

PROF R. MACKAY AM: Good morning and welcome. Before we begin, I'd like to acknowledge the traditional owners of the lands on which we are meeting and would like to pay my respects to their elders past, present and emerging. Welcome to the meeting today to discuss the application for the Tahmoor South Coal Project, state significant development number 8445. My name is Professor Richard Mackay and with me is my fellow Commissioner, Professor Chris Fell AO and we form the panel appointed to determine this application. Joining us from the Office of the Commission – Lindsey Blecher and Kate Moore. 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.

The meeting is one part of the Commission's decision-making process. It is taking place at the preliminary stage of this process and will form one of several sources of information upon which the Commission will base its decision. The meeting has been requested by the Commission panel to enable the panel members to ask questions and to clarify aspects of the application. It is not an opportunity for any party to make a presentation or to make submissions to the panel. Submissions are welcome from any party but through a separate process. Meeting participants are asked to keep the introductory remarks brief and to respond directly to the commissioners' questions. In addition to the pre-advised themes and questions, the commissioners may ask additional questions of attendees and if you're asked a question and are not in a position to answer, please, feel free to take the question on notice and to provide any additional information in writing which we will then put up on our website.

To ensure the accuracy of the transcript, I request that all members today introduce themselves before speaking and every time they wish to speak just by saying your name and for members to ensure that they don't speak on top of each other and I just note before commencing the remarks and questions that the Commission inspected the site yesterday and was guided across the subject site by the representatives from the applicant with a community representative from the National Parks Association in attendance and during that presentation we – the Commission was provided with a number of documents including the Thirlmere Lakes track bush tracker's guide, a brochure on Thirlmere Lakes hydrology by the University of New South Wales, the SIMEC resident information pack, an example of a pre-mining inspection report template, current Tahmoor Coking Coal Newsletter February 2020 and a copy of Guidelines – Processes for Claiming Mine Subsidence Compensation.

So all of those documents will be added to the material that's on the Commission's website and could I invite the representatives from Tahmoor Coking Coal, please, to introduce yourselves and then we would welcome some introductory remarks. Thank you.

MR P. VALE: Thank you very much, Professor Richard. Look, my name's Peter Vale. I am the head of coal mines for SIMEC Mining. I've been at Tahmoor for 34

years all up. I live locally, obviously have a long history of association with the mine. With me is Zina Ainsworth. Zina, if you could just introduce yourself.

5 MS Z. AINSWORTH: I'm the environment community manager at Tahmoor Mine.

MR VALE: Charlie Wheatley.

10 MR C. WHEATLEY: Yes. G'day everyone. I'm the project director and been working on the Tahmoor South Project since SIMEC GFG purchased it almost three years ago.

MR VALE: And also maybe, sorry, slightly offscreen is Nicole Armit.

15 MS N. ARMIT: Yes, hi everyone. I'm with E&M Consulting performing the role of lead consultant. I was involved in preparation of the EIS and the amendment report.

20 MR VALE: So, Richard, we did send through a short presentation a few – a little – short time ago. I don't know if you want us to share that from our screen or whether you'd like to share that from your screen or whether you'd like us to just talk through it.

25 PROF MACKAY: I think it would be preferable that you share from your screen and happy to go to it interactively in response to the Commission's questions or whatever works best for you.

MR VALE: Yes. It's just a brief introductory presentation and then we can get into the questions and the like if that's okay.

30 PROF MACKAY: Absolutely fine.

MR VALE: Okay. So can you see that presentation okay?

35 PROF MACKAY: Yes, we can. Thank you.

40 MR VALE: All right. So we – it's a very short presentation. Just a brief history of Tahmoor Coal, a bit of about project evolution and then we can get into the discussion. So SIMEC is a member of the GFG Alliance which is owned and operated by Sanjeev Gupta and his family. The key purpose of GFG is to create a sustainable future through industry for our society. Fundamental to this is our
45 ambition to be carbon neutral by 2030 and a leading manufacturer of green steel which has commenced with the Whyalla Transformation Project with the ultimate ambition to reduce emissions by using hydrogen to produce green steel. The Tahmoor South Project bridges the gap by keeping staff employed, supporting Australian manufacturing whilst GFG explores new technologies in steel making.

