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TRANSCRIPT OF PROCEEDINGS

TRANSCRIPT IN CONFIDENCE

O/N H-1655476

INDEPENDENT PLANNING COMMISSION

MEETING WITH APPLICANT

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT

PANEL:	**PROF MARY O'KANE AC** **PROF CHRIS FELL AO** **PROF SNOW BARLOW**
ASSISTING PANEL:	**STEPHEN BARRY** **BRAD JAMES** **PHOEBE JARVIS**
APPLICANT:	**PAUL FLYNN** **MARK STEVENS** **DAVID ELLWOOD** **TOM MacKILLOP** **TONY DWYER** **CLIVE BERRY** **MARK VILE** **ANDREW GARRETT**
LOCATION:	**VIA VIDEO CONFERENCE**
DATE:	**1.31 PM, FRIDAY, 4 FEBRUARY 2022**

PROF M. O'KANE AC: So before we begin, I'd like to acknowledge the traditional owners of the lands that we're variously on and pay my respects to their elders past, present and emerging, and I'm speaking to you from Gadigal land. Welcome to the meeting today to discuss Narrabri Underground Mine Stage 3 Extension Project SSD-10269, which is currently before the commission for determination. Narrabri Coal Operations Pty Ltd, the applicant, is the operator of the Narrabri Mine, an existing coal mine located approximately 25 kilometres southeast of Narrabri and approximately 60 kilometres northwest of Gunnedah. The mine is located within the Narrabri Shire Local Government Area and in the northwest slopes plains – slopes and plains region of New South Wales.

The applicant is seeking development consent to continue longwall mining in a major southern extension area until 2044. The project also involves the continued use of existing underground and surface infrastructure, including use of the existing coal handling and preparation plant at its approved 11 million tonnes per annum capacity. My name is Mary O'Kane. I'm the chair of the Independent Planning Commission and of this panel. I am joined by my fellow commissioners, Professor Snow Barlow and Chris Fell. Also in attendance are Stephen Barry, Brad James and Phoebe Jarvis from the Office of the Independent Planning Commission.

In the interests of openness and transparency and to ensure the full capture of information today's meeting is being recorded and a complete transcript will be produced and made available on the commission's website. This meeting is one part of the commission's consideration for this matter and will form one of several sources of information upon which the Commission will base its determination. It is important for the commissioners to ask questions of attendees and to clarify issues whenever it is considered appropriate. If you are asked a question and are not in a position to answer, please feel free to take the question on notice and provide any additional information in writing, which we will then put up on our website. I request that all those here today introduce themselves before speaking for the first time and that we all ensure we do not speak over the top of each other to ensure accuracy of the transcript.

So let's now begin, and let me start by first of all thanking Narrabri Coal for the site visit the other day, which we found enormously useful, and thank you for – I know you sent the slides for this afternoon as a back-up, but it was good to get them, so we've got copies, the commissioners have copies of them, as does the office. Paul, did you want to start?

MR P. FLYNN: Yes, I'm very happy to, Chair.

PROF O'KANE: That'd be great.

MR FLYNN: I'll move on now, then. So - - -

PROF O'KANE: And - - -

MR FLYNN: Sorry.

PROF O'KANE: And I should mention we had a bit of a look at your slides, of course. We have read the material pretty thoroughly, you know, the assessment report, the EIS and all the surrounding material. The three commissioners are pretty across it. So – and we're keen at some point to get to our questions in some detail, so, you know, when you're thinking about it, you don't have to bother too much with background, but, obviously, anything you want us to know we'll appreciate.

MR FLYNN: All right. Thank you very much, and thank you, madam, for the guidance, also, and I'll proceed through the slides with a reasonable pace, if that's okay, and then make sure we've got adequate time for questions and answers, which I'm sure will be useful. So, well, good afternoon and thank you very much commissioner, Professor O'Kane, Professor Barlow, Professor Fell, for this time. Paul Flynn is my name. The CEO and managing director of Whitehaven Coal, the parent of Narrabri Coal.

I am joined here today again with members of my team, Mark Stevens, who's our executive general manager of project delivery, David Ellwood, who's the Narrabri Stage 3 project director and Tom McKillop, who's the principal of regional strategies. I'm also joined by other members of our team today who are in attendance. Tony Dwyer, Clive Berry, Mark Vile and Andrew Garrett. I'd also like to acknowledge the traditional owners of the land on which we are located today, the Gadigal people of the Eora Nation and pay our respects to their elders past and present. I'd also like to acknowledge the Gomeroi people, whose lands on which our operating assets reside and also acknowledge them and pay our respects to their elders past, present and emerging.

In terms of the agenda for today, obviously, we're here to provide information about Narrabri Stage 3, following on from the virtual site tour. Thank you for the feedback on that. I would like to address the questions that the IPC has given to us in written form and then also questions raised during the site tour on Wednesday, as well, and to the extent that there are any questions, of course, again, as we did on Wednesday, happy to take those during the course of the presentation or, if you prefer, at the end.

Given that you're familiar with Whitehaven Coal, I won't belabour this point too much. We are the leading independent premium coal producer in the country. All our operating assets are in the Gunnedah Basin, and that's three open cuts, plus the Narrabri underground mine. You're, obviously, familiar with the Vickery Extension Project, having been through the IPC in 2020, and we're going through some detailed design work on that, and we are in the final stages of the EIS assessment process with our Winchester South coking coal project located in Queensland's Bowen Basin, and you can see what's going on with our business. There is a transition from the smaller-scale assets which were the beginning of our company to these larger scale developments that'll underpin the business in the four decades to come with these long-life assets building greater efficiency and productivity gains.

