New South Wales Government
Independent Planning Commission

TRANSCRIPT OF PROCEEDINGS

RE: McPhillamys Gold Project (SSD-9505)
State-significant development of an open cut mine and water supply pipeline

DEPARTMENT MEETING AGENDA

COMMISSION PANEL:	PROFESSOR CHRIS FELL (CHAIR) MS CLARE SYKES DR PETER WILLIAMS
OFFICE OF THE IPC:	JANE ANDERSON OLIVER COPE
DPE & DPE WATER	CLAY PRESHAW STEVE O'DONOGHUE MANDANA MAZAHERI MITCHELL ISAACS TIM BAKER LIZ ROGERS
LOCATION:	VIA VIDEO CONFERENCE
DATE:	12.00 PM, TUESDAY 6 DECEMBER 2022

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PROFESSOR CHRIS FELL: before we begin, I'd like to acknowledge that I'm speaking to you from Gadigal land and I acknowledge the traditional owners of the all of the country from which we virtually meet today and pay my respects to their Elders past and present. Welcome to the meeting today to discuss the McPhillamys Gold Project, that's SSD-9505, currently before the Commission for determination. The applicant, LFB Resources, a wholly-owned subsidiary of Regis Resources Limited, proposes to develop McPhillamys Gold Project, an opencut gold mine to extract up to 60.8 million tonnes of ore and produce up to two million ounces of gold over 11 years and build an associated underground water supply pipeline in Central West New South Wales.

My name is Professor Chris Fell, I'm Chair of this Commission panel. I'm joined by my fellow Commissioners, Dr Peter Williams - hand up - and Ms Clare Sykes. We're also joined by Jane Anderson and Oliver Cope 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 to be made available on the Commission's website. This meeting is one part of the Commission's consideration of this matter and will form one of the several sources of information upon which the Commission will base its determination.

It's important for Commissioners to ask questions of attendees and to clarify issues whenever it is considered appropriate. If you're asked a question and are not in a position to answer, please feel free to take the question on notice and provide additional information in writing which we will then put on our website. I request that all members here today introduce themselves before speaking for the first time and for all members to ensure that they do not speak over the top of each other to ensure accuracy of the transcript. We shall now begin. So over to you Clay.

MR CLAY PRESHAW: Thank you, Chris and good afternoon, everyone. So for the record, my name is Clay Preshaw. My role is Executive Director of Energy, Resources and Industry Assessments at the Department of Planning and Environment. I'd like to start by thanking the Commission for giving us the opportunity to brief you on the Project today, and I will just say now, for the purposes of our presentation, we will – when we say "the Project", we're referring to the McPhillamys Gold Project.

Now, I'll begin with a few brief remarks about the assessment report itself, mainly just to explain how it came together, to explain what it really is, and importantly what it is not, and I will very briefly identify what we believe are the key issues associated with the Project.

I'm here today with my colleague Steve O'Donoghue, Director of the Resource Assessment Team, and Mandana Mazaheri, a Team Leader within that team, along with Mitchell Isaacs, who's the Chief Knowledge Officer from the Department's Water Group, and I understand – yes, Liz Rogers and Tim Baker are also joining Mitchell from the Water Group.

So Steve will provide details on the key assessment issues, particularly focusing on the agenda items. I will say from the outset, if we don't have the answers to your questions at hand, then we will just let you know and come back to you in writing later.

So firstly, some comments on our assessment report, and I would like to start by saying that preparing an assessment report for these types of projects is a very difficult task, and the Report is really only the final piece of a long, comprehensive assessment process.

The assessment report is by no means meant to be the full compilation of all the information that's presented to us throughout that assessment process. All of the key relevant information informing our assessment is publicly available on our website, and can be accessed if necessary.

And so our assessment report is really actually a distillation of all that material, and it's designed to the give the Commission, the decisionmaker, sufficient information to make a determination. Now, I'll say that I'm confident that our Report provides a very good summary of our views about the Project, and we also believe that this meeting and the upcoming public hearing will be important for fleshing out further issues from the community perspective if necessary. So we're happy to take further questions and respond to the Commission in due course.

Now, just a few comments about our approach to the Report. We really have tried to be open and transparent about the issues that are of most concern to us, so if there's something in our assessment that we had to spend extra time on or extra effort, then we hopefully have made that really clear to the reader, and that issue should be emphasised and addressed with sufficient detail in the Report.

Now, just moving on to some high-level comments about how that applies. So this Project – and I won't go into details about the Project, as they're all described in the

Report and the information online, but as you would be aware, the Project contains two elements, the opencut gold mine and the associated infrastructure, plus a 90-kilometre water supply pipeline between Lithgow and the site.

Before I say anything more about the development itself or the key issues, I did want to say that from our perspective, assessing greenfield mines is inherently difficult and inherently complex. So I've been assessing large-scale developments like this for over a decade across all areas of energy, resource, industry projects, as well as some other sort of standard urban regional developments, and in my opinion, greenfield mines are often the toughest. In fact, I just had a look at this recently, and my count, the last time the Department assessed and determined a greenfield minerals mine was back in 2016, and the last time we assessed one and referred it to the Commission was a year earlier than that, in 2015.

So I would add, however, that I think that we probably will see more of these types of greenfield applications in the future. I think there's a growing push to transition towards mineral mining as the mining industry in general gradually moves away from coalmining into the future.

So, now, in relation to the Project itself, it's located in a rural setting, to the north of the rural residential subdivision of Kings Plain, and approximately eight kilometres from the town of Blayney. The project area has been extensively cleared, due to pastoral and agricultural use since the early 19th century, and there has been some mining activities on the site between 1884 and 1967.

The mine site is also in the upper catchment of the Belubula River, which flows past Blayney and private properties down to Carcoar Dam, which is around 26 kilometres downstream. Now, importantly, the proposed tailings storage facility is within the Belubula River Valley and was clearly a key concern raised in public submissions. The mine also includes numerous water storages to contain water and to capture and divert clean runoff around the site.

Now, this is a relatively unique situation that arises, I think due to the nature of this particular type of development, where you have a valuable mineral resource in a fixed physical location that happens to be located in close proximity to those types of surface water resources.

