

**REPORT ON PROCEEDINGS BEFORE**

**PORTFOLIO COMMITTEE NO. 2 - HEALTH**

**CURRENT AND POTENTIAL IMPACTS OF GOLD, SILVER, LEAD  
AND ZINC MINING ON HUMAN HEALTH, LAND, AIR AND WATER  
QUALITY IN NEW SOUTH WALES**

**CORRECTED**

**At Macquarie Room, Parliament House, Sydney on Monday 18 September 2023**

**The Committee met at 9:30.**

**PRESENT**

Dr Amanda Cohn (Chair)

The Hon. Susan Carter  
The Hon. Greg Donnelly  
Ms Cate Faehrmann  
The Hon. Wes Fang  
The Hon. Emily Suvaal  
The Hon. Bronnie Taylor

**PRESENT VIA VIDEOCONFERENCE**

The Hon. Mark Buttigieg

\* Please note:

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

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

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



**The CHAIR:** Welcome to the first hearing of the inquiry of Portfolio Committee No. 2 – Health into the current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales. I acknowledge the Gadigal people of the Eora nation, the traditional custodians of the lands on which we are meeting today. I pay my respects to Elders past and present, and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of New South Wales. I also acknowledge and pay respect to any Aboriginal and Torres Strait Islander people joining us here today.

Thank you for attending today's hearing. Today we will be hearing from a number of stakeholders in the area of mining, including government regulators; community and environment groups, including the Cadia Community Sustainability Network and the Mudgee Region Action Group; mining companies; NSW Minerals Council; and Dr Ian Wright, Associate Professor of Environmental Science at Western Sydney University. I thank everyone for making the time to give evidence to this inquiry.

Before we commence, I would like to make some brief comments about procedures. Today's hearing is being broadcast live via the Parliament's website. A transcript of today's hearing will be placed on the Committee's website when it becomes available. In accordance with the broadcasting guidelines, the House has authorised the filming, broadcasting and photography of Committee proceedings by representatives of media organisations from any position in the room and by any member of the public from any position in the audience. Any person filming or photographing proceedings must take responsibility for the proper use of that material. This is detailed in the broadcasting resolution, a copy of which is available from the secretariat.

While parliamentary privilege applies to witnesses giving evidence today, it does not apply to what witnesses say outside of their evidence at the hearing. Therefore, I urge witnesses to be careful about comments they may make to the media or to others after they complete their evidence. Committee hearings are not intended to provide a forum for people to make adverse reflections about others under the protection of parliamentary privilege. In that regard, it is important that witnesses focus on the issues raised by the inquiry terms of reference and avoid naming individuals unnecessarily.

All witnesses have a right to procedural fairness according to the procedural fairness resolution adopted by the House in 2018. If witnesses are unable to answer a question today and want more time to respond, they can take a question on notice. Written answers to questions taken on notice are to be provided within 21 days. If witnesses wish to hand up documents, they should do so through the Committee staff. To aid the audibility of the hearing today, I remind both Committee members and witnesses to please speak into the microphones. Finally, would everyone please turn their mobile phones to silent for the duration of the hearing.

**Ms BEVERLEY SMILES**, President, Inland Rivers Network, before the Committee via videoconference, sworn and examined

**Mr ROSS McDONNELL**, Executive Member, National Parks Association of NSW, affirmed and examined

**Mr WARWICK PEARSE**, Landscape Conservation Forum, National Parks Association of NSW, affirmed and examined

**The CHAIR:** I welcome our first witnesses. Would you like to start by making a short statement? Please keep it to no more than a couple of minutes.

**ROSS McDONNELL:** Yes, I can start. Warwick and I are here representing the National Parks Association, an organisation that has been in place for 65 years. Our approach is to advance the protection of the national parks system across New South Wales. Even though this is predominantly an inquiry about human health and the impacts of mining, we believe and present to you that there is no difference between impacts related to human health and the broader biology within New South Wales. Our submission addresses specific terms of reference items, as you'll see through the submission. Warwick is going to talk about a series of recommendations that we're making to the inquiry.

But if I jump to the conclusion of the NPA's submission, our view is that there needs to be strong consideration about how close mines are to the protected area network in New South Wales or areas of high conservation value; that we believe that the regulatory framework within New South Wales related to mining is not fit for purpose and that there needs to be better resourcing for regulatory capability within New South Wales; and that the inquiry should look at specific legislative changes, particularly to the EP&A Act, but also look at recommendations made by a number of recent reviews of legislation that relates to the environment—particularly the Samuel and Henry reports of recent times.

**WARWICK PEARSE:** Thanks, Ross. I'll briefly recap our recommendations and emphasise that our recommendations, we hope, will lead to regulatory reform. We've cast our recommendations as changes that are needed to the regulatory framework. Firstly, we believe that the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2023* should be incorporated into New South Wales legislation to protect aquatic biodiversity. Secondly, we recommend that mine wastewater is not discharged into catchments of national parks, wildlife service reserves or other areas of high conservation value; that there be minimum buffer zones between national parks and mines; that New South Wales adopts the recommendations of the independent review of the Biodiversity Conservation Act 2016, the Henry review, as soon as possible; and that the Biodiversity Conservation Act 2016 be amended to give primacy over the Environmental Planning and Assessment Act 1979, as recommended by Henry 2023. Thank you.