Demand for our coal is strong, and that's because of its unique properties, notably, its ability to deliver a very low carbon emissions outcome per tonne of coal consumed. It is used in high efficiency, low-emissions coal-fired power stations exclusively. It's known as the best ..... coal you can buy on the seaborne trade for exactly that low emissions intensity outcome. Our customers are here on this map in numbers and location and all our customers are signatories to the Paris Accord, whether they are countries or equivalent domestic policies, such as Taiwan.

We have some 20 years of history, and we certainly have grown significantly during that time, most notably with the advent of Narrabri at the Narrabri underground mine and Maules Creek Mines being developed and quadrupling our size over the last 10 years. We have a large workforce, now 75 per cent based in the Gunnedah Basin. That's now two – a workforce of some two and a-half people strong. We're very proud of the social and economic contribution that we've made and continue to make, and we are the largest private sector employer in the region.

The transition to a lower carbon future is something we're very much focused on and we are investing heavily in low emission technology. So for some 10 plus years we've been invested in a company called LETA, the Low Emission Technology Australia, which looks at emissions, reductions, mitigations technologies and, for example, carbon capture and storage and also reuse of carbon dioxide in other applications.

We regularly review other abatement opportunities for our scope 1 and 2 emissions, including options to generate and purchase carbon offsets, as well as the associated costs and related business risks and opportunities that that presents also. As late as the back end of 2021 we commenced carbon neutral electricity supply across the entirety of our operations, and we're estimating that on an annual basis that will reduce those emissions by between 10 and 11 per cent, just with that one initiative alone, but we'll talk more about emissions reduction efforts in relation to stage 3 a bit later on.

We believe the benefits of our presence must go beyond just the workforce, and beyond the life of an individual single asset. In fact, the social compact we've signed up to is, really, to leave an economic and social legacy that outlives the mining operations, and that is through education, health, skills and infrastructure. We focused on procurement locally, and we'll talk about some aspects of that there. Our generational nature of our – intergenerational nature of our investments does allow us to build skills and a presence that endures well past just the timing of our assets, in particular, and how we behave determines how we are perceived as a responsible member of the community, particularly in our environmental stewardship and various community progress and partnerships, which I'll touch on a little later.

We offer sustainable long-term, rewarding careers in regional Australia, and invest in skills development with a strong focus on creating pathways for young people to remain in the local region. In terms of diversity, the proportion of our workforce of female participation aligns with the coal mining average, although there remains

much work to be done here for sure. We are very proud of the empowering nature of our presence with reducing Indigenous disadvantage across the region, which includes concerted efforts to ensure that our workplace resembles the Aboriginal and Torres Strait Islander presence as it bears in the proportion of the local population in the north-west community.

This is a particular aspect that we are very proud of, and nine per cent of our entire workforce self-declares themselves as being of Aboriginal and Torres Strait Islander heritage. That is a standout in New South Wales, outside of Indigenous businesses themselves, and something we've worked very hard. We take a holistic approach to this. So it's not just about the tremendous employment opportunities that we offer. We've got a very active program in supporting the Winanga-Li Early Learning Centres both in Gunnedah and Narrabri. We've been a multi-year supporter of that for many years.

We're addressing school leavers, as well, through the Clontarf Foundation, both in Narrabri, Tamworth and Quirindi, and the girls' academy up until recently at the Gunnedah High School. Both these programs have produced fantastic results improving post – or education and post-education outcomes and work opportunities. Unfortunately - - -

PROF O'KANE: Can I - - -

MR FLYNN: Sorry.

PROF O'KANE: Can I interrupt with a question. I think that's a wonderful, sort of, series of initiatives and great numbers in the workforce. I'm just wondering, with the workforce, do – are many of them progressing through the management structure?

MR FLYNN: Into management, if I can call it that, it depends on where you define that, Chair. I would - - -

PROF O'KANE: In a very broad sense. I was just curious, because it sounds like you've got a very holistic, sort of, policy going there.

MR FLYNN: Unfortunately, I'd say thus far they haven't gravitated through our system into managerial roles, per se, but we are focusing on in that journey is actually building the skills. So we're helping people with the life skills to be a part of a workforce on a regular basis, and then moving them through the skills in our kit. So the skills associated with truck driving, with excavator driving and so on, and the elevation of those skills across a suite of needs in our business will bring them naturally into the leadership ranks of our business.

PROF O'KANE: .....

MR FLYNN: And at nine per cent, or at Maules Creek, in particular, with some 20 per cent, fantastic numbers. But across our business now nine per cent, which is at or

around, if a little bit higher, than the proportion that Aboriginal and Torres Strait Islander peoples bear as a percentage of the local community in our region.

PROF S. BARLOW: Paul, Snow Barlow here. What proportion of your workforce is female?

MR FLYNN: 12.4 per cent, Professor Barlow.

PROF BARLOW: Four or 12?

MR FLYNN: 12. 12.4.

PROF BARLOW: Thank you.

MR FLYNN: So more work to be done on that front, indeed. In fact, we have a very successful – one of the initiatives which we have, a very successful shift transition crew, which is primarily populated by female participants, which is where they can't work a full 10- or 12-hour shift, and we've got a shorter shift that they come in for five or six hours and assist in transition across various crews, which has enabled more female participation in the business, such that they can fulfil the other duties in their lives that they are trying to balance.

PROF BARLOW: Thank you.

MR FLYNN: I'll just move on. The next couple of slides really speak to that community compact, and there's some pretty big numbers here. This is just FY21 alone. $344 million in local procurement. We're very much targeting and ensuring that the benefit of our presence accrues to local people, and this is very much evidence of that. That is shared across about 300 businesses, and we define that as being Tamworth to Narrabri in terms of local. So 300 businesses share that $340 million. There's about $210 million paid in wages annually and there's about $190 million in this past year that goes to Federal, State level taxes and royalties.