So Tahmoor Coal itself began underground mining in the Wollondilly Shire more than 40 years ago. It was purchased by GFG Alliance in 2018. We are one of the largest employers in the Wollondilly Shire and a very proud member of the community we operate in. We have strong support from the community and strong
5 links with our community including the Wollondilly Council who we partner with on a number of projects and we have longstanding partnerships with other community members such as the Community Pantry, the Wirrimbirra Sanctuary and The Riding for the Disabled. We employ around 400 people directly with about 45 per cent of them living in the Wollondilly Shire. Our staff are well-ingrained in the community.
10 An example of this was in 2018 when during a seven-week plant outage we maintained the employment of all of our employees and put them to work on community projects right throughout the community.

We produce up to 3 million tonnes of coal. Out of that we produce a hard coking
15 coal product for steel production. Our coal is transported via rail to Port Kembla for domestic use at BlueScope locally and also at our Whyalla operation and also for export sales. Our approved operations are anticipated to be completed in Tahmoor North by 2020. The Tahmoor South Project is about extending the operation for a further 10 years using established site operations, the same mining processes and
20 equipment and the extensive experience of the site leadership team. Work on this project commenced in around 2011 with numerous amendments being made based on feedback from the community, government agencies and technical studies to achieve the current best balance proposal. The key to those amendments was the shortening of longwall blocks to longwall mining from the metropolitan special area
25 prior to submission to the EIS.

Also prior to the submission of the EIS, longwall 102B was shortened to avoid mining beneath the four identified highly significant Aboriginal heritage sites. Since
30 submission of the EIS there have been two further amendments to the project which involve changes to the mine design and layout, a reduction in the longwall height and weight to reduce subsidence impacts, alterations to the REA design and the footprint of the vent shafts to reduce and avoid impacts to identified threatened species and communities. The key amendments to the mine plan are on the next slide and there's
35 a summary on slide 9. So as I said, the key amendment since the EIS submission has been changes to the mine plan itself with a reduction in extraction height down to 2.6 metres and width down to 283 metres to be consistent with our current operations in Tahmoor North.

There's been a change in configuration which can be seen in the middle plan there to
40 two series of shorter panels as opposed to the plan on the left-hand side which had longer panels. We also removed a longwall, longwall 109, and then later removed longwall 107B and 108B as part of a second amendment to dramatically reduce subsidence effects on the township of Bargo. This is all in addition to the shortening of panels prior to submission of the EIS to avoid mining beneath the city drinking
45 water catchment and the four identified highly significant Aboriginal sites. So, as I said, there's a summary of key amendments. It wasn't our intention to go through

these but just to provide those and we're now ready to get into the questions if you would like.

5 PROF MACKAY: Thank you. That's very informative. We have quite a number of questions and we are hoping to conclude at 9.55 so we are very happy for you to provide brief and succinct answers to the questions and we can ask supplementary questions if necessary. So feel free to be quite direct. I should also say, we will post the PowerPoint presentation that's been provided on our website after this meeting. I'd be grateful if you could provide some comments about the response of the mine to the reported subsidence impacts and bore drawdowns associated with the operations at Tahmoor North, please. We're particularly interested in the response time and the process for resolution of those issues.

15 MS AINSWORTH: Sure. This is Zina speaking. So Tahmoor North's operations commenced in 2004. The vast majority of claims – compensation claims in Tahmoor North were processed under legislation that was passed in 1961 which is very different to the current system. So back in 1961 when the legislation was passed there was no longwall mining operations which came into play in the 1970s and the legislation was setup for bord and pillar mining. All claims in the previous system were managed by project repair by the Mine Subsidence Board. It's now called Subsidence Advisory New South Wales. Claims were assessed by the board and there no legislated timeframes. The handling of those claims was solely the responsibility of the board. The legislation regarding compensation claims changed with the introduction of the Coal Mine Subsidence Compensation Act 2017 which was enacted in 2018.

The legislation brought in a monetary compensation model, allowing for the claims to be processed with clearly defined timeframes for each stage of the process. So from 2004 to 2017 claims were managed by the 1961 legislation. All claims for Tahmoor South will be managed under the new legislation with strict timeframes enforced. The legislation calls to the approved procedures of the guidelines for claiming mine subsidence compensation. So that was the last document that you mentioned was handed out yesterday. So that's the subsidence advisory approved procedures. In that document there are four pages detailing the exact timeframes for each step in the process. We adhere to those timeframes. The process is managed by Subsidence Advisory New South Wales and uses a technical panel of independent experts to assess the claim and determine the compensation.