**The CHAIR:** Ms Smiles, do you want to give an opening statement as well?

**BEVERLEY SMILES:** Yes, thank you very much. I'm meeting on Wiradjuri land today and pay my respects to Elders past, present and emerging. Thank you for the opportunity to participate in this hearing today. Some of the key issues for water and aquatic habitat management in regard to heavy metals mining, water interception and toxic pollution include, one, the range of exemptions afforded to the mining industry under the Water Management Act 2000. These have not been outlined in the New South Wales Government's submission to this inquiry. Two, the impact of mine interception on flows to water sources during periods of low rainfall and drought: These compete with other water users, including the environment.

Three, the lack of determination of water supply for mining operations at the time of approval is a key failing of the assessment process. Four, the lack of consideration of climate change predictions for inland catchments. The new modelling developed for regional water strategies has demonstrated increased extreme weather events in central and western New South Wales, particularly increased drying. Five, the dependence on post-approval management plans to solve problems that should be addressed during the assessment process. There is a lack of transparency around the development of management plans. The trigger action response plans, as referred to in the New South Wales Government's submission, are often too little, too late. Once the damage has occurred, there is little or no opportunity for remedial action. Six, the Minerals Council's submission outlines 17 heavy metal mines in the pipeline for central and western New South Wales.

The Government has to decide whether it wants to improve water security for food production and farming in a drying climate or favour mining at the expense of the environment, river health, landscape health and agricultural production. The failed management and regulation of the Cadia goldmine has caused increased concern in the community that the so-called strict regulatory processes for the mining industry have not protected the environment or community health. A failed tailings dam, poor monitoring of air quality, and the need for the

community to pay for environmental and health testing and then run a media campaign to get attention paid to the significant problems is a sign of failed regulatory system.

**Ms CATE FAEHRMANN:** Thank you all for appearing today. You're our first witnesses for this inquiry, so I am just going to ask a general question. I'll start with you, Ms Smiles, in terms of your submission in relation to water. You specifically talked about the impact of McPhillamys mine at the headwaters of the Belubula River. You said that that proposed mine, which is McPhillamys, was approved without all water requirements for the mining operations being met. Could you explain to the Committee what that means? What wasn't met?

**BEVERLEY SMILES:** One of the key problems with these mines is that they are all in the Murray-Darling Basin, which is a capped system, now operating under sustainable diversion limits. Any water use for one purpose has to come from shares that are currently existing for other purposes. To my understanding, what was proposed for the McPhillamys mine was that a special licence was going to be created to provide the water needs for that mine. The only real source for any additional water in that catchment and under the water sharing plans would have to come from the environmental share. So there is great concern about the water needs for these large operations on unregulated parts of river systems. The only source of water in those systems is rainfall. Once we are in a major drought, there's real doubt that any of those operations have enough water to properly run their operations under the conditions of approval.

**Ms CATE FAEHRMANN:** You're suggesting that McPhillamys will take environmental flows at the headwaters of the Belubula River, which is part of the Murray-Darling Basin, because that's the only water that they have access to. Is that correct? What does that mean in terms of the objects of the Water Management Act? I didn't think that mining took precedence over environmental flows in that Act.

**BEVERLEY SMILES:** That's the whole concern around this business of the Government finding a special licence to allow McPhillamys to conduct their business without having found all of the necessary water through normal processes—which is the companies going out and buying water licences, generally off agriculture that is currently using that water to produce food. But in this instance, the Government has decided to create a special licence. The issue is, under the cap—under the sustainable diversion limit—where is that water coming from? It'd be coming from groundwater sources and surface water sources. If they're not purchasing a licence off someone else, the only other share of water in that catchment currently belongs to the environment for the environmental health of those water sources.

**Ms CATE FAEHRMANN:** I have one more for the National Parks Association witnesses. There are so many issues we could cover in this short session, so thank you for your extensive submission and the recommendations contained within it. I was wondering if you could expand upon what you were recommending that key changes need to be made to the EP&A Act in terms of reform—if you could highlight some of the key reforms that you believe need to happen to ensure that these heavy metal mines don't impact on the environment as much as they are.

**WARWICK PEARSE:** The main one that came to our attention was the recommendation in the Henry review that the Biodiversity Conservation Act had primacy over the EP&A Act. We don't speak as legal experts here, but we have seen many times where biodiversity comes very low down the list in terms of consideration when development applications are being considered. Could I just say that our other recommendation is that the Government does act as quickly as possible on all the recommendations of the Henry review? As a slight segue, we have a paper that we could table through the Committee here which outlines a number of mines that have discharged water into rivers that then directly flow into national parks or high conservation areas. These examples are not comprehensive; we could probably find another five or six to add to this list—if the Committee could take these, I've got 12 copies, as instructed in the video.

**Ms CATE FAEHRMANN:** Great. Thank you.

**The Hon. SUSAN CARTER:** Thank you, everybody, for being here today. It is a very important issue, and it's tremendous that you've made the time. If I can stay with you, Mr Pearse and Mr McDonnell, I note that in your submission and in your discussion you talk about primacy to biodiversity. I also note that the way the environmental planning Act is structured talks about the various factors that have to be considered, including the environment, affordable housing, human health, management of State resources and management of the environment. Are you suggesting that biodiversity sits above all of these other concerns? Where does biodiversity rank in terms of affordable housing, management of resources and the other concerns that are currently weighed?