In FY21, again, the benefit to our region, again defined in that range from Narrabri to Tamworth, is about $490 million in the north of New South Wales, which has been fantastic. We note that we've maintained our operations working consistently right through COVID. In fact, up until Omicron, we hadn't had a single case. Our management of that has been very successful. We have got a few cases now, but we provide an incentive program to our people to actually be vaccinated, and rather than mandating it, and so we offered $250 vouchers which were redeemable at local businesses across that same region, so – which has been very well received by our employees and the vaccine take-up has been fantastic.

So, look, I think this – the record of our contribution here demonstrates not just the importance of us to the local community, but the resilience of our operations and our ability to maintain that contribution, even during difficult times, including, you know, the recent drought.

PROF O'KANE: Is this a good time to talk a little bit about what you're proposing with the VPA, because we met with the two relevant councils today, and you might – probably when it goes up on the web shortly, might want to have a look at it and comment - - -

MR FLYNN: Yes.

PROF O'KANE: - - - when you speak to us at the hearing, but, anyway, just wondering what the picture going forward with that is.

MR FLYNN: Okay. I have a slide which deals with that. It is a little bit - - -

PROF O'KANE: Okay. Why don't we wait till then.

MR FLYNN: A little bit further, if that's all right, Chair.

PROF O'KANE: Yes. Let's leave it.

MR FLYNN: Okay. Now, look, it's one thing to think we're doing the right thing and it's another thing to receive back feedback that you are actually doing the right thing. So rather than just convincing ourselves of our own virtue, we do take statistically relevant and significant polling every 18 months in our region, just to make sure that there is a feedback loop that we're part of that – where we can understand the sentiment of the community, and over time – we've been taking that since 2015 – there's been a significant trend upwards in terms of the net favourability of our business, and – which is very positive to see.

I think part of it, actually, stepped up quite significantly – you'll see from those numbers – during the drought period, and I think that time – during that time, you know, there was a broader realisation that diversity of industries in our region is actually a positive and, obviously, at that time agriculture was suffering terribly. Our business was suffering terribly, but we were resilient right through that and never had to stop during the course of that period. So some of the stats just for you. 75 per cent of Narrabri residents agree that mining jobs are essential for the economy and 73 per cent of Narrabri residents agree that Whitehaven, in particular, makes the local economy stronger and more resilient.

Over to the next one. I think this message carried through even further, and as it relates to stage 3, we've received extremely strong support for the project, as evidenced by the nature of the submissions to – for the EIS. 94 of the submissions – 94 per cent of the submissions on the EIS were in support of the project. There were only three objections from special interest groups. No individuals, including local landowners in the vicinity of the project, lodged an objection to the project.

Whitehaven considers that this represents a strong understanding of the benefits of the project and an endorsement of our business more generally, but it is consistent

with the evaluation we believe is due with DPIs evaluation that the approval of the project is in the interests of the community at large.

PROF O'KANE: I don't know if you've looked at our website recently, but there are a lot of submissions coming in. You know, a surprisingly large number that aren't – that don't reflect ..... although, we could go into whether they're local or not and things like that, but - - -

MR FLYNN: Yes.

PROF O'KANE: You – again, you might like to have a look before the hearing.

MR FLYNN: Thank you, Chair. I'm aware of the initial influx that you're mentioning now. So I think there'll be lots of submissions, obviously, coming in which will balance those numbers out. I note the form nature of some of them that seem to have appeared early, but as with all of – you're well accustomed with this process and with the IPC, and we've seen it once or twice before ourselves, now – there'll be a balance of opinion across these areas.

I think we take very seriously the views of people taking the time to comment, but, equally, we also take on board the views of those who are local and proximate to the community that we're in to ensure that we're not just talking – as I say, talking to ourselves, but we understand what their feedback is and we must take that feedback on and demonstrate that there is a virtuous circle, that we do adjust as a result of receiving that feedback with our business proposition. As I say, there were no landowners around the project which objected to the project, and – which was very, very positive to see.

In terms of the project itself, I won't belabour this too much, because I think we've covered this pretty extensively, if the commissioners are happy with that, as you've already stated earlier in your opening remarks.

PROF O'KANE: Yes. No, as I say, it was a very good site visit.

MR FLYNN: Yes. Thank you very much for that feedback. So I might just – the geography you understand. The relativity of this mine relative to other mines you understand, so I won't belabour that any further. The project, you're well-attuned to what the project represents. The yellow are, obviously, is the mining lease application area, previously exploration licence, and the white, obviously, is the subject of our existing mining. The orange – if I could call it that, orange panel is part of the existing mining lease, which we're yet to enter, but we'll soon do that, and stage 3 represents, essentially, the extension of those orange – the orange longwall panels for the six kilometres to the south once the exploration licence is converted into a mining licence.

The surface infrastructure to facilitate the underground mining, as you know, will largely be consistent what we've got, and although there will be need for ventilation

and other associated infrastructure, as we mentioned, in the site to – as mining progresses to the south. The mining entails the mining of an additional 82 million tonnes of additional coal resource and the life would be extended from 2031 to 2044. The provides security for approximately 520 FTEs onsite, and ongoing contributions to the local community, as I stated earlier. Significant contributions that we're making to the local community. In accordance with the government's guidelines, the project's been assessed to have a net benefit of $599 million in net PV to the State of New South Wales.

This is an extension, as you've remarked, of an existing mine and, therefore, the key issues associated with the stage 3 have been subject to previous assessment in many areas, and that's, really, the characterisation of stage 3 is that it is a mirror of stage 2 that is approved in terms of topography, hydrology, the mix of land uses, grazing areas to the east and forest to the west. We believe the area is ideally suited for further mining, given that there is no highly productive agricultural land in the area and we are a good distance, some five kilometres west from the productive groundwater resources of the Namoi River, and we don't have any – as I say, any objections from landowners living around the project. In fact, we have very few community members living at all close to the project itself. The existing suite of environmental monitoring and assessment management measures will all continue and be improved over the life of the project.