40 So for example of timeframes in the new legislation for safety and serviceability issues Subsidence Advisory must respond within 24 hours of notification and then, if required, works addressed within 14 days. Another example is when the assessment of the claim is undertaken, the timeframe of determination is said to be three months. So that's an overview of the claims process. Specifically with bores – yes, bores were mentioned. So in Tahmoor North there have been two bores to date that required implementation of make good measures. One was managed by Subsidence Advisory under the old legislation by the lodgement of claim and a new bore was installed at the property. While that bore was being installed water was supplied to

the landholder. The second bore is being compensated with ongoing supply of town water.

5 So the groundwater model predicted 72 bores would be drawn down more than two metres and the fact that only two bores have required make good measures over the life of Tahmoor demonstrates the conservative nature of the groundwater model and the two-metre impact consideration by the Aquifer Interference Policy. So just because a bore is drawn down two metres doesn't necessarily mean that there's impacts.

10 PROF MACKAY: Okay. And thank you, Ms Ainsworth. Could I just ask a quick supplementary. Have there been any substantive non-compliances with that procedure in Tahmoor North since 2017?

15 MS AINSWORTH: No.

PROF MACKAY: No. Thank you. If I could move on then, during the site inspection yesterday we had the benefit of seeing some of the remedial actions that were taken in response to subsidence. Would you be able to tell us a little bit more about the ongoing management of subsidence and learning from the experience the adaptive management that might have – well, that is being applied in terms of improving the response techniques as you go.

25 MS AINSWORTH: With subsidence claims?

PROF MACKAY: Well, with both subsidence claims and with the repair of cracking in the creek beds for example.

30 MS AINSWORTH: Okay. So if I can just deal with subsidence claims. One of the important aspects of the claim process is the pre-mining inspection. So an important part of the consultation with landholders is to advise of the free service for a pre-mining inspection so that it's clear on the condition of the property prior to mining. Another aspect is the surveying of the structure itself. So over time we have – we do significant monitoring of subsidence of the land and further to that we do specific monitoring of the structures itself as well.

PROF MACKAY: Thank you. I think Professor Fell has a question.

40 PROF C. FELL: Yes. Just to do with how you actually manage anomalies in subsidence. You have monitoring methods and if you observe something strange happening how is that handled?

45 MR VALE: So I think we have a process, as Zina explained, of measuring and monitoring. There's some key bits of infrastructure that we use there. There's some alarms that are sent to not just people onsite here but people offsite in the – in the case of, firstly, the initiation of subsidence that we say initiates us starting our process of measuring and monitoring and then if we see any types of anomalous

5 results alarms are sent through to individuals who can then initiate any sort of response. So it's a well-established process that we have. We use that for a number of different aspects. So general subsidence monitoring, monitoring of creeks and streams, monitoring of the rail, in particular, which we mine beneath and the system that we use for the rail.

10 PROF MACKAY: Thank you, Mr Vale. Could you, perhaps, just give us a very brief explanation. I mean, obviously, something like the Main Southern Railway line is a potential concern. So perhaps just a little bit more detail on the process used for that urgent monitoring response in relation to the railway.

15 MR VALE: Yes, sure. So we initiated a mining beneath the rail in around about 2006, I think. We have since mined a significant section of track in Tahmoor North. As part of that process we developed what has since become award winning technology whereby we split the track – so we have sort of overlapping fingers in the track so that if there's movement in the track either through subsidence or either – or through temperature differences, we can monitor that. So we have real-time monitoring which is sent through to our control room here at the site. That real-time monitoring has alarms on it. So if we see any sort of movement, it tells us straight away whether there's movement there and if there is any movement and we need to do any remedial work, we can undertake that straight away.

20 So, as I say, we've been doing that now for around about 14 years, I think, and we have maintained safe serviceability of the Main Southern Railway between Sydney and Melbourne throughout that entire period. It's – as I say, it's award winning technology and we're very proud of it.

25 PROF MACKAY: Thank you, Mr Vale, and could I just – I'm guilty myself as well but could I just remind each of us to say our name as we commence - - -

30 MR VALE: Sorry.

35 PROF MACKAY: - - - speaking. It will make the Auscript job so much easier. Professor Fell, do you have any other supplementary - - -

PROF FELL: No. I'm right, thanks.

40 PROF MACKAY: Thank you. It's Richard Mackay. We had the benefit of inspection some remediation works at Myrtle Creek and Redbank Creek in the Tahmoor North area yesterday. I'd like to ask though how did the actual subsidence events that took place there compare with the modelling that was done pre-mining. In other words, was there an alignment correlation between what was predicted and what occurred or was there a variance, please?