It's probably fair to say that this particular set of circumstances doesn't often occur, and this has been a challenging policy matter, which involved lengthy deliberations with the Department's Water Group about whether there would be a pathway available to allow the mine to obtain the necessary water entitlements, and I'm sure we'll discuss that later in the meeting.

The pipeline aspect traverses a variety of land, including cleared agricultural land, State forest, Crown land, and would require a crossing of roads, rail lines and various water courses, and it also goes across three Local Government Areas – Lithgow, Bathurst and Blayney.

So a couple of key aspects of this Project are, the mine site is close to the Kings Plain subdivision residences, and the design of the mine layout and the management of the mining operations is important to address the impacts on that community. These potential amenity impacts, and the presence of mining operations in a rural area, and close to the Kings Plains community, means the Project has negative social impacts, and these must be weighed against its social and economic benefits. And on top of that, its location in the Belubula River catchment requires careful consideration, particularly in relation to engineering design and downstream impacts on water users and the environment.

So as a result, we've found that there are two keys issues for the assessment – amenity impacts on the Kings Plain community, which is noise, air quality, visual, lighting, as well as just social impacts more broadly; and the second is impacts on water resources, given the location upstream of Carcoar Dam and the potential impacts on downstream users the Belubula River.

We also consider there are a few other important issues, namely, biodiversity, Aboriginal cultural heritage, agriculture, and economics, which we've spent a great deal of time assessing. On top of that, we've assessed a range of other matters, including traffic and transport, blasting and vibration, historic heritage, hazards and risks, human health, and greenhouse gas emissions. You can see from the list that I've just rattled off that this, I guess, demonstrates the difficulty and complexity of assessing a greenfields mine.

Look, at this point in the meeting, I'll probably step away for the most and let Steve and perhaps Mitchell and his team, where relevant, work through the agenda items which you provided to us. And just a note on that – given the order of the items in the agenda, we have sort of tweaked things and we're suggesting that we discuss the

water-related agenda items first to make the full use of the Water Group's time, and perhaps if we finish those off in time, they could depart the meeting and allow us to discuss the other matters, but at this point, I'd probably hand over to Steve.

PROF. FELL: Thank you, Clay.

MR STEVE O'DONOGHUE: Thanks to you, Clay. Just before we get into the agenda items, in relation to the water resources, I can just give a brief overview of the Department's assessment of the water resource aspects. Along with the role input from the DPE Water Group, Mitchell can provide, you know, more details, you know, through Q&A on the type of advice and expertise they provided through the assessment, particularly in relation to water licensing and the assessment of impacts on groundwater and surface water resources, which was also informed by DPE Water's expertise in groundwater and surface water modelling.

Just as an overview about water resources, the Department assessed the following key aspects: surface water quantity, particularly impacts of water take from the Project on downstream users in the Belubula River catchment, above Carcoar Dam, but also in the regulated river below Carcoar Dam; surface water quality, in terms of potential impacts from discharges and seepage from the mine site; groundwater drawdown, including impacts on private bores, groundwater-dependent ecosystems and base flow in the Belubula River; groundwater quality in relation to both during operations and post-mining, particularly related to the final void; and water licensing aspects, which Clay mentioned earlier, being fairly unique to this area, particularly the ability to obtain sufficient entitlement under the Water Management Act for the take of water from the Belubula River above Carcoar Dam water stores, which is the relevant water stores where the mine is located, which is also regulated within the water-sharing plan for the Lachlan regulated river water source.

The EIS and subsequent amendment reports to the Project were informed by groundwater and surface water modelling, with the modelling subject to significant scrutiny from both the DPE Water experts, and also in the case of the groundwater modelling peer review by Mr Hugh Middlemis, engaged by Regis, but also Mr Justin Bell, a groundwater expert that was engaged by the Department to ensure that there was a high level of peer review on the groundwater model in particular.

Out of that, the models were considered fit for purpose for environmental assessment by the experts, including advice from DPE Water, subject to ongoing validation and calibration of the models against monitor data, if the mine were to be approved.

From a water licensing perspective, a key issue for the Project is that there is only limited surface water entitlement, only 264 megalitres within the Belubula River above Carcoar Dam water source, for the take of surface water for the Project, and this is largely related to the take of water from the tailing storage facility, but also need to licence and capture the transfer of clean water upstream of the mine, along with some other mine water storages.

So of the 264 megalitres of entitlement within the water source, Regis has acquired 262 megalitres of the available entitlement. But just looking at TSF, the tailings storage facility itself, at the area of full disturbance, it would capture 1,117 megalitres per year based on an 80 per cent of a wet year, so there's a significant shortfall available in terms of licence entitlement in the catchment, you know, compared to the current available entitlement.

This is discussed in our assessment report, but in April 2022, clause 10 of the Water Management Regulation was amended to include a new subcategory of Specific Purpose Access Licence, or SPAL, that would allow an application under the Water Management Act for an unregulated river access licence for the McPhillamys Gold Mine. That is, the regulation amendment provides a pathway for Regis to be able to licence its take of water in this water source.

So that sets some of the context for the key issues, I guess, or challenges for McPhillamys Gold Mine in that statutory sense. So I can move onto, like, specific agenda items on water resources, or provide opportunity for questions for Mitchell and the DPE Water team, in relation to surface water and groundwater assessments and water licences, or leave that up to you, Chris, if you just want me to move into the agenda items?

PROF. FELL: Steve, thank you very much. Well, the panel has already talked about aspects of water, and I think we'd really, like, perhaps Mitchell to talk us through the licence question. We're conscious that quite a lot of water, 50 per cent, the process is derived from the pipeline, 5 per cent from supernatant, and the tailings dam, but the rest is derived from capture in the local area, and of course the scale is something quite new to us, so if you could explain how that all fits together, that will be extremely beneficial.

MR MITCHELL ISAACS: Sure. Thanks very much, Chris. Like Clay, we've been involved in this Project for some time – I think my first meeting with Regis was in

2014 - and water has been – it's been a really challenging topic for us. And it's – you know, it's high up in the catchment, and it's an inherently water insecure area, is what I would say, is that that area has had generally quite a few challenges with water security. The way our water-sharing framework is set up is that – because water licensing is not integrated with the plans, so the Environmental Planning and Assessment Act doesn't integrate in any way with the water licence, and that's just because volumetric aspect of it but it doesn't make any sense for the government or a decisionmaker to consider it in isolation which is why we spent so much time on the process.