So the IPC has provided the – has been provided with DPIs assessment report, which has concluded the project is in the public interest. Whitehaven concurs with that, the findings, and the benefits have been closely – carefully designed as a brownfield expansion with its associated continuing employment and regional benefits we believe are demonstrable. We've carefully reviewed DPIs proposed conditions and agreed with them.

We do want to cover off on some of the areas that have been the focus of the key assessment findings in the EIS and provide an update on each of these, including groundwater arrangements with the surrounding landowners, which are one of the key areas of discussion and, of course, come to your point, Chair, just on the VPA arrangements, as well.

So if I move over to this slide. This slide provides you with the outcomes of the key specialist assessments in consideration of the relevant government policies and legislation, and that is our groundwater assessment has demonstrated that predicted impacts will comply with the aquifer interference policies of minimal impact considerations with the development of make good agreements for eight landowners whose groundwater bores are predicted to be impacted, which I will address on a bit later.

Water use across the project, including incidental take of surface and groundwater use to subsidence impacts can be appropriately licenced under the Water Management Act. Biodiversity impacts have been avoided or minimised by micro-siting surface infrastructure, with residual impacts to be offset in accordance with the

Biodiversity Conservation Act. Air quality impacts to all privately owned receivers will comply with EPA-relevant impact assessment criteria in the approved methods, and there's no greater than negligible noise criteria exceedances at all private dwellings, except where noise agreements already exist with two landowners, predicted to experience marginal or moderate exceedances, but, as I say, covered by existing agreements in any event, and there is no direct impacts from surface disturbance to known Aboriginal cultural heritage sites would occur.

As I mentioned earlier, we have progressed the development of make good agreements with the height nearby landowners who have groundwater bores that are predicted to experience groundwater drawdown more than two metres towards the end of the mine life or later. Draft agreements have been provided to all the landowners. We have been out to each of them and inspected their bores and taken some measurements of them already to understand where they're currently at, and we are proposing to install a replacement for that bore that will provide water at an equal or better quality and quantity than what their current arrangements provide. So those draft agreements are in their hands and we are committing to installing that within two years of commencement of stage 3, so well ahead of any potential impact that might occur.

PROF O'KANE: And, presumably, they're all comfortable. You're getting no pushback on it?

MR FLYNN: No, nothing to date, Chair. No. In fact, we do note that there's a picture of one of them. We do note that quite a few of them are not actually currently being usefully deployed - - -

PROF O'KANE: Yes.

MR FLYNN: - - - if I can say that, and none of them have walls on them. They're all, really, sort of, you know, domestic or stock use that they're using them for. So they've been very good with us, allowing us to come onsite, have a look at them, take some measurements to see where the bores are performing at the moment, and, you know, we look forward to wrapping this up within the first two years of our arrangements, even though those predicted impacts, if they come to pass, are not till well alter in the life of the mine.

PROF O'KANE: Thank you.

PROF BARLOW: It's Professor Barlow here. Could I ask you, those make good arrangements, you know, providing an alternative bore, but what is – you know, will that bore itself be sustainable with the lowering of the water – the predicted lowering of the water table under the modelling as it now stands?

MR FLYNN: Professor Barlow, yes, we've looked at the current bores. We understand – we certainly understand the predicted impact for those bores. We understand the – if you like, if I could use this term, the free bore that they currently

have in each of these bores, and so we've assessed it – the – there is capacity for each of these new bores to provide continuing service to each of these landowners, even taking into account the predicted effects of drawdown to the extent that they occur.

PROF BARLOW: So you have considered, you know, that eventually at the end of the mine.

MR FLYNN: Yes, we have.

PROF BARLOW: Thank you.

MR FLYNN: All right. I've just lost my page. Now, moving onto the other areas raised by the IPC in terms of subsidence, biodiversity, rehab and economic assessment. The concept of brine reinjection is approved under our existing stage 2 project and, as such, has undergone multiple reviews by experienced groundwater experts and various government departments. Despite the fact that there are no known examples of this in New South Wales coal mining – I mean, there are obviously many, many examples of storage of salty water in mining, whether that be underground or open cut. And we see this as a low impact activity, as the groundwater gradient will be drawn to the Hoskissons seam for many years to come. I mean, the Hoskissons itself, obviously, supports groundwater with high salinity and, as this is this the location from which the majority of the salt has emanated in the first instance.

Modelling shows a very limited salinity increase in the groundwater in response to brine injection and, lastly, the aquifer itself, I think as you already know, is not the water supply for anybody in the area. As mentioned, groundwater experts AGE have written a written response to the matters raised by the IPC, and we will consider the questions of beneficial use of salt; however, our initial understanding is that the operation would result in a much lower quantity of salt than Santos. Our volume's obviously much different from what they're contemplating with their project.

PROF O'KANE: Chris, would you like to ask anything further there before we move on?

PROF C. FELL AO: Well, a quick calculation for all of your maximum failures for TDS say it's about 31 per cent for the salt in Santos. So – and it looks, from the Piper diagram, that it very heavily carbonates at Hoskissons seam. So there are definite possibilities there. I guess I just have a small worry, if you like, of injecting what appears to be about 260,000 tonnes of salt into that aquifer or the goaf area. I really want to know what sort of surface percentage of the goaf, if that is the right expression for it, with 20 injection wells actually represent.

MR FLYNN: Thanks for that question, Professor Fell. I don't have the data to be able to answer that question currently, so can I take that one on notice and I'll make sure that that's included in our written responses - - -

PROF FELL: Thank you for that. I guess, the issue is if that's a very concentrated pocket, even your sums have suggested the overall dilution – sorry, the overall concentration caused by the injection is fairly small, what would be the impact of that possibly be?