**WARWICK PEARSE:** We wouldn't like to see those things opposed. But in my experience, when applications are finalised through the IPC or the department, biodiversity is not generally seen. The Government or the IPC says, "On balance this is economically valid," and that's the main reason. It's jobs and income and royalties. There's no real mention of the loss of biodiversity. So it's not included in the accounting at the end.

That's really a personal opinion. We haven't discussed this at length for our NPA submission, but this is what I think a lot of our members experience when they're looking at developments that are approved.

**The Hon. SUSAN CARTER:** So perhaps if I could summarise—you recognise that jobs and affordable housing are very important, but you're also suggesting that biodiversity should be a factor that needs to be weighed along with jobs, income and investment?

**WARWICK PEARSE:** Yes. It's something that—if I can just continue briefly, the proponents treat it as a tick box. It's not really something that is treated very seriously. The other thing, particularly in water, is that the EPA just tends to regulate salinity and conductivity and that sort of thing—a few simple tests. They don't look at the accumulation or cumulative effects of heavy metals and other metals.

**The Hon. SUSAN CARTER:** Ms Smiles, I note in your submission that you talk about the role of independent investigators and argue that there should be funding by the IPC because you're concerned about who currently pays for these investigations. Are you able to provide us with examples of when independent investigators have been unduly influenced by stakeholders?

**BEVERLEY SMILES:** Well, my understanding of the current assessment process is that there is heavy reliance on the assessment reports that are paid for by the proponent. The experience we had with the Bowdens zinc, lead and silver mine was, even though the Department of Planning did have some independent reviews of particularly the water issues, their expert recommendations from those independent reviews then were ignored both by the Government's assessment report and the IPC final determination. So there are a lot of problems there with how the whole assessment process works but, at the same time, we feel that the IPC itself needs more resourcing to look further than the reports coming from the proponent. I think the community was extremely disappointed that the community's expert reports that had been paid for by the community also seemed to be ignored in the determination process.

**The Hon. SUSAN CARTER:** If I'm hearing you right, there are a number of reports from a number of sources that are weighed as part of the assessment process, but you're concerned that the independent investigator's report is given more weight than other reports. Is that what you're suggesting?

**BEVERLEY SMILES:** Well, what we're saying is that there needs to be a more rigorous approach to the independence of the assessment of these very large State significant developments. If I could just go back to some of the discussion around biodiversity—the same with water. Under the State significant development process, those key environmental issues do not have the same weighting as the economic issues.

**The Hon. SUSAN CARTER:** In terms of all of those issues such as affordable housing, human health and management of State resources, biodiversity sits ahead of affordable housing, ahead of human health?

**BEVERLEY SMILES:** Well, I think water definitely does because you can have as many houses as you like; if you haven't got water then you've got a major problem. Really, biodiversity is an important part of everyone's existence as well. It's looking at the long-term impacts of this short-term decision-making that does have ramifications for everybody, including the native species of Australia.

**The Hon. SUSAN CARTER:** To finish up on the independent assessments, if I am hearing you correctly, you are suggesting that the burden of paying for those should not be on the proponents, because you believe that the proponents are buying the results that they want and that the independent investigators are not independent?

**BEVERLEY SMILES:** What I'm saying is that, mainly, the reports that appear in an environmental impact assessment are advocacy documents. I've had a long-term experience with the mining industry and consultants that work for the industry, and people that haven't agreed with the way that they're being encouraged to doctor their reports don't get employed by the industry anymore. They get blacklisted. So there's a bit of history there. What we are saying is there needs to be a bit of a step back from the reports that are supplied by the industry.

**The Hon. SUSAN CARTER:** Are community reports not advocacy reports?

**BEVERLEY SMILES:** The community comes up with the money to commission someone to look closely at the reports that have been commissioned by the proponent to assess and critique those reports. That's what we generally commission people to do.

**Ms CATE FAEHRMANN:** Just on that note, Ms Smiles, how much is the community paid for the reports that they are producing and providing to this inquiry? How much are you paid for the work you do? How much are people paid for the hundreds of hours that they are spending?

**BEVERLEY SMILES:** Well, I'm a volunteer.

**Ms CATE FAEHRMANN:** Thank you. So not much conflict of interest potential.

**The Hon. EMILY SUVAAL:** My first question is to you, Ms Smiles. Earlier in your evidence you mentioned that the only water that the McPhillamys project had access to were the headwaters of the Belubula River. I just want to draw your attention to the submission from Regis Resources, which is submission number 69. You may not have had a chance to see the submission as yet, but I believe it is online. In the submission, which relates to the McPhillamys project, it states:

Unused, stock-quality water from Lithgow coal mines and the Mt Piper power plant will be supplied to the mine site via a 90km pipeline, meaning that local water is not being sourced for ore processing.

Do you have comments in regard to that?

**BEVERLEY SMILES:** I was aware of the sourcing water out of a different catchment, but that still wasn't enough water for the entire water balance of the needs of the project. So that's where this special licence arrangement was coming in. Also, bringing water over from the Lithgow area out of the Coxs River catchment is problematic in itself. That's taking water from the environment from a different catchment.

**The Hon. EMILY SUVAAL:** It's unused stock-quality water from the coalmines and power plants. I suppose the statement that the only water they will have access to is from the headwaters of the Belubula River is factually inaccurate?