Now, where it is high up in the catchment, it's in the, that particular water or management zone of the Lachlan unregulated water-sharing plan, and it's in a particular management zone above Carcoar Dam. Licences available in that area are very limited. It's just a few hundred megalitres and the way the rules currently are is there's no trading permissible upstream – from the downstream region by catchment, so the availability of water licences in that area is very limited and our regulatory framework is that you either need a licence or you need exemption under the water management Act.

There has been a lot of discussion, and quite technical discussion, about what exemptions were to provide where, and it is a stream – a major stream or a minor stream – and that's been a really highly technical discussion that's gone on for some years, where I see

MS CLARE SYKES: Sorry, Mitchell, I just wondered, I'm not sure if anyone else is experiencing that, but it's sort of fading in and out a little bit. I wonder if you're able to speak a little bit closer to the microphone.

MR ISAACS: I might switch microphones and see if that makes a difference.

MS SYKES: Yes.

PROF. FELL: Thank you.

MR ISAACS: Is that microphone any better?

PROF. FELL: Yes.

MS SYKES: Yes.

MR ISAACS: O.K., brilliant. That's useful. I'm giving a webinar this afternoon to a few hundred people, so it's good to sort that one out now. So was there any part of that you missed and want me to go back over again?

PROF. FELL: I think we've heard enough.

MR ISAACS: You've heard enough? So we've been – I guess you could say we've been having a back and forth and discussion about what exemptions might apply for a number of years, because the actual licences available in that area are very limited, so they've been looking for an exemption.

Then in – was it this year – Steve or Tim, I can't remember, I think it was this year or it might have been last year, I'm mixing up my years, but Minister Anderson of Municipal Lands and Water – it must have been this year, because he wasn't Minister last year.

MR O'DONOGHUE: Yes, it was this year, Mitch.

MR ISAACS: Yes. That's easy, I can count my years by Minister. So Minister Anderson made a regulation for a new category of specific purpose access licence, so a specific – or basically under our framework, if there's – to get a licence, you can either apply for a zero share, or basically an empty bank account for your water, and you can go and take water in, if the laws allow, or if there's water available in the water-sharing plan for general water use, you can apply for licence. All water-sharing plans or our regulations can allow application for a specific purpose access licence, and that's water for, as it says, a specific purpose.

Now, the category of specific purpose access licence that was created as McPhillamys Gold Project, and that means that an applicant anywhere in the State is able to apply for a water access licence for the purpose of the McPhillamys Gold Project. Now, as you can imagine, that's a pretty limited circumstance, and it would only be available to the McPhillamys Gold Project.

Now, they can't actually apply for that yet – well, they can apply, but we couldn't grant one yet, because the McPhillamys Gold Project doesn't actually exist legally, until such time as we think probably there's a mining lease in place. So it's actually the grant of the mining lease we think is the thing that gives rise legally to the McPhillamys Gold Project, which would then allow the assessment and grant of a specific purpose access licence.

Under – where there's risk under our framework is that in order to grant a water access licence, there is still a whole number of tests and consideration criteria to be considered. The most – I guess the highest bar, or the strictest of which is what we colloquially the minimal harm test, and that's a test by which the Minister or delegate can only grant the licence if satisfied there are adequate measures in place to prevent no more than minimal harm, as a result of taking water under the licence. And that's very important – it's only as a result of taking the water under the licence, it's not linked to the other activities associated with what you might then do the water, it's only the taking of the water.

So that's actually quite a high bar test. It's actually quite a difficult test. There's no set rules to say this is what minimal harm is or this is what minimal harm isn't, but it's actually quite a strict test.

Because there isn't actually legally a thing called the McPhillamys Gold Project yet, we don't have an application that we can assess and grant, so to the extent that we want to reduce uncertainty, we can't do that, but we have received, and we've worked with the proponent information that they would or they have told us they would put in a future application for a specific purpose access licence, or what I think they are actually proposing is two different specific purpose access licences for different parts of the Project, and we've reviewed that information – we haven't found any significant barriers or problems with that, but of course we can't better a future decisionmaker, because there are also statutory consultation requirements required as well. Peter.

MR PETER WILLIAMS: Sorry, Mitchell. Sorry to interrupt. I thought it might be the best time to ask the question now rather than come back to it later. That's very helpful, thank you very much, because one of my questions was about an explanation about how the SPALs work. If my understanding is correct, I'm looking at page 61 of the Department's assessment report, and it talks about a number of changes to water policy in New South Wales since the exhibited EIS, and there's a second dot point that says, "Drafting updated trading rules to enable the trading of water entitlements and allocations between water sources, which is yet to be finalised." So that comment

there is specifically in relation to the specific purpose of access licences. Is that correct?

MR ISAACS: No, this is not related to specific purpose access licence. So the four dot points under paragraph 326 is actually taken from a letter that I wrote to the Department on the 22nd of June 2021, which has slightly more information on that. But the Department has been working on, more broadly, trading rules, and how to make it a bit more flexible, because some of our trading rules across the State are quite inflexible, even – probably more inflexible than they need to be in many cases.

So we were looking at updating trading rules - not specifically for this Project, we were looking at doing that, anyway. And there were two ways we were looking at doing that. One was to enable trade up and down from the dam, because right now you can't do that, so you can trade from downstream the dam, you can trade all those bits downstream the dam, and upstream the dam you can trade between each other, but you can't trade across the dam. And the other thing was, if there are different sub-catchments of the big catchment, in this – in many cases, we don't allow trading across those sub-catchments. In some cases we do, but in many cases, we don't, and sometimes it may actually be desirable from a water management perspective for trading to happen – for example, if you've got a particularly sensitive sub-catchment, it might be better for water to be taken from another sub-catchment instead. But this doesn't impact the specific purpose access licence, because specific purpose access licences under our framework aren't able to be traded. They're licences that are granted by the Minister for a specific purpose and are therefore unable to be traded.