MR FLYNN: Okay. Thank you. I know our team will take that down and we'll make sure that we respond to that formally with our written answers.

PROF O'KANE: And, Chris, did you want to follow up on that other issue we were discussing about the possibility of reinjecting it at more than one spot?

PROF FELL: Well, I think that's basically what we talked about at the moment, in that the place of the injector over 20 spots, but what percentage of the total dimension of the goaf does that represent.

MR FLYNN: I understand the nature of the question. We'll make sure that we get an adequate response to you there to answer that question specifically.

PROF FELL: Thank you very much.

PROF O'KANE: And talking to the department this morning, they mentioned that there is – and I'm not sure if I'm going to be able to get the words right. I might need Phoebe to help me. But there is a condition on the current mine about ongoing review of this whole space so that over time you'd be continuing to work on it, look at it and make intelligent decisions at the right time.

MR FLYNN: That is correct.

PROF O'KANE: Great. Thank you. Which you – presumably, you want in the new conditions to come through?

MR FLYNN: That's right. They'll be replicated, I believe, in the new conditions.

PROF O'KANE: Yes.

PROF FELL: Thank you.

PROF O'KANE: All right. Thanks.

MR FLYNN: Now, we see that stage 3 is an extension and continuation of stage 2 with the potential impacts that we are currently experiencing. They, obviously, will continue. Those impacts have been assessed to be negligible in terms of surface water flows and resources. Water experts WRM estimate that the surface water flow losses for stage 3 are many times lower than the annual runoff from the project area and this small predicted loss of up to 4.2 megalitres per year will be licenced.

Clearing has been identified as a greenhouse gas abatement opportunity, and this converts methane, of course, to carbon dioxide. A gas with a lower GHG potential. Due to the imitations inherent in flaring facilities, the circumstances under which flaring can take place is relatively low. Generally, de-gassing in our mine will take place at 3.5 cubic metres of gas per tonne of ROM coal produced or in situ, and – but in terms of flaring potential, the oxygen content of less than six per cent and a methane content of greater than 30 per cent is necessary to conduct flaring.

We acknowledge that there are portions of long wall 204 to 209 that contain total gas matching these requirements. So we will continue to review the potential for additional flaring opportunities over the mine. Our data shows that the methane content in the Hoskissons seam increases to the west, which is different from the experience we've, obviously, had in the first 10 years of the life of the mine, which may be of relevance to Santos' inclusion of this seam in their project; however, we can provide more information on this when we provide our written submissions to the panel.

PROF FELL: Thank you very much. On this can I just ask a question about the flaring. Are you proposing to flare from the surface drainage? I think that was shown to us yesterday or, sorry, a couple of days ago at this site visit and with regard to inseam recovering, are you blending that gas at all

MR FLYNN: In terms of existing operations, Professor Fell?

PROF FELL: Yes, well, of future operations, logically, it would be possible to blend some of the gas from those higher gassy longwall areas with the not so high methane gas?

MR FLYNN: I might just hand to David. Do you want to respond to answer surface infrastructure, versus underground alternative Professor Fell, that you're asking about, firstly?

MR D. ELLWOOD: No worries, Paul. So I think your question is, essentially, would we be able to use a higher gas bore hole to top up a lower gas methane percentage bore hole.

PROF FELL: .....

MR ELLWOOD: And would it be able to flare both bore holes?

PROF FELL: Yes.

MR ELLWOOD: So what we will be doing is, because we have to put suction on all bore holes that we are using, we will be able to identify via live monitoring of how much gas is coming out of each bore hole, and so we will be able to attach bore holes to each other to be able to flare. So as I noted on Wednesday there will be multiple bore holes will be connected to one flare unit; therefore – taking into

account that we can only do it within a certain radius of the bore holes. We can't take gas from one side of the mine and take it to a bore hole on the other side of the mine, because we don't have the surface disturbance to allow for the largescale pipes that would be required to do that. We'd be managing it on a smaller basis around a smaller area where that active drainage is being – is taking place.

PROF FELL: Okay. Thank you. That's helpful. Is there much variation in the methane content along some of those longwalls, given their length?

MR ELLWOOD: Sorry, can you just say that again, sorry? You just cut out slightly.

PROF FELL: Given the length of some of the longwalls, is there much methane variation along those in terms of the coal content of methane?

MR ELLWOOD: Generally, the methane content is the highest in the centre of the longwall. So if you say the longwall is 10 kilometres long, at the five-kilometre point is your highest methane of each longwall block, and that generally increases moving to the west. So the seam is fairly homogenous, and so it's not like there's small pockets of very high methane and small pockets of very low methane. It's just a gradual trend as you move further west of increasing methane in the seam.

PROF O'KANE: So not much change in the north-south on a longwall?

MR ELLWOOD: No. So what happens is on the westernmost longwall block, pretty much the whole longwall block will be slightly above 30 per cent methane, but on the eastern side only a very, very small portion of a longwall block in the centre of the block will be – will contain over 30 per cent methane. So as you move west, the portion of the longwall block gradually increases with the amount of methane over 30 per cent.

So there is a plan in our amendment report that was produced by a company called Palaris that demonstrates the percentage of methane in the seam. So if you have a look at page 7 of 28 of the Palaris report within our amendment report, it's got a very good plan there that shows how much methane is within the seam.

PROF FELL: Yes. That was reproduced in the assessment report. It was a very helpful thing.

PROF BARLOW: Could I ask a question related to that. Are those – or what is the relationship with the actual depth of the Hoskissons seam in relation to those methane levels? In other words, really, the question is are the methane levels related to greater depth of the seam at that point?