**BEVERLEY SMILES:** I am not sure that I actually said it was the only source of water, and I apologise if I had said that.

**The Hon. EMILY SUVAAL:** Thank you.

**BEVERLEY SMILES:** But the interception of the groundwater and the surface water flows are from the headwaters of the Belubula River.

**The Hon. EMILY SUVAAL:** I have a further question with regard to the impact that climate change has on the Inland Rivers Network, which your group obviously has a lot of interest in.

**BEVERLEY SMILES:** The Government has just done some new modelling—invested in new models as part of the regional water strategy process. So the predictions, particularly for the Central West and western New South Wales, has been, overall, for a drying climate.

But in the middle of that we will get more and more of the extreme wet weather events that we've just previously experienced. We're now on our way into another drought, but we don't know how extreme that drought will be. That has been a real concern: The mining industry is a big user of water, to suppress all the dust that an open-cut goldmine and an open-cut zinc, lead and silver mine will create—it is a significant amount of water—as well as any processing on site. In a major drought, on an unregulated system that is totally dependent on rainfall, the whole issue of access to water and water shares is significant for these big projects. The fact that there are 17 of them in the pipeline is really quite concerning.

**The Hon. EMILY SUVAAL:** You mentioned there are 17 in the pipeline. It is fair to say that, in terms of our path to net zero emissions, there is no path without critical minerals and critical mineral mining, given that what is essentially dug out of the ground is used to enable us to get to net zero. We've got silver, which is used in high amounts in solar panels, and copper, which is used with electrification. So in terms of climate change, it is very much that there is no path to net zero, which you contend.

**BEVERLEY SMILES:** It is interesting that, again, in the NSW Minerals Council submission more than half of the gold is for either jewellery or having gold in storage.

**The Hon. EMILY SUVAAL:** Yes, but 40 per cent of what is dug out of Cadia is copper. Is that correct?

**BEVERLEY SMILES:** Yes, but the road we haven't gone down—so we've got the existing mines—as a society and really looked clearly at is what are the opportunities for recycling what has already been dug up in the past. The cheap and easy approach is new greenfield mines at the expense of the environment, our rivers and agriculture, and Cadia is a perfect example of that. During the millennium drought Cadia ran out of water and it was trawling around the district, buying up more water licences that had been used for agriculture. It was a massive problem for the community and for the mine. With the climate change predictions, that is only going to be a worse problem, so let's be a bit more creative in the way we solve our needs for heavy minerals.

**The Hon. EMILY SUVAAL:** My final question is to the National Parks Association. Thank you for appearing today. In terms of the regulatory framework, earlier you stated that it wasn't fit for purpose. I just wonder if you could further expand on your views around the regulatory role of the EPA in particular?

**WARWICK PEARSE:** Just briefly, we think that the EPA, as far as we can tell, is not using the latest guidelines from the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, which only came out this year. I had a brief search about New South Wales water management guidelines and what I could find on the internet was dated 2006, and none of the links were active. We know from experience that the EPA is the regulatory agency that licenses discharges of wastewater. Historically, it has licensed high levels of contaminants into waterways that lead into national parks and also into drinking water. There have been a couple of court cases—Springvale—where the Land and Environment Court found that the EPA had not been following the neutral and beneficial effects of discharges into waterways. But, subsequently, the Government changed that law to enable Springvale to not be prosecuted for breaking those guidelines. I think that we're not seeing from the EPA the sort of stringency that you might find in other jurisdictions. For example, the US EPA said that there should be zero lead in drinking water; New South Wales, Australia, doesn't say that.

**Ms CATE FAEHRMANN:** I want to touch on the biodiversity impact. One of the submissions we received said, in relation to Bowden's lead and silver mine, that the Mid-Western Regional Council has mapped some of the impacted area as koala habitat. I also note that the National Parks Association's submission says that the offsets required to replace habitat are, among other things, 381 hectares of habitat currently utilised by koalas and regent honeyeaters. In terms of Mid-Western Regional Council mapping that as core koala habitat, do any of you know whether that has happened, and would you like to comment broadly on the biodiversity impacts? I'll go to the NPA first.

**WARWICK PEARSE:** We don't know what the council's done.

**Ms CATE FAEHRMANN:** We can find out. Just broadly about biodiversity offsets, your submission notes that 381 hectares are critically endangered—I think most of it is grassy box woodland—and they have not identified anywhere in terms of offsets?

**WARWICK PEARSE:** Yes, that was our point at the time of writing our submission. Maybe they have. But the mine was approved on the basis of offsets to be later identified.

**Ms CATE FAEHRMANN:** Of a critically endangered ecosystem?

**WARWICK PEARSE:** Yes.

**Ms CATE FAEHRMANN:** Ms Smiles, do you have any comments on that?

**BEVERLEY SMILES:** Yes, that was the main concern—again showing that these approvals are occurring without any final determination of major issues like where is the water coming from and what arrangements are being made to offset the biodiversity impacts. Talking about the Biodiversity Conservation Act, one of the failings of that is that, currently, mining companies in particular are just putting money into the trust for use for whatever purpose, and the problem being that critically endangered ecosystems like grassy box woodland, there is so little of it left that they're finding it very hard to actually find country on the ground that they could purchase for biodiversity offsets. So it's a matter of how long are we going to keep approving the removal of these really important biodiversity assets.