45 MS AINSWORTH: It's Zina speaking. So there was significant analysis prior to mining and the impacts were comparable to the pre-mining analysis of impacts.

PROF MACKAY: Okay. Any supplementaries? No. I think, Professor Fell, you've got some questions.

PROF FELL: Thank you. Chris Fell speaking. I've got a question about
5 greenhouse gas emissions. Now, I note that the company provided responses to the
department last year. In fact, that's RF2 and RF3 in the department's website index
and you gave updated data for Tahmoor North and also predictive data for Tahmoor
South. Now, when I use the efficiency factor that you've defined, that is, tonnes of
10 CO2 equivalent per tonne of saleable coal that's primarily used in the EIS and later
versions and I find that for these new figures the calculation gives me parameters that
lie very much in the top part of the plot for Australian underground coal mines.

Now, when I look further – well, you claim that 31 to 38 per cent of the methane is
15 captured. When I look further at the new information in RF3, I find that there is a
great deal of greenhouse directly vented to the atmosphere and I just wonder why the
use of flaring and, of course, capture by the power plant is not more common to try
and reduce that level of greenhouse gas. What would be a reasonable target
assuming you attempted to both maximise the use of greenhouse – of methane and
also minimise the atmospheric release of greenhouse gases?

20
MR VALE: So I think in general we would say that we do try to maximise the
capture of gas through the mining process. We do that for a number of reasons. We
maximise the capture primarily to reduce the overall gas content of the coal that we
mine to a safe level for mining. We capture that gas through our gas drainage
25 program. We then pipe that gas to the surface through our gas extraction plant and as
you said, we then use as much of that as we can to generate electricity and flare the
rest. There is, however, a residual that we can't capture through gas drainage and
that's the – and that's what comes out as the emissions – the secondary emissions.
So look, we will take that question on notice and provide a more detailed written
30 response if that's okay but in general we try to maximise what we capture through
gas drainage and even ghost drainage – so post-drainage capture is – sorry – post-
mining capture as well.

35 So we try to maximise what we can there, but there is a residual that makes its way
through the ventilation streams and is vented through the ventilation streams. In
general, that is – that comes out in very low concentrations so it's quite difficult to do
something with it. So low concentrations like .25 per cent but, as I said, we'll
provide a more detailed written response if that's okay.

40 PROF FELL: That would be very helpful. I'm interested particularly in the use of
flaring to which you reduce the greenhouse impact.

MR VALE: Yes. Look, as I said, we try to maximise the use of, firstly, the power
45 generation plant that we have onsite. For us that's the most efficient use of the gas
that we can capture. We can then produce electricity which can be reused back in the
site and reduce our impact on external electricity sources and then, as I say, the

residual from that is flared. So everything that we capture is either sent through the power generation plant or flared.

5 PROF FELL: Sorry, just on that point, the figures you provided suggest the bulk of it is vented rather than flared. I was just interested in that - - -

MR VALE: Yes.

10 PROF FELL: - - - observation.

MR VALE: Again, of what we capture in our gas drainage system we use for power generation or flaring. The residual through the mining process that makes its way into the ventilation system is vented as part of the ventilation system.

15 PROF FELL: Okay. So this vented component then is strictly from the use of ventilation in the mine?

MR VALE: Yes, yes. That's a fair description for it.

20 PROF FELL: Thank you.

PROF MACKAY: Professor Fell, have you got further questions about the greenhouse gas emission?

25 PROF FELL: No. Look, I'm happy about that. We're getting more information as I understand.

MR VALE: Yes.

30 PROF MACKAY: Well, thank you and it's Richard Mackay. Could I ask that that information also make some comment on the relative emissions between use of the methane for power generation and flaring. I think when we were on the site visit yesterday it was explained to us that the three different flares use different mixes and, obviously, methane that's been burnt is emitting significantly less than methane of
35 itself. So there's actually four ways in which your methane seems to be burnt: one through the power generation and at three different flaring mixers. My question is and I understand it would need to be taken on notice, is that mix currently optimised in terms of the greenhouse gas emission?

40 MR VALE: Peter Vale. As I said, we'll take that on notice and respond.

PROF MACKAY: Thank you. That would be much - - -

45 PROF FELL: Thank you, Richard. That was a very useful expansion of my concerns.

PROF MACKAY: Just moving away from the gas – it's Richard Mackay – could I ask you for a brief explanation of the approach to the existing planning consent. The – our understanding is the existing planning consent relating to the current operations would be relinquished. There would obviously be some changeover arrangements in terms of activation of Tahmoor South. I guess the kind of questions I'm interested in is the staging and whether there would be any expectation of changes to operation – current operations in Tahmoor North as a part of that process, please.