MR ELLWOOD: Yes. So our mine runs, effectively, along strike, so the most shallow portion of the mine is on the eastern side and the deepest portion is on the western side. So there is a little bit of a relationship between methane and depth of

cover, but it's not – you know, it's not conclusive, if that makes sense. There's a smaller – like, there's a smaller area of 30 per cent methane on the eastern side in longwall 205 and then a full longwall block, effectively, on the west end side. So there is a relationship, but it's not – anyway, it's not perfect.

PROF BARLOW: Thank you.

MR FLYNN: Thank you. It's also interesting noting, also, Professor Barlow, along that singular line it's interesting that the methane concentrations of the north area of the mine, even that depth don't exhibit the same sort of concentrations that the areas in the south seem to, which, as you say, seem to have some relationship with depth of cover in that area, but the north didn't present the same phenomenon. In fact, it's been very, very low methane existing in the northern end of the mine, and you have the same depth of cover.

PROF BARLOW: And the - - -

PROF FELL: What proved fascinating for us was the high carbon dioxide content, because, of course, the same seam mined by Santos has got quite low carbon dioxide by comparison.

MR FLYNN: It's interesting and fascinating, I think, Professor Fell, although, I'd have to say, from our perspective and a risk management perspective, if you have to have either of those two gases – and that's putting aside the obvious differences that they have from a greenhouse gas perspective in terms of their impact, operating in a gassy mine you would rather operate in a CO2 gassy mine than a methane gassy mine.

PROF FELL: I accept that.

MR FLYNN: Happy to have those low levels of methane in there, regardless of what Santos want to do with it to the – and the lands adjacent to us So if there are no further questions, I might just move onto a couple of these remaining slides.

PROF O'KANE: Sure. Thank you.

MR FLYNN: .....

PROF FELL: I just have one purely – almost academic question, and that is relationship between electrical conductivity and total dissolved solids and, in fact, that's been assumed, I think, in the EIS it would be point 6, whereas DPIE and other groups have, sort of, said, "Well, maybe that's not quite right for a highly carbonated solution". That would push up, as I understand, the predicted PDS, and I'm just wondering what that does for your salt balance and various other things?

MR ELLWOOD: I'll jump in there, Paul, if that's all right. We're happy to go back to our water modellers and just ask that question of where it's come from and, yes,

come back to you, if that's all right, because there is some review that'd have to take place there to see what DPI know what they're - - -

PROF FELL: Thanks. Sorry to do that.

MR FLYNN: Not at all. I might just move onto a couple of the other areas, biodiversity, in particular. Narrabri will work through the requirements to satisfy the biodiversity credit requirements under a number of methods outlined to you. This process is managed, as you know, under the Biodiversity Conservation Trust. From discussions with the trust, we understand the BSAL is, in fact, not their primary consideration when considering oxygen requirements.

Notwithstanding that, we will not seek to include BSAL in biodiversity offset areas that we would propose. On the contrary, in fact, we found that other areas which generally do not have BSAL characteristics in them actually become more effective offsets under the credit scheme itself.

And, lastly, on rehabilitation, I think the virtual site tour covered areas of the existing mine that were in various stages of rehabilitation. Our approach is to rehabilitate progressively pad by pad as infrastructure is decommissioned as the underground mining progresses. We've seen very good results from this approach, and you will have seen some aspects of that in the two and various stages of development.

The progressive rehabilitation approach is consistent with New South Wales Government's rehabilitation reforms introduced last year, and the department's recommendation condition B61 requiring progressive rehabilitation of the mine as soon as reasonably practicable following the disturbance is consistent with where we want to go.

Any future care and maintenance of the mine does not absolve us of our responsibilities to progressively rehabilitate the site. We are well-versed in the practice of care and maintenance. With our smaller open cuts, our Sunnyside Mine was on care and maintenance for a number of years before being reactivated and, in fact, is well and truly into its final stages of its rehabilitation phase now, and we also have our Rocglen smaller operation well entrenched now in the rehabilitation phase. So we understand what the obligations are, but certainly care and maintenance does not absolve us of our responsibilities across the site during the period of care and maintenance.

PROF BARLOW: Just one question back to, you know, rehabilitation, and it's a – really just a question of interest. You mentioned in our site tour that you just showed in that slide yesterday that you do move – when you rehabilitate particular sites, you move the, you know, the remnant logs that you'd ..... back on there and the comment was made during our ..... flyover that they were good for regeneration, but also they were good to restrict access. Who has access to the – those rehabilitee, you know, areas within your mining lease?

MR ELLWOOD: I can jump in there, again, Paul, if you'd like.

MR FLYNN: Thanks, David.

MR ELLWOOD: Yes. So a majority of our active mining areas is just covered by our – is covered by NCO only, so there's no other access, but there are areas in the – in our southern part of our mine which are actively leased out to local landholders where we are doing exploration and do drilling down in that area, but we don't have sole control over it, and we've got graziers and those sort of landholders working in those areas, so there are some areas of the mine where we don't have sole access over the area.

PROF FELL: Yes. A supplementary, if I might, and is that the reason you talk in terms of your rehabilitation of bringing some of those and, presumably, it's – those are the areas you're thinking about, as well as some of the northern areas we saw in the flyover, back to grasslands, rather than woodlands. So, you know, their original – well, in this phase of their geological life, what their native vegetation was?

MR ELLWOOD: Yes, that's correct.

PROF FELL: Thank you.

MR FLYNN: I might get onto the question now of the VPA, and although we've been hampered just with the timing of local elections and so on in – during the latter end of 2021, we have devoted significant time to the development of discussions and an agreement – potential agreement with both the Narrabri and Gunnedah Shire Councils, so certainly not just more recent times. We've met with them on multiple occasions and, most recently, on the 21st of January to provide them with an update on the proposal.