**The Hon. GREG DONNELLY:** To the NPA and your paper—you both might like to contribute to the answer—your recommendation 2 is:

...that mine waste water is not discharged into the catchments of NPWS reserves or other areas of high conservation value ...

This presumably refers to mining heavy metal and critical minerals, and maybe other mining—you can clarify. Is there any way in which wastewater can, if properly processed in some way—

**WARWICK PEARSE:** Definitely.

**The Hon. GREG DONNELLY:** —reach a standard or benchmark which is satisfactory for its release and, if so, how can we go about finding out what your views are about that?

**WARWICK PEARSE:** Springvale now has a high level of treatment. That's a coalmine. Clarence Colliery—very high level of treatment now—was polluting the Wollangambe River. Yes, it's expensive, but then damage to the environment is more expensive. It's avoidable. I should say that even if we're talking about coalmines, one of the issues with coalmine wastewater is often heavy metals—not necessarily lead but other toxic metals, so zinc, copper and things like that. I think the experience from coalmining, with respect, is relevant to the considerations of this Committee.

**The Hon. GREG DONNELLY:** Forgive me—I probably should know this—but I presume it involves a high level or high standard of filtration that would get the water to a standard?

**WARWICK PEARSE:** Yes, I think so—probably similar technology to desalination plants.



**BEVERLEY SMILES:** If I could make a comment on that?

**The Hon. GREG DONNELLY:** Please.

**BEVERLEY SMILES:** They're called reverse osmosis plants and it is a form of desalination, but it's mainly to do with controlling salt. Often the mine can then "shandy"—they put a percentage through that process and then can shandy back in some direct wastewater, so the heavy metals are still there. But with the extreme wet weather we had and the discharges of the three coalmines on the Goulburn River, which go through the Goulburn River National Park, what happened was that they were given exemption to their environmental protection licences because the mines filled up with water. They were allowed to dump high volumes of untreated water into the Goulburn River for quite an extensive period of time after the flooding had ceased. While there's some regulation in place, mining always seems to get exemptions to everything, when needed. It's a real problem for managing the health of our rivers.

**The Hon. GREG DONNELLY:** Ms Smiles, my colleague asked you a question about the piping of some water to a site that could be used for the demands for a particular site—quite a lengthy pipeline. You seem to be not persuaded by the utility of doing that, in other words, using water that may not be of the purest of standards but would be suitable on a mine site. Can you just explain why you would not be supportive of that proposal?

**BEVERLEY SMILES:** Well, it's where that water's coming from in the first place. Any water that ends up mine water came from the environment somewhere along the line. It's pulling water out of, in that instance, the Coxs River catchment and then sending it into the Belabula River catchment, so the quality of that water is a bit of an issue anyway. But in the whole business of sending water from a currently operating mine, what happens when that mine is no longer operating? And the same with the power station, what happens when that power station is no longer operating? The presumption is that the goldmine will have finished before the access to this other source of water is no longer available. But the reality is that water came from the environment of the Coxs River and that's where that water should be returning to, not being used for somewhere else.

**The Hon. GREG DONNELLY:** My last question to both parties: In your view, can heavy metal or critical mineral mining coexist with meeting environmental standards in the State? In other words, there can be a standard, if it's achieved, to enable to a satisfactory level mining that can take place as well—in other words, a coexistence. Is that possible? Perhaps we will start with Ms Smiles.

**BEVERLEY SMILES:** What I've seen in my experience with mining is that once it has an approval, it continues to expand. It's the size of the operations that really causes the problems—and the period of time. A relatively small mine possibly would be capable of being managed under strict environmental regulation. But the problem with drought in the Central West and Far West is these minerals mines will not have the water to manage their dust. It's the dust pollution into our waterways, into people's water tanks, into the soil and into the landscape that is the real key management problem. If they're saying, "If we haven't got enough water to operate, then we will have to suspend our operations," then that immediately impacts on all of the economic arguments that have tipped the balance to approve the project. Once you've started the project and you've got people employed, then the decision is, "What do we do? Do we lay these people off or do we continue mining?" The general decision is, "Yes, we'll continue mining and we'll turn off all the pollution regulation." I've seen that happen time and time again. So it's very problematic in a drying climate, in these regions, to have these quite large new projects being approved.

**WARWICK PEARSE:** I think we can only agree with Bev Smiles. Theoretically it should be possible. If we can put people on the moon, we should be able to build a mine that works. But historically, we haven't—I'm not aware of mines that meet the requirements for zero discharge of heavy metals into either the air or water. But theoretically it could be possible.

**The CHAIR:** That brings us to the end of this session. Thank you very much to our witnesses for the time you've given this morning to help us understand the issue.

**(The witnesses withdrew.)**

**Ms SHERRY DUHE**, Interim Chief Executive Officer, Newcrest Mining Limited, affirmed and examined

**Mr MICHAEL (MICK) DEWAR**, General Manager, Cadia Valley Operations, Newcrest Mining Limited, sworn and examined

**The CHAIR:** I now welcome our next witnesses. Would you like to start by making a short statement?

**SHERRY DUHE:** I would, thank you. Thank you again for the opportunity to appear before this Committee today. I'm the interim CEO of Newcrest Mining. Beside me is Mick Dewar, the general manager of our Cadia mine. I acknowledge the Gadigal people of the Eora nation and pay my respects to their Elders past, present and emerging. I also acknowledge the Wiradjuri people, who are the traditional owners of the land at our Cadia operations. For those of you who don't know us, Newcrest is the largest publicly listed gold producer in Australia, as well as being one of the world's largest gold mining companies. We also have a significant and growing copper producer and a resource that is vital for the energy transition.

