look at the roads. They are, in fact, just rural roads—skinny roads made to the minimum width. What will be the impact on safety when you put heavy vehicles on those roads along with local traffic and school buses? Has the EIS addressed the safety issue for road users?

Mr GOULD: No, it identified that there would be some impacts to the pavement but it really restricted any detailed assessment it did to the area directly around the dam precinct and the roads directly adjoining that. What they are proposing here is to have two separate routes—the northern and the southern route. The southern route, in particular, is rural roads the whole way. One of the biggest challenges that our council faces is the maintenance of our road network. We have nearly 900 kilometres of roads that we are responsible for, and we are a rural council. Our ratepayers are always very keen to see improvements in the roads and we are working to do that but it is a struggle. The amount of extra traffic that they are proposing here is just going to make the problem so much worse for us.

As you correctly said, these are very narrow roads. They are not designed for large amounts of heavy vehicle traffic. They are designed as rural roads connecting rural villages, not having hundreds of additional truck movements on them a day. We would not be able to keep up with the maintenance requirements of that and we

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would see the quality of our roads go backwards rather than go forwards. We have put a lot of effort into trying to improve them. I think it is also important to point out, with regard to the southern route, in particular, this does not affect just one or two villages within the shire; it runs right up the guts of the shire. Their proposed route takes them from Tahmoor, takes them through the village of Picton, takes them through an incredibly dangerous corner now that we have had issues with to get to the Picton central business district. At the moment because roadworks are happening on the only other bridge out of Picton we are having delays in Picton, as it is, of 15 to 20 minutes. These trucks are certainly not going to help the road challenges that we have there.

Once you get out of Picton it goes along up towards The Oaks on a road that is load-limited. They did not talk to us about this. They did not engage with us. That road cannot take the sort of weight that they are talking about. The only alternative route is a significant detour that is going to take them through an additional village as well up at Oakdale. When you go through The Oaks it is going to be going past Picton Public School, Picton primary school, the Oaks Public School and it is going to come right up against Warragamba Public School. As I said in my opening, it is going to go past a number of very heavily trafficked areas and the EIS has not done an assessment on the impact of that and what that will mean, and how those safety issues will be resolved in any meaningful way.

We have got significant concerns around the overall traffic impact. We have also got concerns around the modelling around the working numbers and the number of vehicles. Say a maximum of 500 workers but they are only modelling something like 200 vehicle movements a day. We do not have anything in the way of public transport out here. They will be driving in and out. It is a significant concern and none of this has been thoroughly assessed. We have not had any significant engagement with our road engineers. Our road engineers certainly would not have told them to be sending stuff on load-limited roads. Without the Government taking those roads over for the duration of the project, which has not been budgeted in, as far as we can tell, in the EIS's assumptions, then the safety issues that we will see on our roads are massive. We have had some terrible, terrible accidents on these roads.

The Hon. ROD ROBERTS: One last question. Councillor Gould, during the construction of the spillway what was the amenity of the village? What was the quality of life? What impacts did the noise, dust and all those types of things have on residents?

Mr GOULD: The auxiliary spillway was a slightly different type of construction to what they are proposing here. They were removing a lot of soil but we had significant soil impacts. Large amounts of explosions were needed so there was a lot of damage to houses nearby. There was a scheme in place to help repair that damage but it still was quite a traumatic experience for some of our residents, and getting it fixed was not always straightforward. There were dust issues, there were noise issues. The village kind of wraps around the dam precinct so it is quite close. Where they are proposing in the current EIS to have things like batching plants and set-down points are close enough, and the EIS identifies that there will be noise. There will be safety concerns around traffic movements. There will be dust issues. It is significant. They have also identified that they wish to use part of our recreation reserve for car parking for visitors and for workers. That is our only sporting facility in that part of the world. It really would have a significant impact on the lifestyle and the quality of life of the residents of Warragamba.

The Hon. ADAM SEARLE: Mr Kearns, I think you said that Hawkesbury council is still considering its position and working its way through the EIS. Was a motion put to Hawkesbury council recently in favour of the dam wall raising? If so, what was the fate of that motion at the hands of the elected council?

Mr KEARNS: Yes, there was a mayoral minute included at a very recent council meeting. The effect of the mayoral minute was that council make a submission and then the number of points to be considered as part of that submission. But the motion failed so there was no resolution of council in that respect.

The Hon. ADAM SEARLE: Did that motion also indicate support for the dam wall raising?

Mr KEARNS: Not direct support for the dam raising. It sort of highlighted that the submission should consider a number of matters. I guess that was aimed at giving staff a bit of direction in terms of the preparation of a submission. But no, not formally to give direct support to the raising of the dam, but just a number of points for the submission to raise, yes.

The Hon. ADAM SEARLE: Will you provide on notice to the Committee a copy of the mayoral minute which I assume is a public document and the record of the council decision?

Mr KEARNS: Yes, we can do that.

The CHAIR: Mr Greenhill, your submission was obviously very passionately supportive of the values in the Blue Mountains National Park World Heritage area. We have heard evidence today about the biodiversity

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assessment process and some of the biodiversity offset provisions within the EIS. Have you had much of a chance or have your council officials had much of a chance to review the details in the EIS? I appreciate it is a very long document.

Mr GREENHILL: If I could take you to one concern that has come out for us, slightly different to, I guess, the point of your question but I think relevant in context. One thing that has come out for us from our analysis is that appears to be a significant watering down of environmental compensations under the New South Wales and Commonwealth Biodiversity Offsets Scheme by what we would call, I guess, creative accounting and in that way enable the project. If I could describe what I mean. Despite the raising the dam wall by 14 metres in the EIS, the impact zone, that is, the additional area inundated by floodwaters, has only been estimated based on a 7.5 metre water level rise.