And so, Professor O'Kane, you asked me earlier about this before. I mean, as you understand, this is a complex area of VPAs with not often firm guidelines to help you in the negotiations of this. We believe we've offered a very significant amount of money for what is a life extension of an existing asset, and which, you know, there's very little incremental demand on the councils themselves.

Just from a history perspective for you, well, you'll understand locationally the projects are solely within the Narrabri Shire Council's LGA, but from a history perspective the Narrabri VPA – previous VPAs have been directed entirely to the Narrabri Shire Council. Despite the fact that roughly about – of those people who live in the local region, they're split, you know, roughly equally between the two LGAs in terms of where our employees who live in the region reside.

Having said that, that's not the only way in which you'd seek to allocate this, and there'll be – and I'm sure that the councils themselves would have other perspectives on this. We have looked at the traffic movement, which includes not just people in and out of the site going to and from work, but also the traffic movements associated

with deliveries, importantly. That does favour the Narrabri side of things in terms of where our major deliveries are coming from, it would appear.

And so that lends itself to that 60-40 split which has been used to arrive at the split you see on the screen there between the two councils. Now, it's – as I say, it's a complex area, but we think this is quite a significant VPA, considering the brownfields nature of the development we have here, and I hope that little bit of history for you helps in your consideration of these matters.

PROF O'KANE: No, it does help. Thank you. I just wanted to raise it, since we'd had it this morning and, you know, we do note they are voluntary planning agreements.

MR FLYNN: Yes. Well, the proponents often feel that that word doesn't get focused on very often, but we acknowledge the impact that the existing business has, and as a life extension, you know, those impacts will continue to occur and, of course, the benefits of our presence, as I've outlined earlier in our discussion today, don't often get referenced in these negotiations, but we think it is – it's a significant offer. We've split it on the basis of traffic movements in the absence of any other guidance as to how else to do it. We acknowledge that Narrabri has all the benefit of the previous VPAs but we also ..... many of our people, also.

PROF O'KANE: ..... timing - - -

PROF FELL: ..... sorry.

PROF O'KANE: You go.

PROF FELL: Your earlier slide, actually, suggested in terms of salary earnings that Gunnedah was more important than Narrabri.

MR FLYNN: Across our whole business, Professor Fell, that's true. Across our business. Not in relation to Narrabri in particular. In fact, Narrabri is slightly higher if you look at the Narrabri project on its own, but if you look at our business as a whole across the Gunnedah basin - - -

PROF FELL: Right.

MR FLYNN: - - - Gunnedah definitely has the benefit of those extra wages in its footprint, but they would also say then has the larger impact in terms of council's need to service the needs of those inhabitants.

PROF FELL: I agree it's a very complex problem to model.

MR FLYNN: It is fraught.

PROF O'KANE: And in terms of timing I think it's in the material, and I've just forgotten for the moment, what – when would you start the VPAs for ..... the new version for the council and the one – the new one – the one for Gunnedah which is new.

MR FLYNN: David, can you take that.

MR ELLWOOD: Yes. So what we proposed to the councils is that we would split the VPA payments into two portions. The first portion would be paid within 12 months of commencement of the operation and then the second portion would be paid 24 months after commencement of the operation. So all payments would be made within the first two years after the project commences.

PROF O'KANE: Great. Thank you. And just one other question. Narrabri raised the question of suggesting a waste policy, and I just wondered – I assumed you actually probably had one for the site.

MR FLYNN: Yes, we do. Any particular aspect of that, Professor O'Kane, that they were mentioning?

PROF O'KANE: They – my colleagues might have a better idea, but I got the impression they were worried about things like tyres and things, and we do know that most of – you use the train most of the time, but - - -

MR FLYNN: That's right.

PROF O'KANE: You know, I think it was, sort of, general mess onsite.

MR FLYNN: Okay. Well, we certainly have – we're certainly subject to all existing regulations in terms of that disposal of hazard waste and so on that you would normally have with, you know, a mine.

PROF O'KANE: We asked them a bit about that, and they said no, no, it was other waste.

MR FLYNN: I'm not aware. Certainly tyres are not an issue at Narrabri generally. I mean, as you rightly point out, we convey all our product to market via rail. Tyres generally are an issue with the undergrounds, just in terms of what to do with used tyres, but with our – with our open cut, sorry, and our underground mind just doesn't have the same issue in that regard.

PROF O'KANE: I don't know, Chris or Snow, if you think there was more to it than this?

PROF FELL: They certainly took out of the equation waste from mining, for example. It was primarily just operating wastes, I'll call it.

PROF BARLOW: Standard waste. I think the tyres might have been a major effort. For example, how would you – you know, clearly, you don't have the big tyres of an open cut, but you would have a lot of vehicular tyres that at some point would wear out. Where would they be disposed? Onsite or offsite in a registered disposal areas?

MR FLYNN: David.

MR ELLWOOD: We don't dispose of any tyres onsite. They're disposed of offsite either via the consultant or contractor that supplies us with the vehicles or directly with our waste contractor.

PROF BARLOW: Thank you.

PROF O'KANE: Thank you. Look, I don't see it's a gigantic issue or anything. It was just they did raise it and I thought since we were seeing you it was a good chance to bounce it past you. Thank you. So - - -

MR FLYNN: Thank you. So that brings us to the conclusion of our presentation. We feel that we have carefully designed the project to comply with the various requirements and agree with DPIs assessment that this in the public interest to be approved. Nonetheless, we recognise that there'd be some residual areas that may be of concern to some other stakeholders, and we request that to the extent that there are other matters that arise during the remainder of the determination process, particularly for matters that may be material for decision-making in that process, that Whitehaven be made aware of those matters and given opportunity to respond and/or provide clarification.