Our Cadia Valley Operations, which is 25 kilometres outside of Orange, is one of Australia's largest copper and goldmining operations. We've been mining there and been part of the local community for a quarter of a century. Around 85 per cent of our workforce lives locally in the Orange region. Many of our workers and their families were born, have grown up, gone to school and retired in the region. About one-fifth of our workforce at Cadia has been with us for at least 10 years. That means three generations of some families are involved, past and present, at Cadia. We employ more than 1,800 staff, including 31 apprentices. A further 1,400 people are also indirectly employed across the region, working in support businesses like engineering, transport and construction.

We understand that to continue operating Cadia successfully we have to be good neighbours. We haven't always gotten things right. Recently we've seen a breakdown in our relationships with some of our neighbours and we know they have concerns. We could have listened more and communicated better, and for this we are sorry. When the community raises an issue, they deserve for it to be taken seriously. Dust emissions from our tailings storage or our ventilation rises are a concern for the community, and we hear that. With the tailings facility there have been dust events since a slump occurred along a wall of one of our tailings dams. A number of different solutions have been put in place for what is a complex issue. It is taking longer to fix this problem than the community expects. Frankly, it is taking longer than we expected too, and for that we apologise. I want to reiterate that we are committed to delivering an ongoing, permanent solution and, in the meantime, works to repair the slump are continuing. Ventilation Rise 8 has also caused concern for some of our neighbours. We've worked to address these concerns, and the vent is complying with clean air regulations, whilst the results of our monitoring are being regularly provided to the Environment Protection Authority.

Earlier this year a number of residents advised us that their own personal test indicated that they had elevated traces of heavy metals in their tank water. This greatly concerned us too. In addition to working with residents to have their tank water tested, we moved immediately to commission detailed studies from accredited independent experts. This includes work by the Australian Nuclear Science and Technology Organisation and the EPA accredited auditor SAGE Environmental Services. The results from studies have been shared publicly and are available on the Cadia website. Collectively, these studies have shown that the mine's operations aren't affecting the good air quality in the region and that drinking water conforms with guidelines. The studies have found that the impact of the mine is low and in line with Australian health standards.

When it comes specifically to water quality, the work done to date also aligns with the independent work undertaken by both the EPA and NSW Health. For us, environmental practice is something critical to being trusted and accepted by the community, as well as enabling operational performance. We continue to maintain regular contact and cooperate fully with the EPA. As we look ahead, we know we must meet the standards set by governments and regulators as well as the expectations of our neighbours, our workforce and the broader community. With that, let me hand it back over to you to take your questions.

**Ms CATE FAEHRMANN:** Firstly, going to the tailings dam issue, can the collapsed wall be fixed?

**SHERRY DUHE:** Thank you for your question. Indeed, it is in the process of being repaired. We've been working on that for some years now and we continue to take action on what is, as I've mentioned, a very complex topic. I would invite Mick to show the details of that because, as the general manager of the site, he's got personal accountability to ensure that that fix is in place.

**MICK DEWAR:** Yes. As most would be aware, the northern tailings dam suffered a partial embankment failure in 2018 and that resulted in the surface of the dam drying out, which caused dust lift-off events for us. Look, in relation to your specific question around can it be repaired, as Sherry has stated we currently are doing buttressing work on the western side of the NTSF. We've got a large haul road nearing completion around the east and that's going to open up access to the southern embankment of the NTSF, which is essentially

the other side of the embankment repairs. So, in answer to your question, yes, it can be repaired. Whether we restore it to the original operating regime where we're going to be continuing lifting it, that is a question we still need to examine. The southern dam is expected to come into service around the end of 2025.

**Ms CATE FAEHRMANN:** We're also looking at a number of submissions that mentioned rehabilitation of that northern tailings dam. That's the dam that failed. Is that right?

**MICK DEWAR:** That's correct.

**Ms CATE FAEHRMANN:** So in terms of repair, you're looking at rehabilitating it. Is that correct?

**MICK DEWAR:** The first priority is actually to restore the dam to a competent embankment. Obviously, it's got a slump that needs to be fixed.

**Ms CATE FAEHRMANN:** So a slump that needs to be fixed, you're saying.

**MICK DEWAR:** Yes.

**Ms CATE FAEHRMANN:** It's taken several years. It's clearly difficult to fix it. Is it impossible to fix? Because surely it should be fixed by now.

**MICK DEWAR:** No, it's not. It's a complex undertaking. The surface area of the dam is about 480 hectares; it is just shy of 700 football fields. It's quite large. It's high. Tailings is a complex type of material to deal with. It's important that engineering work goes into this so that the repair that's undertaken is effective. Geotechnical work informing that commenced shortly after the slump, and that's continued for several years while engineers have been developing repair strategies and a conversion for the dam embankment. As part of the restoration of that dam embankment, it's going from an upstream embankment profile to a centre-line profile, which is an inherently stronger structure.