MS ARMIT: It's Nicole Armit here. So, Richard, you're right. There would be some staging of that relinquishment that does particularly relate to the implementation of noise mitigation measures so that the existing consent for Tahmoor would need to stay in place for a period of time while those mitigation measures are implemented. So that's the first point. As to whether there's any changes to Tahmoor North, we might take that question on notice and provide some information on that, Richard, if that's okay.

PROF MACKAY: Thank you. That would be very much appreciated. Okay. I think back to Professor Fell in relation to some EPA licence questions.

PROF FELL: Thank you, Richard. Chris Fell speaking. We note that there's to be a new water treatment plant established. Although the water treatment is not part of this present application, we're rather interested to hear what sort of level in terms of quality this plant will produce, particularly under the environmental protection licence 1389. Will the permeate water meet AZECC guidelines for disposal?

MS AINSWORTH: Sure. So it's Zina speaking. So, as you've mentioned, we do have a PRP. So we are in the final stage of a 22 stage PRP program with the EPA. Specifically with regard to the discharge water, it will be in accordance with the ANZECC guidelines. So we have a timeframe set for – with the EPA for the implantation of the reverse osmosis plant. As part of that PRP, we're on track to be commissioned by October and in the final stage of contract approval. The PRP details the analytes which are in accordance with the ANZECC guidelines and the RO plant will treat the water to the quality of the ANZECC guidelines.

PROF FELL: Thank you for that. Chris Fell again. What will happen to the concentrate from the reverse osmosis unit that I believe is being incorporated now to the water - - -

MS AINSWORTH: Yes. We're currently investigating options for the concentrate.

PROF MACKAY: Sorry?

PROF FELL: Could you tell us a little bit more about that. What sort of options you're thinking of.

PROF MACKAY: Yes.

MR VALE: So there's a range of options. Sorry, it's Peter Vale. There's a range of options that we're investigating at the moment. They range from transporting it underground and storing it underground all the way through to discharge into the sea at a licensed facility. So, again, you know, we're in the process of negotiating that
5 and working out which one is the best option for us but so, you know, we can't make solid commitments to it at this point in time because we're still weighing up our options.

10 PROF FELL: Chris Fell. Thank you. That's helpful. Over to you, Richard.

PROF MACKAY: Right. Thank you. It's Richard Mackay. We – yesterday we visited or looked at three properties where even after attenuation noise levels would exceed the relevant triggers. Would you be able to tell us a little bit about how the noise matters have been addressed in relation to, firstly, to Tahmoor North, the
15 current operation and then what attenuation measures are intended for Tahmoor South, please.

MS AINSWORTH: So it's Zina speaking. So to speak to the noise attenuation measures as part of the Tahmoor South project, so that involves improvements to the coal handling preparation plant and this involves cladding of the building, a noise
20 suppression kit for the ROM stockpiler dozer, restriction of dozer usage at night on the ROM and stockpile area, construction of a barrier around the coal stockpile area and northern section of the rail loop and restriction of the REA activity to the day and evening periods. So this will result in a significant reduction in noise levels at
25 the surrounding residential receptor compared to existing operations. It will reduce noise emissions at all assessment locations compared to existing levels by at least 2 dB and up to 11 dB during the more sensitive night-time period.

PROF MACKAY: Thank you. And I think as – it's Richard Mackay again. As
30 we're all aware, the department's assessment report contemplates a shortening of the timeframe for the noise attenuation measures. Could you perhaps just comment on the applicant's attitude to that, the feasibility of those measures being undertaken in shorter time.

MR WHEATLEY: Yes. Charlie Wheatley here. So the original commitment or the
35 commitment we've made was to make those improvements within a three-year period from project approval. Taking into account the concern and the timeframes in the DPIE assessment report, we've done some further critical review of those timeframes. There is a significant amount particularly with respect to the acoustic
40 treatment for the coal prep plant, the equipment improvements and the conveyor extension with the tripper installation and to complete those particular items – and they are major projects within themselves – there are some significant project management processes that need to be completed such as finalising the engineering designs, the tendering processes, contract negotiations and awarding, procurement of
45 specialised equipment and installation and commissioning.

So there is a significant amount of work to be done. However, in saying that, after doing a further critical review we are able to commit that based on a determination in sort of quarter 4 of FY21 that we would be able to complete those works by quarter 4 FY23. So generally in alignment with the DPIE assessment report's
5 recommendation.