So the points are under paragraph 326 are things that we were looking at to try and find a solution to the surface water licensing problem that we had before the specific purpose access licence category was created. So the creation of the specific purpose access licence category has really engaged of the urgency or necessary with respect to this Project for those policy issues, so we were just trying to highlight, these are some things that might help you get there, but subsequently, the new category of licence has been created.

MR WILLIAMS: All right. Thanks, Mitchell. With the specific purpose access licences - - -

PROF. FELL: Sorry, just a question I might – sorry.

MR WILLIAMS: Sorry.

PROF. FELL: Please, Peter.

MR WILLIAMS: Sorry, just to finish that off – sorry, Chris. Mitchell, though you did say, if I understand correctly, that you could have a licence anywhere in New South Wales that could be used for McPhillamys Gold Mine?

MR ISAACS: No. So it's a little bit – so the way it's set up is, there's a category of a specific purpose access licence specifically for McPhillamys Gold Project, or McPhillamys Gold Mine, I think might actually be the word. Technically that could be anywhere in the State, but in reality, it can only be then where McPhillamys Gold Mine is, because otherwise you couldn't make an argument that it was for the purpose, and the Minister or the delegate couldn't be satisfied it was for that purpose.

PROF. FELL: Does that satisfy you, Peter?

MR WILLIAMS: Yes, thanks. Thanks. Sorry, Chris. Thank you. Thanks, Mitchell.

PROF. FELL: I have a question, and that is, what is the security of supply under a SPAL? During a drought, for instance.

MR ISAACS: A licence isn't a tool to give you security of supply. It's a tool or it's a thing that gives you a right to take the water if it's there. If it's not there, you can't take it, and so all that does is, it gives you the right to take the water. A specific purpose access licence is a high-security licence in that it would usually give you a higher right of access to a lower security. It will still be below stocking domestic or usually town water supply, so we can set different categories and different priorities, and I haven't actually reviewed specifically where you sit, but it would be generally a high – fairly high security, but because it's not delivered water, so it's not water that's been released from a dam, so if the water is there, they would have a right to take it in accordance with the conditions of the licence. If it's not there, they obviously can't take it.

PROF. FELL: O.K., that's helpful, but then the water that's transported along the pipeline, that presumably is licensed by the people who have it available, and once it's in the pipeline, it's free of any interference, is that correct?

MR ISAACS: Yes, that's correct. So the water will be taken by Centennial Coal under their licence. So they've got a licence to take that water. Once they take it, they can basically, within certain limitations – you know, they can't just pump it out anywhere they like – but they can basically do what they like with it, which includes transferring it to other people under a commercial arrangement, and this happens in the valley as well, between a number of mines, as long as it remained in that private infrastructure – so as long it's in the pipeline. If they then released it into a water course, they wouldn't then be able to take it down river, because once it's returned to a water course, it then returns to the State water rights. But if they take the water and it's in the pipeline and they pipe it across, they're able to, you know, transfer that on a commercial basis within other private entity, and we don't have a regulatory role in that.

PROF. FELL: Thank you. I guess the question that's at the heart of our questioning is whether the mine has enough water licences to actually operate, and perhaps the best – the larger question we've learned now about is the purpose.

MR ISAACS: So, Chris, you were breaking up a bit there, but I did get the question, which is, do they have enough water licences to operate? I think, in terms of water licences, provided they are granted the SPALs they need, and they can get water transferred, because there is an ability to get that SPAL and its specific purpose access licence, they will be able to get sufficient water licences. But water licences doesn't guarantee water. So if you have a drought up in Blayney and there's no rain, they'll get no runoff. They'll have very little water onsite, which is why they put in a new pipeline.

So provided that the water is being provided through the pipeline, they should have sufficient supply, but it is certainly a risk, if, for example, Centennial Coal stopped operations and they stopped supplying water, then that would definitely be a significant risk, and you would see that there are security of supply issues if you're relying on site water. But that's why Regis has, you know, put forward the pipeline. So the water licences, now that there is that new category of specific purpose access licence, licensing itself isn't the primary limitation. The primary limitation would be the actual physical availability of water.

MR O'DONOGHUE: I can add to that too, Chris. So Steve here. And it's probably one of the questions on the agenda, anyway, but it comes down to the water balances part of what – they undertook for the EIS. They did a comprehensive water balance, which looked at long-term rainfall records, but also supply of water from the pipeline, and, you know, up to an agreed 15 megalitres a day is part of the package they're looking at with Centennial and Energy Australia. With the supply of, you know, water through the pipeline, they're able to demonstrate that they would have, you know, security of supply over the life of the mine, but it is reliant on the – you know, the supply from the water pipeline, but there would be insufficient, you know, water there from just the take of water – you know, from the system or from the mine water management system, so that they are reliant on the agreement with - you know, Energy Australia and Centennial.

PROF. FELL: Thanks very much for that. Peter, are you happy with the information we've had now?

MR WILLIAMS: I just want to ask just one quick addendum – I notice Claire's got a question, but the water – sorry, just to clarify, Mitchell, the water itself in the SPALs is still coming from the Belubula River, though, isn't it, above Carcoar Dam?

MR ISAACS: The Belubula River and its tributaries. So wherever it comes from, so it might be runoff from smaller tributaries, as well as the Belubula River itself, so, yes, it is coming from that catchment.

MR WILLIAMS: From that catchment.

MR ISAACS: Yes.

MR WILLIAMS: Yes, O.K., thanks, Mitchell. Sorry, Claire. Thanks, Chris.

MS SYKES: Thanks, Peter. Mitchell, I just had a couple of quick questions.

MR WILLIAMS: Claire.

MS SYKES: You mentioned the SPAL and, you know, the granting of water access in meeting the minimum harm test. Could you give a very brief overview of – you said it was quite rigorous, you know, expected timeframes to - sort of typical timeframes to achieve that, and then the second question I just had was around the water balance, you know, conversely – you know, what is the – in the event of too much water?

MR ISAACS: So on the – on the second one, in terms of, if there's too much water, that's something that I would probably need to ask some of the others on the line – Steve has probably got more familiarity with that, because typically if you're looking at discharge from a site, EPA and our planning assessment colleagues will pay a lot more attention to that from a that pollution and discharge perspective, so I may not be the best person to address that question. Although we have looked at that, and I can talk about some of the work we have done. On the – sorry, what was the first - - -

MS SYKES: It was just your comment around, you know, the quite rigorous process in terms of minimal harm test, around water taken access.