**Ms CATE FAEHRMANN:** Just to be clear, that failed in 2018?

**MICK DEWAR:** In 2018. That's correct.

**Ms CATE FAEHRMANN:** Do you have a timeline for when everything is going to be fixed?

**MICK DEWAR:** The southern dam is expected to be returned to operation at the end of the calendar year '25 and the northern dam will have its embankments repaired shortly thereafter.

**Ms CATE FAEHRMANN:** I've heard that the community has been told that it's irreparable.

**MICK DEWAR:** No. What the community's been told is that in the short to medium term, we're not expecting to resume deposition on the north dam as we did prior to the slump. We're looking at studies and options at the moment to look at other ways to repair the dam to operation, or to find different ways of actually depositing tailings onto the dam such that's within the design.

**Ms CATE FAEHRMANN:** I want to go to the issue of the vents—so Vent 8. How long were you aware that the vent was unfiltered and emitting dust that it should not have been emitting?

**SHERRY DUHE:** I will ask Mick to answer that one in detail as well. We have also included a detailed timetable of the events that happened around that vent rise in our submittal, but Mick can summarise the key highlights on that.

**MICK DEWAR:** We advised the DPE and the EPA in August '22 that we believed we had measurements taken there that were in exceedance of the clean air regulations. We commenced engineering work on resolving that issue, and the filtration units that we currently have installed in our operation actually were borne of the studies and the work that kicked off around that time.

**Ms CATE FAEHRMANN:** Had you received complaints from the community before that time?

**MICK DEWAR:** At various forums I believe there had been concerns raised around visible dust emanating from VR8.

**Ms CATE FAEHRMANN:** Could workers on the site see visible dust emanating, or was it just the community that was thinking that and seeing that?

**MICK DEWAR:** No. We were working through trying to engineer the problem. There were issues with VR8 that also pertained to wet material presenting through that rise as well, which was also affecting the way that dust and particle measurements were being taken.

**Ms CATE FAEHRMANN:** I've seen quite a few photos. In fact, those photos have been included in submissions and have been used in media stories about significant dust coming off the Cadia mine site. But it

seems like for at least several years Newcrest was not acting on what was clearly dust coming from your operations that was going very, very clearly off the boundaries of that site into various people's properties. Wouldn't that be accurate?

**MICK DEWAR:** For a period of about 10 years we've actually had quite an extensive array of particle monitors located around the mine boundary. They measure solid particles from 2½ microns through to 10 microns, various gases and other types of material. They're basically looking to ensure that we're operating in our project approvals, and our project approvals require us to not be exceeding any Australian guidelines for particle matter, like dust, off the premises. At no point in time has there been any evidence suggesting that VR8 is actually depositing dust or allowing dust to escape the mine lease in levels that exceed any of those accepted standards or our project approvals.

**Ms CATE FAEHRMANN:** So you've now got filters. Your interaction with the EPA—the EPA has brought you into line essentially and is asking you to now do what?

**MICK DEWAR:** Earlier this year the EPA asked us to comply immediately with the regulations and our class in the clean air regulation, and we did so. We had two filters operating at that time. We accelerated the remaining three filters that were part of that plan, and we've identified the opportunity to install two more, which are going to be—

**Ms CATE FAEHRMANN:** Why did it take the EPA to have to come to you? I understand you've been fined in the past as well. You've had community members talking to you, showing you pictures of dust, having to get their own blood tests done. Why did it take that long for you to respond? It wasn't until the EPA came and said, "You must comply." So the community asking you to comply isn't good enough?

**MICK DEWAR:** As I indicated before, none of our external monitors were indicating that we were polluting off our premises. The engineering and the purchasing of the dust filters that we currently have installed was initiated and accelerated, but the filters that we currently have installed were already on their way. What we've seen play out now—and we've been operating in compliance since that direction—is something that we kicked off around August 2022 when we reported to the EPA and the DPE that we had an exceeded measurement.

**Ms CATE FAEHRMANN:** Do you have faith in those air-quality monitors that were telling you everything was okay?

**MICK DEWAR:** Yes, I do.

**Ms CATE FAEHRMANN:** Now? You still do?

**MICK DEWAR:** I do. We obviously have issues occasionally where we self-report to the EPA if we have a breakdown of an instrument, but the array is actually quite extensive. There are different instrument types, and they are monitored and maintained under a comprehensive maintenance regime.

**Ms CATE FAEHRMANN:** How many times has Newcrest been fined for dust pollution over the past few years?

**MICK DEWAR:** I'd have to take that on notice. I'm aware we've had a fine pertaining to tails dust lift-off.

**Ms CATE FAEHRMANN:** I think it's about three times at least that I've got in front of me. What was the amount of the fine each time?

**MICK DEWAR:** Fifteen thousand dollars.

**Ms CATE FAEHRMANN:** It's the maximum, I think, \$15,000 each time. Is that right? What were Newcrest Mining's earnings over the past 12 months? What have you reported?

**SHERRY DUHE:** May I share? We've just published our annual financial statements, and that's all clearly laid out. To be quite frank around it, Newcrest has Cadia as one of our largest assets globally. It's a very important asset. It is profitable and that allows us the opportunity to continue to invest in the mine in the future for decades to come and to provide jobs and employment.