This figure has been achieved by subtracting the temporary flood inundation supposedly likely to occur during flooding events behind the existing wall, as it currently stands, as well as by using average one-in-20-year flood data rather than one-in-100-year flood data as well as what was used previously in the preliminary EIA to estimate the predicted impact area. This has had, I guess, the effect of minimising compensation costs by artificially reducing the environmental impact zone by greater than 50 per cent and the subsequent compensation payable by more than \$1 billion.

Conversely, whether promoting flood mitigation values of the dam, for example, in the executive summary, the authors happily revert back to using one-in-100-year event data, one-in-500-year data, and one-in-1,000-year event data rather than using one-in-20-year flooding averages, they have selectively chosen to use for their calculation of the impact zone and required offsets. I know that does not go to the specific point you went to in your question but, I guess, it goes to the general point that the more we read the EIS the more we are concerned about, frankly, its apparent flakiness. If I could say that in relation to comment time, our respectful submission would be that allowing a 45-day submission period for an EIS that contains 29 chapters and over 1,500 pages, and which took over four years to compile, is not, in our view, adequate. By comparison, we recently exhibited the Gully Aboriginal Place Plan of Management. It is a significant document but only 145 pages long. We exhibited that for 60 days.

I will note that while an extension has been granted for an additional two weeks by the Government to the end of the November, the message to the community and impacted stakeholders is clear. It seems that they have made up their minds already. In saying that I go to the passage of the legislation I referred to earlier which preceded the EIS. The use of flood data, flood projections selectively in different parts of the EIS to give different answers at different times in the one document and then a snapshot, snap-closed 45-day submission period does trouble us in terms of the efficacy of the EIS. Once the legislation was passed that overrode the national parks legislation, frankly, we did believe we would probably see in the EIS that it was more of a promotion than, I guess, a strong testing of the proposition and, frankly, that is what we think we have got.

The CHAIR: Mr Greenhill, if I could summarise your first point to make sure that I am accurate. Your criticism is that the Government seems to use this one-in-20-year measure and then there is some sort of narrowness around there to assess the upstream impacts. So it downplays the upstream impacts but then it relies on some of the worst case scenarios in assessing the potential downstream benefits of the raising and that is skewing the results or the analysis in the document in understanding costs and benefits or potential value of alternatives and the like.

Mr GREENHILL: Precisely and to further that, this concern is reflected in the position of UNESCO's World Heritage Committee. Precisely from your point they have requested that the New South Wales Government submits its environmental impact statement for review by the committee before the final decision of the project going ahead is made. UNESCO's World Heritage Committee has clearly stated that raising the dam wall and the subsequent flooding of 1,300 hectares of World Heritage area will "likely have an impact on the outstanding universal value of the Blue Mountains".

Blue Mountains City Council therefore is deeply concerned about the potential impact on this vibrant nature and culture-based tourism economy we have up here which is based in no small part on the World Heritage branding. The United Nations report from the World Heritage Centre advises that the United Nations committee in charge of the World Heritage properties has stated that "the inundation of areas within the property, resulting from the raising of the dam wall, are likely to have an impact on the outstanding value of the property". The committee went on to note that it considered "any construction of dams of large reservoirs within the boundaries of World Heritage properties incompatible with their World Heritage status would potentially contradict or counteract the values that underpin World Heritage".

One of the reasons, we would submit, that the World Heritage Committee is asking to see the EIS before any final decision is made is that it is concerned to ensure the quality of the document produced. Your better

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translation of my submission reveals what I think you and I both might wonder—whether that document would stand up to that scrutiny. It is quite selective in the way it applies things like flood ratios.

The CHAIR: The management plan for the Greater Blue Mountains World Heritage area requires that any development maintain or improve the outstanding unique values of the World Heritage area. Our Committee in its interim report made a recommendation that it not be proceeded with if the proposal cannot maintain or improve the integrity of the World Heritage area. Based on your reading of the final EIS, do you think this proposal can maintain or improve the integrity of the Greater Blue Mountains World Heritage area?

Mr GREENHILL: It can do neither. What it can and will do is have devastating consequences of an extremely negative nature on the World Heritage property. The inundation takes the form of a large wave that floods through significant areas within the World Heritage property and adjacent to it. When that water lashes in and laps out what is left is the devastation of species, flora and fauna and the total devastation of cultural heritage sites in that area. If I could Chair, the answer to your question is no, they cannot do what it is your Committee in its first report said they should do—enhance and support. In fact, they do the opposite.

Can I say that the treatment of the Gundungurra people in this process is appalling beyond measure. We are starting now as a nation to deal with the intergenerational effects of European settlement in Australia—the intergenerational devastation of the culture and cultures and nations that were here before European settlement. We are on a journey of reconciliation which is taking a very long time and will take a very long time. One of the ways in which we embrace the principles of reconciliation is to recognise cultural heritage and its importance to people like the Gundungurra people. A 45-day consultation period for a proposal that will utterly devastate their cultural heritage sites in and around Burratorang does the opposite of what sits within the spirit of reconciliation. The answer to your question about World Heritage values is, no; the Government fails and does the opposite with this EIS. But beyond that, the cultural heritage impacts and approaches to this proposition sit somewhere beneath offensive.

The CHAIR: Thank you Councillor Greenhill for your testimony today. If there are no questions from the Government I might say to all three witnesses that it would greatly appreciated by the Committee if, once your councils take formal positions or make formal submissions to the EIS, it would be useful for us if you would provide them to the Committee. I think we would all benefit from seeing your final and formal submissions.

(The witnesses withdrew.)

The Committee adjourned at 17:17.