PROF MACKAY: Thank you and could I ask, is there any prospect or consideration of attenuation works that might be offered to – particularly to the three affected receivers? I mean – what I'm meaning is things like baffle walls on their
10 property should they wish.

MS ARMIT: Yes, Richard, it's Nicole Armit here. So the VLAMP process there – so the voluntary land acquisition - - -

15 PROF MACKAY: Yes.

MS ARMIT: - - - process that you'd be aware of. So there's a process there to work to negotiate and discuss those potential measures with the landholder so, Zina, your team would work with those landholders in accordance with that VLAMP process
20 and negotiation process.

PROF MACKAY: Yes. I – thank you. It's Richard Mackay. I'm really asking about in between those two things about somewhere between voluntary acquisition and waiting a couple of years for the other measures to take place. You know, might
25 there be a noise wall erected, for example, should the receivers be interested in such an approach?

MS AINSWORTH: It's Zina here. We would like any residents in the community – we work with them to understand their concerns and work through what possible
30 solutions might be appropriate.

PROF MACKAY: Thank you. Thank you. I'd like to ask now without prying into detailed commercial in confidence matters – and we have had access to the economic data in the public domain – we're mindful of the journey from 2018 to 2020 in terms
35 of changes to the mine, reductions in the longwalls, reductions in the extent but we also note that in its assessment report the department is proposing a further shortening of longwall 103 – 104B in order to avoid a section of Dog Trap Creek. It's not proposing a foreshortening of longwall 103B along Dog Trap Creek and there is some commentary that suggests that removing that additional longwall is
40 right at the threshold of financial viability for the mine. I'd be very grateful if you could comment about the approach to financial viability. How is this financial viability judgment made noting that there's obviously been a journey of, you know, reduction of quantum of extraction between 2018 and 2020, please.

45 MR VALE: Yes, Richard, it's Peter Vale. Look, the overall financials for the project have been assessed all the way through via a valuation model and an independent economic impact assessment. As you've suggested, significant

modifications have been made right through from the EIS through the amendments. As I've mentioned earlier, the changes in width, height, the removal of longwalls, each of those has resulted in a reduction of the run-of-mine tonnages and the product tonnages from the mine which is the ultimate goal that we seek to achieve. It's a
5 reduction of something like 33 per cent overall. I think, you know, if we were to further reduce those longwalls, obviously, it would have further impact. For 103B it would be another 350,000 tonnes. For longwall 104B it would be another 600,000 tonnes. So it would obviously have further impact on the viability of the project overall which would require, again, probably assessment through a valuation model
10 and an independent assessment.

PROF MACKAY: And the basis on which that ultimate judgment is made ultimately comes down – I mean, obviously, there are a huge number of variables including relative values of currencies and going rate for coking coal, but it is
15 ultimately an ROM-driven equation.

MR VALE: In the end, it is. Yes. That is – I mean, we're a coking coal mine. That's our ultimate outcome. Obviously, as we saw yesterday, we've got some – we've got predictions on what the impact may be to those areas and some
20 methodologies that we believe can mitigate those impacts if they were to occur.

PROF MACKAY: Yes. Well, look, to be clear, the Commission has not formed a view on this and, you know, there's a scenario where if the Commission, you know, were of a mind to approve the application, with respect, for longwalls 103B and
25 104B an option would be to approve it as it is or to approve it with the department's suggestion or to approve it with a further condition that affects longwall 104B and we are very conscious of our responsibilities with respect to the environmental, financial consequences of those options we would invite you should you wish to put something further before us in relation to that issue with those longwalls in
30 particular.

MR VALE: Yes. Again, it's Peter Vale and I think we will take up that invitation to provide you with some more information.

35 PROF MACKAY: So there's just a few more questions from me and then I will open up again both to Professor Fell and the Commission officers. We inspected yesterday the areas proposed for both downdraft and updraft shafts and are conscious and acknowledging, again, the changes that have occurred since the original application in 2018 but note that part of the area that's affected is critically
40 endangered ecological communities: narrow and broad-leaved ironbark and grey gum forest. So perhaps if I could just make a few comments and then ask you to respond to those comments. We noted, first of all, that there's an area that's more cleared that's owned by the mine to the east.