MR ISAACS: Minimal harm test, yes.

MS SYKES: A little bit more context around that process.

MR ISAACS: Yes. So what we do, because it's a test that we have to apply everybody somebody applies for a new licence or a new approval – in this case, the proponent doesn't have to apply for an approval, so under our legislation, a licence gives you the right to take water, and an approval gives you the right to do a thing, to do or build a thing, like, build a dam or put in a bore. Under the EP&A Act, there is an exemption so that a proponent doesn't need an approval under our legislation, but they do still need a licence. So we don't have to consider the minimal harm test when we're granting the approval because it doesn't apply for a State-significant development. But for the licence we do. So what we would look at are things like hydrological impact, impact to aquatic ecosystems, and those sorts of things – water quality.

Now, because it's not a null impact test, so we're not saying there can be no impact, but what we are looking at is things like – because water will be captured in a clean-water dam and then piped around the tailings storage facility and released into the river, so that creates, for example, connectivity, it would create a barrier to

connectivity, so fish can't obviously swim up the pipeline while it's being pumped, and it also changes the quality of the water.

It also will have impact to people and users downstream. So what we have looked at – and because we haven't actually undertaken the assessment for this, but we have done, if you like, a preliminary assessment based on the information provided, so what the proponent is proposing is to return a significant portion of the water to the water course, so that removes a significant portion of the volumetric concern. But what they're also proposing, because it would impact on water security for years downstream of the dam, they're also in the process of – or I believe they have committed or said they would do, so I think there is actually a process, because we haven't formally applied for the licence yet, but what they're proposing is, that they would acquire a number of licences below the dam as an offset to the reduced availability. So while there's less availability, they'll buy some of the licences and won't use those licences to shore-up supply for other users.

Now, that's not trading of water, because they're not trading it upstream to use, they're just buying and holding those licences as an offset. So those are the sorts of things that are proposed, because the test is, adequate measures are in place to ensure no more than minimal harm, so we can consider quite a broad range of things along those lines. If the taking of water was going to have, for example, a habitat or a geomorphological impact downstream, then we may look at things like habitat restoration works, or stream bank protection, for example.

PROF. FELL: That's been very helpful on water. I'm conscious that we have a limited time. We have a much better understanding of licensing situations, but I'm interested in what happens when it rains a lot, and I don't know if that's your area, Mitchell. In the EIS, they use a base-level annual rainfall of 710 millimetres a year. I suspect in the period since 2017, they probably have had a whole lot more, and this impacts on a whole series of things like overtopping of dams, the TSF, whatever. Has that been looked at? Has somebody had a look at what the story is in the last key years to see if in fact it does fall within the requirement variant consistent with the study, in terms of - - -

MR O'DONOGHUE: Chris, I can start on that one. That's in relation to the agenda item about the recent rainfall events you've got on there.

PROF. FELL: Yes.

MR O'DONOGHUE: And Mitch and his team can jump in when they want, but I'll start off. Look, I guess the key, I guess, is again going back to the water balance that was done for the Project, because it is looking over an extended period, looking at wet cycles and dry cycles. The purpose of the water balance is to look at how you manage water in excessively wet years and how you get, you know, your water supply in dry years. It's a sort of standard – standard sort of modelling procedure that's undertaken for all mines in particular, because they're all – you know, all mines have a similar problem where they're – where they're trying to source water supply or manage water onsite.

And the way this is done in most resource projects, and for this one, Hydroengineering Consulting is the expert who does a lot of this work for the mining companies, but they basically run a GoldSim water balance informed by rainfall runoff models. In this one, they use – it was informed by rainfall data from - 1889 to 2019 was the period, where they – it was also simulated a water set that was – that they developed. It's based on – the analysis is based on – over that time period, they took out 131 sort of climate sequences through that period and modelled that for the life of the Project, so over an 11-year period. So they took snapshots – 131 snapshots from that time period, which included very dry periods, very wet periods – to basically get a statistical data about how the site's managed during wet periods, how that might affect mining operations due to storage of water in the pit, and how they can secure their water over - you know, including the pipeline, the water supply pipeline, in this instance. But also from other sources, you know – from the take of water in the TSF, and, you know, other excluded works all come into that as well.

Probably – what I might do is just bring up a figure, if that's O.K., Chris, just if I can, just to show, I guess, how the water balance works. If I can, I'll share the screen. Can you see that one?

PROF. FELL: Yes, thank you.

MR O'DONOGHUE: O.K. So this is just a figure of the – and I can – I'll provide this after the meeting – this is just a figure of the water storages for the site, which form part of the water balance, so it's looking at how water is transferred, you know, from the open cut, for example, to the main mine water storage facility. You've got the clean water diversions and dams up here, but also some, you know, sediment dams and water management facilities around the waste rock emplacement, for example.

Now, this is just a snapshot of how the model works, and representation of the storages and how water gets pumped about. Now, the modelling that they undertook over that period showed that there would be nil discharge of water, you know, from mine water or the TSF, and they were – under all wet cycles, they were able to manage the water, you know, through – based on that 131 climate sequences.

So importantly, I guess, there's opportunity - in that water balance, there's opportunity to store water in the open cut, for example, and move water around, you know, to prevent the discharge occurring. So part of the water balance looked at how, you know, mine operations might be affected from either the ability to pump water out of the open cut or store water in there, but there's certainly, you know, capacity in the open cut itself for storage of water. The other thing to point is that some of the water management facilities do discharge – these are more sediment dam arrangements, where it's more of a sediment dam issue, and it's designed, for example, that the blue book storage capacity.

Just looking at the recent rainfall events, some additional information provided by Regis just last week was that the – and you can speak to them further about that, that the rainfall in their met station was about 70 mils of rainfall, you know, during that sort of peak level of 70 mils of rainfall, you know, through that flooding cycle there, which is within the range of climate sequences that they modelled. They can probably provide more information, you know, about that, about how this year compares to the climate sequences of the model, but you're probably better off asking them that, for more – you know, for more information about that comparison. This is probably more of an overview of how the modelling is undertaken.