Similarly with the IPC, if the IPC considers that there are any changes to the department's recommended conditions that are required, we also respectfully request the opportunity to review any proposed changes and comment on their workability, but thank you very much for your time. We look forward to the IPC process – with the hearing process and we're ready to assist with any further information that may be required. That's the formalities of our presentation over, so I'll hand it to you, Chair, for any other questions that you may have stored up until the end.

PROF O'KANE: Well, thank you, and I'll double check. I don't have any further questions. Snow, Chris, do you have any? Chris?

PROF FELL: Yes. I just raise the economics question. There has been – and there have been a number of comments along the lines if charges were made for greenhouse gas emissions, what effect would that have generally, and I guess my first question would be the department has come up with the potential condition which does require you to meet certain standards and has suggested possibly that offsets might be required beyond that. I'm also conscious that if the government were to change the Labor party has indicated that one of its steps would be to change, possibly, baselines over a period of time which would require offsets. I'd just like a

comment from you about the profitability of the mine generally under these conditions.

MR FLYNN: Well, it's a complex area, obviously, Professor Fell, and it's a little hard to comment specifically in relation to something that's such a broad area right now. I mean, of course, the competitive position of the mine would be impacted to the extent that there was a carbon price, but to the extent that it happens to all your competitors at the same level, it would be interesting to see what the impact of that would be. The areas that we focus on a lot is the emissions reductions policy intentions of our customer's economies.

Our scope 1 and 2 emissions, in particular, are obvious, because we publish those every year, as we must, and, as I've mentioned, we've made some good headway on 2 and we continue to work on 1, as well, but our customers use of our coal is something we very much focus on, because a change in their jurisdiction in that regard would be most important to us in that sense. So we note the comments that have been made in writing to the IPC in relation to the economic evaluation of the benefits to the state, and we certainly will be responding to that formally with our written submissions, but we watch this area very closely, of course, and, as I mentioned earlier in the presentation, we're very much minded to look at opportunities for reducing our emissions at the scope 1 level, and I mentioned the example in the scope 2 level where we will in this next year reduce that between 10 and 11 per cent, in particular, which is great.

PROF FELL: That's helpful. Thanks.

PROF O'KANE: Snow, anything?

PROF BARLOW: Yes, I do have a question. It's more of a technical question, again, relating to greenhouse. It's in the Palaris report various technologies for, you know, basically, converting low concentration methane to, someone said, to ..... and in that you work through the numbers for flaring where you could flare and, you know, the result was something like about three per cent, I think, one million tonnes out of 30 million tonnes could be of interest, but there was another technology which was mentioned which was less expensive, but to use low – that was adapted to low concentration, and I think flaring, but there was not – there didn't seem to be costs about to the extent of how effective it might be and how effective it might be of reducing the overall emissions from the mine.

MR FLYNN: David, are you able to take that one on board?

MR ELLWOOD: Yes. We'll have to go back and look at it, but certainly flaring is the cheapest and most cost-effective way of reducing our greenhouse gases. Anything else that Palaris did review are generally in the, sort of, very early stages of the technology, and so do have a fairly hefty price point associated with them, because they're not widely used in Australia.

PROF BARLOW: Thank you - - -

PROF O'KANE: I'll ask a follow-up question on that. Of the various technologies that are, sort of, emerging around this, are there any that you're particularly pleased to, sort of, see, or be tracking particularly hard?

MR ELLWOOD: I think – I mean – as our conditions say, we will continue to investigate and implement any changes in technology.

PROF O'KANE: Yes.

MR ELLWOOD: But, you know, in – methane enrichment, where the ability to be able to extract that – separate that methane out from the gas stream and then be able to burn it as a discrete gas is something we'll be following fairly carefully over the life of this mine. Outside of that, we think that's probably got the greatest ability to be able to have some impact to the mine.

PROF BARLOW: I guess – I recall, actually, just another of my questions. The second technology was a gas-stripping technology, which would achieve what you were just talking about.

MR ELLWOOD: Yes. So I'd have to check the numbers, sorry, Professor Barlow, but I didn't believe that it would be ultimately cheaper to – I think what it was was it's an additional cost on top of flaring. So if we were able to extract the methane from the gas stream, we would then have to still combust it to reduce our greenhouse gas emissions. So the cost of flaring units would still be worn by the mine and then the additional cost of the methane separation would also have to be worn, as well, but we do note that those units aren't operating anywhere in Australia or in any coal mines in Australia, certainly, and it is in its infancy as a technology.

PROF FELL: Can I just make the comment I thought your consultant's report in this area was very useful, and there have been attempts to combust the methane even from mine ventilation air, but they seem to have gone out the back door with time through costs and utility. As I say, that was a useful report and we certainly read it with interest.

MR FLYNN: Thank you for the feedback.

PROF O'KANE: All right. I think we're probably there. Thank you very much. That was good and for the very frank discussion on things and your willingness to take a couple of things on notice to come back with. You've request, I think, what is it, 30, 40 minutes for the hearing; is that right?

MR FLYNN: Yes.

PROF O'KANE: And we'd be very happy with that. So we'll confirm that in writing.

MR FLYNN: Very good.

PROF O'KANE: So thank you again and, as I said, thank you for the site inspection the other day. We found that very useful, and we'd be interested when the whole process is over to get your formal feedback on that, on our guidelines and things. Things that we could do to improve, because we're looking at moving to that, in a wider sense. Thank you.

MR FLYNN: Thank you, Commissioners, for your time and we appreciate the opportunity to present today.

PROF O'KANE: Great.

MR FLYNN: Thank you very much.

MR ELLWOOD: Thank you.

PROF O'KANE: See you next week.

MR FLYNN: See you then. Thank you.

PROF FELL: Cheerio.

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