45 There's a smaller area, perhaps three and a half hectares, that's Crown land that is less cleared to the west and we're interested in whether both shafts might be able to be accommodated on the area that is owned by the mine. We also noted that that

western – that eastern area is proposed for total clearing but does have some standing trees at its eastern end and yet when the construction works are complete, there don't – there doesn't seem to be any infrastructure plan for that area where the trees would be removed. So we are interested in what options there may be to provide an even
5 more improved ecological outcome with respect to the shaft area footprint. Are there options which could avoid the Crown land or are there options that could avoid the clearing of the standing trees at the eastern end of the land that's owned by the mine, please?

10 MR VALE: Yes. It's Peter Vale. Look, we appreciate the point that you've put to us. There was a considerable amount of work done through the evolution of the project to minimise the amount of clearing that was required for access to and then also for construction and then, you know, final use of those two locations for the vent shafts and, you know, there was a considerable reduction in areas that needed to be
15 cleared as part of that process. But we do take on notice your point and we would like the opportunity, if possible, to between us undertake a further review and provide you with some written information as to the outcomes of that review, you know, rather than trying to put something on the table right now.

20 PROF MACKAY: It's Richard Mackay. Thank you for that. Perhaps two other comments that might inform that response which we would welcome. One is it's fairly apparent from the visit onsite that the Crown land particularly is regenerated forest so if there is information about how old that forest is or whether it was planted or it's natural regeneration or whatever, I think that would be relevant to our
25 understanding of the integrity of this community and it would also, I think, be helpful for us to include an explanation of why the shafts need to be here. We had some understanding from the visit yesterday in relation to Tahmoor North that the shafts seem to push and pull the air a very long way underground and so the question begs itself is there another location with respect to Tahmoor South which would work
30 operationally and have a lesser ecological impact?

So I think not only the practicalities of the geometry but, perhaps, the history of the affected land and the possible operating alternatives if there any. It would be helpful to have that put before us very clearly because it goes directly to a significant
35 environmental impact of the proposal.

MR VALE: Again, it's Peter vale. I think we'll take all that on notice and provide you with a response. You've given us some food for thought there and we'd like the opportunity to review that.
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PROF MACKAY: Okay. Thank you. Thank you. Now could I ask, firstly, Professor Fell, have you got anything further you'd like to ask?

PROF FELL: Thank you, Chair. Yes. I will ask one small question. Other mining
45 sites – the question of coal dust from rail transport is of some concern. Now, you've had considerable experience at Tahmoor North of this. What is your reaction to that?

Does one cover rail wagons carrying coal or is your experience at Tahmoor North one that says it's not necessary?

5 MR VALE: It's Peter Vale. We – as I said, we've been transporting coal via rail from Tahmoor for 40 years. We haven't experienced a great issue with dust from our coal wagons. We do as part of the process of loading water those wagons after they're loaded in order to suppress the dust through the use of onsite water sprays and historically for us that's been sufficient to avoid any issues with coal dust in transit.

10 PROF FELL: Thank you. That's helpful.

MR VALE: Sorry, Zina.

15 MS AINSWORTH: Could I – it's Zina speaking. I'd just also like to add as part of our environment protection licence there is a dust monitoring network and that's monitored on a monthly basis. So there hasn't been any exceedances, generally, with that system as well.

20 PROF FELL: Thank you.

PROF MACKAY: Thank you. And could I just ask, Mr Blecher, do you have any questions that you'd like to ask?

25 MR L. BLECHER: Thank you, Professor Mackay. Yes. Lindsey Blecher here. Just a quick question. In your response to the question on notice regarding greenhouse gases I'd personally like a bit more detail on the different avenues for methane leaving the mine including through ventilation air, through – whether any comes out with the coal itself and is evaporated off the coal or through the extraction
30 system and the proportion of methane which leaves through each of those avenues and even if there's methane leaving through fracturing in strata above the coal seam or anything like that so that we can have a solid picture of the different options for capturing each of those streams of methane leaving the mine if possible.

35 PROF FELL: Just on that – Chris Fell speaking – if you have a methane balance as such that would be very helpful to us.

MR VALE: Yes. Again, it's Peter Vale. I think we'll take that question on notice or both aspects of that and provide a written response if that's okay.

40 PROF FELL: Thank you.

PROF MACKAY: Okay. Ms Moore, do you have any questions?

45 MS K. MOORE: No further questions.

PROF MACKAY: And look, I think I've just got one other questions arising from my notes if I may, please. It's Richard Mackay. Just in relation to the proposal to store mine water in Tahmoor North, I'm just interested in the predicted efficacy of that approach and the potential risks to groundwater. I just provide the applicant
5 with an opportunity to comment upon that. I think that's probably the other major – the only other significant environmental issue we haven't addressed either yesterday through the tour or in the discussions today.