Probably just the other thing I'd point out as well is that in the case of the tailings storage facility, it's rated as an extreme consequence dam, and one of the conditions we put in the recommended conditions, but also in the design that they put forward, was that there would be a free board of a one-in-10,000-year 72-hour storm event, which is an important aspect, which is around 350 millimetres of rainfall or equivalent to a storage of about 1,000 through to 65 megalitres. So in the design of the dam, there's a lot of capacity in the dam itself for a requirement to have that free board for very large events and contain it onsite, plus the ability to, you know, pump back in or transfer back into the pit if needed.

So certainly it is set up as a nil-discharge site, and it does incorporate, you know, a range of climatic sequences. In addition, there was some analysis done on climate as well.

PROF. FELL: O.K. So you're effectively saying nothing in the current wisdom we have, after these intense rain events and the predictions of the impact of climate change, would lead to a discharge from the TSF - - -

MR O'DONOGHUE: So nothing – based on the design capacities, like, available, that would be correct, but as I mentioned, it would probably be worthwhile speaking to Regis about, you know, some sort of – you know, given the – comparing the model runs they've done to, I guess, the rainfall sequences from this year, you know, as a comparative exercise.

PROF. FELL: So that's been very helpful, because I think this is one of the areas that the public are somewhat concerned about, from what we've heard, so thank you for that. Clare, did you want to follow up any more on that aspect?

MS SYKES: Just, Steve, the AMD – could you just outline a little bit of that, in terms of the water balance or any particular risks related to that?

MR O'DONOGHUE: Look, sure. Yes, look, I guess there's two aspects to that, I guess, is the – certainly the tailings dam, the tailings material going into the dam is categorised as potentially acid-forming material, so there are – you know, there are issues around how that's appropriately managed. Now, in the dam design, again, it's the capacity of the dam itself, and the ability to retain water onsite without a spill, you know, from the spillway, is one key aspect. But also the other aspect is the seepage controls that are incorporated in the design, which includes highly impermeable liner to the requirements of the EPA, which is one by – to the minus nine by one metre thick equivalent sort of performance. But also, you know, lead-shaped controls in terms of interception, lead-shaped dams pump back to the system, while the dam is operating. But also an important part of it too is the cyanide destruction processes, which is fairly typical for mines these days, which does incorporate some non-acid neutralising materials in there, which assists in that. The other important components, really, at the end of the mine life, the importance of, you know, capping properly the dam, and in, you know, minimising infiltration through the system and, you know, for the long-term management and legacy issues associated with the rehab of the dam.

MS SYKES: And also AMD related to waste-rock emplacement? Is there any aspects related to that in terms of the water balance?

MR O'DONOGHUE: Not so much from a water balance point of view, that's probably more of a – there's been analysis of the waste rock plus the ore materials in the open cut, to look at the percentages of non-acid-forming material and potentially acid-forming material or acid material. It's important in terms of the waste-rock material to categorise that properly, in terms of where it goes in the waste-rock emplacement to ensure it's properly encapsulated with the non-acid-forming material, so it's probably not so much a water-balance issue, but it's more of a materials-handling aspect on where that goes in the waste-rock emplacement, ensuring that it's appropriately managed to, you know, prevent oxygen getting into that material, and, you know, reducing the potential for acid generation over the waste-rock emplacement.

Now, we have recommended conditions around that, in terms of – in the water management plan in particular, you know, about ensuring there's proper procedures and protocols and monitoring programs on how that – you know, that NAF-PAF balance works and how it's managed in the waste rock emplacement.

MS SYKES: Thanks, Steve, and I think if – with permission, Chris, I – you know, while we're talking about the tailings storage facility, I just had a broader question just around, you know, the development of tailings standards, of course, have advanced quite significantly globally over the last few years. Is there any consideration been given to the recent, you know, global standards on tailings storage initiated by the ICMM in relation to this assessment?

MR O'DONOGHUE: Look, there has been. There's probably a couple of things I can say about that. Like, tailings – the dam safety in New South Wales regulator declared of prescribed dams in New South Wales is quite a – it's quite a, you know, comprehensive and rigorous process that they undertake in terms of both the design, you know, commissioning operations and decommissioning of these dams.

Now, one thing I can say is that, you know, more recently, the dam safety - New South Wales has introduced a new dam safety regulation 2019, which has just come into effect in July, I think - - -

MS SYKES: Yes.

MR O'DONOGHUE: - - - which has sort of strengthened some of those aspects in terms of both design, which incorporates, you know, requirements, for example, for

independent, competent people and panels to undertake safety reviews and dam designs. It includes preparation implementation of dam safety management systems, you know, based on a risk management framework, as monitoring reporting requirements.

Now, it is quite a – Dams Safety New South Wales do – it's quite a rigorous regulatory process that they require, and, like I say, it's been strengthened with the introduction of the new sort of regulation just recently. And certainly there is information about the global standards on tailings dam, and Dams Safety New South Wales has done – and there's information on their website – a comparative analysis of how – you know, the principles under that, compared with the statutory regime in New South Wales, and, you know, in most cases, all those principles are already adopted and underway in New South Wales in terms of, you know, complying with those broader principles set in that document.

MS SYKES: Thanks, that's really helpful.

PROF. FELL: I think, Clare, you're talking about a quite recent document. The references given to the EIS talk about a 2010 dam safety document in New South Wales. This is with the quite recent stuff that's come out, but can we assume, then, that the body monitoring the design of this dam will be taken into account?

MR O'DONOGHUE: That's correct, Chris. They will be obliged to, you know, meet the requirements of the new reg that's come into effect, so there will be a full requirement there. I mean, we've got – we've recommended conditions about, you know – in particular about the tailings dam to be, you know, designed and maintained in accordance with the dam safety – the more recent reg, but also, you know, in accordance with the, you know ANCOLD guidelines on tailings dams with the more recent one just being, you know, released in July 2019. So there's a whole lot of requirements in there about, you know, assessing the consequence category and design around that as well. So certainly they would be required to meet the requirements under the, you know, contemporary requirements, which, given that they've already – you know, they've classified the dam as an extreme consequence dam, it puts them right in that having to meet all the strictest requirements, you know, under that statutory requirements.

PROF. FELL: Thank you. Thank you, Steve. We're asking these questions because people have been concerned about the Cadia mine problem, and obviously it's flowed through to us the same questions with the tailings dam in this particular case, so that's

very helpful input to us. Clay, I don't think we'll ask any more questions about water at this stage, unless my fellow Commissioners would like to come up with any.

MR WILLIAMS: Chris, could I just – just a very quick question. The planning council has asked or suggest proposed – if the consent was granted, post mining use of the pipeline. Has the Department got any views on that?

MR O'DONOGHUE: Look, I could add one comment – I guess the recommended rehabilitation strategy includes consideration of that, and certainly if there's – it's fairly standard in – for rehab, if there's infrastructure in place, you know, that that is part of the strategy of the rehab management plan, to look at opportunities potentially for retaining that infrastructure, if there is a demonstrated need for it or a future use that could be applied. So that would be subject to, I guess, you know, future deliberations and what opportunities there are for ongoing use of the pipeline, but it's certainly not – the recommended conditions don't require that the – necessarily that the pipeline be decommissioned. It would only be in the instance that there was no further use, you know, determined for it.

MR WILLIAMS: Thanks, Steve. Thank you. Thanks, Chris.

MR ISAACS: Can I just add, before we leave, that we also do have regional water strategies being finalised in the Lachlan Regional Water Strategy, and one of the things in that, it does talk about examination and use of redundant infrastructure, so if there are old pipelines that are no longer being used, are there ways that they could be used. There's no specific purpose that's been identified for the pipeline, but that is one of the things that our regional water strategy does talk about, is examining potential for reuse of redundant infrastructure.

MR WILLIAMS: Great, thanks, Mitchell.

PROF. FELL: So, we're probably full on water. We're very grateful for the input we've received. Indeed, water, it's been valuable. If your colleagues would like to - - -

MR PRESHAW: Yes, thanks, Chris. I think we can let our colleagues go for the final part of the meeting, and Steve might want to move onto the social amenity issues.

MR ISAACS: Thanks very much, everybody.

PROF. FELL: So thank you very much, Mitchell and colleagues. So I have one question that – from a process engineering viewpoint, this is a nil emission facility, the whole thing – in other words, water containing 3,500 TDS via salt comes in, more salts – soluble salts are picked up in the process, and the only way they can leave is in the tailings dam or a build-up in the processed water. It's probably more an appropriate question for the operators, but will this impact unfortunately on the process over a longer period? From a simple mass balance, the salt has got nowhere to go, except perhaps the tailings, and in fact it goes there as part of the liquid associated, the 38 per cent liquid, associated with the tailings. So – and it also means that the supernatant of the tailings becomes aggressively higher in salts. Has that aspect been looked at all in the analysis?

MR O'DONOGHUE: There's been no, like, salt balance done - - -

PROF. FELL: There's no salt balance.

MR O'DONOGHUE: Yes, there's no salt balance done in particular. When you look at the – I guess comparatively, when you look at the quality of the water that's proposed to be pumped, and which is coming from a range of sources, it's Angus Place underground – you know, pump out from underground workings, it's coming from Energy Australia, you know, operations over there; it's also coming from Centennial Coal Services site, which is – you know, includes runoff from coal-handling areas, et cetera, so depending on the source, the predicted range, the average sort of TDS – total dissolved solids – is about 3,500 milligrams per litre, which a range of up, you know, between 600 and 7,000 milligrams, depending on the source, so those sort of levels, you look at mining – when you look at a mining operations, those sort of levels where, for example, water might be supplied from underground workings or inflow into the pit, you know, from coal, you know, from a coalmine or example, or they're sourcing water from a sand-mining operation, you can – these sort of levels aren't that dissimilar to the water managed in those sort of operations that is feeding into the processing plant. So that's probably the first point I'd make.

Now, I think you're right, in terms of the salt coming in from that process, it's going to be used in either the – for dust attenuation, so it'll end up, you know, run off into the mine water storage system, or bound – you know, bound in soils onsite, or go into the processing plant, which would – which component would end up in the tailings storage facility or recycle around. So I probably can't comment on the – if the build-

up in salt, how that affect mining - you know, the processing operations, you probably need to speak to the company in particular about that - - -

PROF. FELL: Indeed.

MR O'DONOGHUE: - - - but keeping in mind, there are – in typical processing operations for mineral processing, they often are using quite high – you know, poor-quality water in those processing operations.

PROF. FELL: Salt content. Thanks for that. Sorry. Let's move to other areas. You mentioned, Clay, social impact. I think we also had questions perhaps about mine closure, heritage, biodiversity and the bees, agriculture.

MR PRESHAW: Yes. So, Chris, I'm just noting the time. There's probably two ways we could do this – we could do a quick overview for you, perhaps, just given the limited time we have left.

PROF. FELL: O.K.

MR PRESHAW: What if we were just to take questions and respond directly to those? I'm open to your suggestion on that.

PROF. FELL: Sorry, I think we could go overview, and anything that we come up with as questions, we can surely do that, or even - - -

MR PRESHAW: O.K. I think in that case, Chris, I think, Steve, if you could just – I think we should touch on the social and amenity stuff briefly, and see if any questions arise there.

MR O'DONOGHUE: O.K. Look, I'll start on that. I guess the – I'll just bring up a figure, because this is fairly – I guess this is the key to it, which is a – really showing the – can everyone see that? It's showing the – like, the receivers around the residences, in particular around the mine, because as Clay said earlier, the mine design is constrained by the – where the resource is and the ability to where you can put infrastructure, for example, but I guess the key, in looking at this figure, you know,

from a social impact point of view, that there's 85 privately owned residences within two kilometres of the mine site. So they're the orange sort of symbols on the figure here.

But in particular, I'll just zoom into the south of the mine, there's residences in this Kings Plain settlement or locality in particular, where – this is Walkom Road here, where there's sort of rural subdivision, which is, I guess, the closest receivers to the mine site and the – with the – you know, the bigger impacts in relation to potential impacts on noise, air and visual, and blasting in particular, because of the proximity, in particular, to the waste rock emplacement, but the southern amenity bund here, and the pit amenity bund which will be key bits of infrastructure that the company wants to construct, and, you know, start undertaking rehab on – to, you know, minimise impacts along the life of the mine more broadly, which is a common sort of approach for mining projects in terms of, you know, trying to get rehab done as quickly as possible.