MR WHEATLEY: Yes. So Charlie Wheatley here. So development of
10 underground storage within the areas for Tahmoor North was described in the water management system and the site water balance as part of the project amendment report and I'll feed onto it a little bit more detail from that. Mine dewatering from the project would be pumped to this area if there was insufficient capacity to treat the dewatering stream through the water treatment plant. So
15 around the efficacy of it, water would be pumped into and out of the storage via the existing drift and no new surface infrastructure is envisaged outside of the current pit top area for that to occur. Then at times of lower inflow water could be recovered from the underground storage, treated within the upgraded treatment plant and then released via a licensed discharge point if required.

20 The groundwater assessment also identified that based on the salinity data that is available as mining progresses to Tahmoor South, salinity of the mine dewatering stream is unlikely to rise significantly and may potentially fall slightly. Therefore, the quality of mine dewatering from Tahmoor South is expected to be similar to that
25 of the groundwater inflow to Tahmoor North and as such impacts to groundwater quality due to underground storage are unlikely to occur and furthermore to that, the GOF acts as a groundwater sink, not as a groundwater source so we do not see it to be an impact.

30 PROF MACKAY: Okay. Professor Fell, I think you were indicating you might have a supplementary.

PROF FELL: Not to that particularly. It was a different topic, if I might, Richard.

35 PROF MACKAY: Well, thank you for that answer.

PROF FELL: Yes. Fell speaking. It had to do with the Bargo Waste Management Centre and that was an issue raised, I think, by council and concerns that that would properly handled given the changes that are being made. Could you just brief us on
40 what the story is there.

MR WHEATLEY: Yes. So we've had a number of conversations with the council – Wollondilly Council and we also had site visit between the council and Department of Planning and ourselves as we worked through that process – so after
45 that concern was raised – and we put forward a recommendation for a process which was accepted by the council and by the Department of Planning in relation to setup of a specific technical committee for managing subsidence in that area and that

process is consistent with what we do in other technical areas as a part of managing subsidence and on that technical committee we would have members from the mine, Zina's team, there would be members from the council, there was also a request to have a member from the EPA there, our subsidence engineers, geotechnical
5 engineers and work through the process for the specific items within the Bargo Waste Management Centre for any mitigation measures that would be put in place prior to mining in the area and then for managing that through the active subsidence zone as well.

10 PROF FELL: Thank you. That's informative.

MR VALE: It's Peter Vale. Just to add to that, at the conclusion of that session we had a message from the council that they were – that they accepted that as a response to their concern and they were more than comfortable to move forward on that basis.

15 PROF FELL: Thank you.

PROF MACKAY: Thank you very much. Could I just note for the purposes of the transcript that Mr Steve Barry from the Commission has joined as an observer during
20 the latter part of this meeting. That has been an extremely helpful and informative meeting. Thank you for the responses. Thank you for taking a number of questions on notice. We would – we'll look forward to receiving those responses. In terms of timeframe, there's obviously, as you would be aware, public hearings next week. So if we receive response before then, we will publish them on the website and that is
25 helpful to the process. I simply mention that in terms of if you've got some answers but not others it's worth having the answers that you do have to assist the process and then, ultimately, there is a submissions deadline in this matter and I will ask Mr Blecher to remind me of that deadline, please. It's - - -

30 MR BLECHER: Sorry, Professor Mackay. I don't have it in front of me right now. I can confirm that in writing.

MR VALE: Yes. It's Peter Vale. It's the 24th of February.

35 PROF MACKAY: It's a great sign that the applicant is cognisant of that submission deadline. So, yes. It relates to the – it's seven days after the last of the public hearing dates. So it would be appreciated if you could provide your answers to us by then and we will publish them. Could I just invite if you have any closing statement or comment to make now would be the moment.

40 MR VALE: It's Peter Vale. Nothing specific. We would like to thank you for the opportunity to, firstly, give the short presentation that we did at the start and, secondly, provide the answers that we have been able today. For those that we haven't we definitely will take on notice and it will be our objective to provide those
45 as soon as possible so that they can be given due consideration. Again, thank you very much for your time from the four of us here.

PROF MACKAY: Well, from the Commission's side thank you all very much for a well-conducted tour yesterday, for the information you've provided us today and for your assistance with our evaluation process and I'll at that point thank you and declare the meeting closed.

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[8.55 am]