A key part of this, though, and in our recommended conditions for work done in that area, that southern bit, we have restricted the company to daytime hours only, in – to minimise impacts during the more sensitive night-time period where they're closest to those receivers.

Probably just to point, I mean, I - - -

PROF. FELL: Thank you.

MR O'DONOGHUE: I could talk quite a – I mean, there's a lot I could talk about the social amenity impacts. Is there any sort of particular aspect you wanted to go into, like, noise or air or visual, or, you know, just the broader social impacts?

PROF. FELL: Yes. Peter, you - - -

MR WILLIAMS: Steve, the – I think when we were onsite, I think we saw some – perhaps some further amendments to some of these amenity bunds. Are you aware of any late – more recent changes to location or extension of - - -

MR O'DONOGHUE: Not in the – certainly not – I mean, this is the most recent, so you've got the pit amenity bund here, which was changed – that was changed in one of the – in the first amendment, I think, in terms of reducing the size of that, and that was one of the key changes, but also how the pit – the opencut pit was operated in terms of all trucks coming in and out of the pit to sort of reduce noise levels.

MR WILLIAMS: Yes.

MR O'DONOGHUE: But further changes – certainly the southern amenity bund, which is, you know, through this area here, you know, really forms the southern end of the waste rock emplacement, but we have put conditions in there about, you know, requiring, you know, rehabilitation of land and microrelief to improve the visual look of that as well, but we are – we do acknowledge that there's going to be some receivers in that Kings Plains area which are going to be – which will be highly impacted from a visual point of view, you know, while that's being undertaken, and that they will – you know, they will lose views, you know, more distant views, as a result of that, so that's a – you know, it is a social impact issue that we've certainly been mindful of in the assessment along here.

More broadly, I guess from a social point of view, when you look at noise and air, that there – they are – the modelling shows that they comply with the – for example, the noise policy for industry in terms of not causing significant impacts, and they're complying with the air quality criteria, but that's not to say that there's not a social impact, you know, to the residences down there, and we're certainly mindful of that – you know, of that social impact compared to, you know, acceptability, you know, against government policy. So it is a – you know, it is a key issue for the assessment.

MR WILLIAMS: And is there any comments on the VLAMP that's been proposed by Regis?

MR O'DONOGHUE: The comment there would be that certainly when you look at the impacts, they're predicting - because of the change that they made to the mine design, including, you know, reducing sound power levels of equipment and how they operate in the early stages of the Project, you know, they're predicting only that 1 to 2 decibels sort of above the project noise trigger levels, which is in that category of marginal impact, but Regis had committed to, you know, providing, you know, mitigation acquisition rights regardless of the VLAMP requirements, you know, more from a – because they had made commitments in the EIS where there was moderately affected receivers at that point, that they would, you know, offer, you know, mitigation

acquisition rights regardless of the VLAMP requirements, and they've continued that through to the amendments, but also extended that out to, you know, a couple of additional receivers as well, of which one, you know, has subsequently been acquired by Regis as well, so there has been, you know, some additional acquisitions through that process.

Now, one of the issues raised by our SIA team in particular was that, you know, the impacts of – and the social cohesion impacts of if people did leave the area, and how that could be dealt with, you know, as a social impact point of view – now, the company has, you know – has - you know, wants to rent the properties out, where they're suitable to rent, for example, to keep people there, if people do choose that, but more importantly, I guess, you know, trying to keep people – you know, one of the things that they want to do is to try and keep people in the area, and they prefer to operate the mine and get that social licence where they can and retain the population there, rather than have people move.

MR WILLIAMS: Thanks, Steve.

PROF. FELL: Thank you. I'm very conscious we're a minute off – and I guess we will probably bring this session to a close in a couple of minutes. I have a particular question about the bee side. Do you feel that has been satisfactorily handled now by agriculture?

MR O'DONOGHUE: Look, Chris, I can respond to that. The – I guess the – the impacts on the industry, there's a couple of aspects that would be from, you know, removal of habitat from the bees, for example, you know, from the – because you're moving boxed-in woodland and other flowering vegetation communities, you know, from the footprint of the mine, and there's, you know, the potential operational impacts from bee foraging, with exposure to dust, lighting and the water supply there, you know, with – you know, in the mine water storages and, you know, potentially in the tailings dam.

Now, Regis did do, you know, further work in risk assessment, engaging risks to look at, you know, the potential exposure pathways, how they could manage the impacts on the apiary industry there, you know, and looked at the evidence and research as part of that process, so as part of the recommendations we did, we included a condition to require the implementation of an apiary monitoring management program, again, prepared by, you know, suitably qualified experts in consultation with the DPI, agriculture and the local beekeeping operators, and that's to include, like, a monitoring

program to assess the heavy metals and other mining-related impacts on the bee operations and collection of baseline data and trigger action response plan.

So, yes, we were satisfied with the information provided and I guess DPI, agriculture's input into that process, but we thought it, you know, contingent on, you know, setting up a, you know, proper monitoring program, ongoing monitoring program, and looking at investigating the risks around, you know, potential impacts on the bee industry.

PROF. FELL: Thank you very much. I'll just ask my fellow Commissioners if they have any final points they want to bring up, or – and are we in a position to draw to a close?

MS SYKES: No further questions from me, thanks, Chris.

PROF. FELL: I take this time – sorry?

MR WILLIAMS: I'm fine, thanks, Chris.

PROF. FELL: Sorry?

MR WILLIAMS: I'm fine, thank you, Chris.

PROF. FELL: Fine. Thanks very much. Look, Clay, is there any last comments you would like to make from the Department's perspective to the Commission?

MR PRESHAW: No, thanks, Chris. In the interests of time, I'm happy to wrap it up, but I know there's probably other questions you will come up through your other meetings with the public hearing. I'm happy to take those in writing and respond to them in due course.

PROF. FELL: Thank you very much. I must say that, in my personal view, it was a very thorough assessment, we thought, and it helped the Commission immeasurably. We've asked lots of questions, we've got some very useful answers and thank you

very much for the session we've just had. So I might bring this session, then, to a formal close, and thank you once again.

MEETING CONCLUDED