**Ms CATE FAEHRMANN:** So statutory profit and underlying profit was \$778 million in the last financial year; that's the full financial year. So a fine of \$45,000 for three pollution incidents is just a cost of doing business, isn't it?

**SHERRY DUHE:** Let me clarify: We don't see any sort of trade-off between fines and profitability. In fact, our very strong aim is never to be penalised and to always be in compliance. For us, it's really very important

that we comply with regulations, that we are a good community neighbour and that we have that proactive positive relationship for decades to come.

**Ms CATE FAEHRMANN:** How much is it costing you now to comply with what the EPA is asking you to comply with?

**SHERRY DUHE:** Mick can share details around the cost of the equipment that we're installing and the ongoing cost. It's very material but, again, for us it's not a trade-off. We don't sit and look at it and decide—

**Ms CATE FAEHRMANN:** Is it more than the fines to comply?

**SHERRY DUHE:** It's much more than the fines. I'll let Mick share the details of those.

**MICK DEWAR:** The filtration units that we currently have installed were intended to be short- to medium-term in order to get something in place quickly. They're costing us around \$10 million a year in lease costs. We have a project that's been engineered to replace those, on a permanent basis. That project's 36 million. So in two years' time we'll have spent nearly \$50 million on dust attenuation in the underground mine.

**Ms CATE FAEHRMANN:** Are you aware of how much the Cadia community has spent on blood tests and quite a few other tests over the past six months or so, or longer? Are you aware of that figure?

**SHERRY DUHE:** I don't believe we have access to that figure.

**Ms CATE FAEHRMANN:** It's more than what you've been fined. It's about \$50,000. You now have to collect the dust in bags. Is that correct? From the vents? How much dust are you collecting per day with the recently installed filter and vent 8?

**MICK DEWAR:** I don't have the tonnage rate per day. We simply operate to maintain compliance. We have an extensive array of underground instrumentation that detects or measures and taps into our production to ensure we don't exceed. So we collect and strip as much dust as it takes to comply.

**Ms CATE FAEHRMANN:** Talk us through it in terms of what it looks like visually. Is it like a little Dyson vacuum cleaner, like a little bit of dust coming out each day? What size are the bags? How frequently are these bags changed that are collecting this probably toxic dust from those vents?

**MICK DEWAR:** The bags are in what we refer to as bulky bags. They're taken out in several hundred kilo lots—noting they're collected at the driest, earliest point underground. On their journey to the surface, they elevate about 1,400 metres, and the air around it condenses. So a certain amount of that dust ends up binding with that water and becoming mud by the time it discharges from VR8. There's a wet fraction and a dry fraction. So the tonnage represented in bags is not representative of what actually gets exhausted to the atmosphere.

**Ms CATE FAEHRMANN:** Thank you. My last question for now. How many of these one-tonne bulky bags are being used per day?

**MICK DEWAR:** I don't have that figure at hand.

**Ms CATE FAEHRMANN:** Would you think it's more than one bag?

**MICK DEWAR:** Yes. It'll be more than one bag.

**Ms CATE FAEHRMANN:** Have you seen it in operation yourself?

**MICK DEWAR:** Yes, I've seen the operation. There are photos in our submission that show the scale of this.

**Ms CATE FAEHRMANN:** So lots of dust is being captured, which, before there was a filter in place and those bags were capturing it, was being just emitted into the atmosphere and landing in nearby residents' rainwater tanks.

**MICK DEWAR:** Some proportion of that. Some was not.

**Ms CATE FAEHRMANN:** It's a lot of dust. Wouldn't you agree?

**SHERRY DUHE:** I think just to reiterate the comment that's been made around—

**Ms CATE FAEHRMANN:** Multiple one-tonne bags?

**SHERRY DUHE:** Just to reiterate the comment around the boundary testing that we do continuously to ensure that the air quality is good and the water is safe to drink overall, and not just because of this vent rise situation that we have.

**MICK DEWAR:** Correct.

**Ms CATE FAEHRMANN:** Three tonne bags, five tonne bags, 12 one-tonne bags, 20 one-tonne bags, any—

**MICK DEWAR:** I think what's always been important and forefront in our mind is the actual impact on our neighbours.

**Ms CATE FAEHRMANN:** You'll provide that on notice?

**MICK DEWAR:** Our instrumentation is available and published on a monthly basis. It's publicly available.

**Ms CATE FAEHRMANN:** But you'll provide the numbers of one-tonne bags on notice, please.

**MICK DEWAR:** Yes.

**The Hon. EMILY SUVAAL:** Thank you for appearing today. My first question is around workers and if you could explain in detail what Newcrest is doing to protect their workers and how can you improve.

**SHERRY DUHE:** I can start off, and again Mick can speak in detail around how we do it in Cadia. It's a core principle for us that we make sure that our monitoring and testing is for all members of the community, inclusive of our workers. We have comprehensive programs in place for a number of years in Cadia to ensure that. Again Mick can share the details specifically of what we've been doing over the last years.

**MICK DEWAR:** Obviously, with a large-scale and intensive mining activity, we do have a comprehensive workplace hygiene program in place. That covers a lot of aspects. Dust exposure is one of them, as is metals exposure. As part of our processing of gold, we do have part of the process that uses gravity and the density of gold to actually concentrate that so that we can smelt it and send it off for refining. In that gold room, you do get a presentation of small amounts of things like lead that pull through, lead being two-thirds the density of gold. So for about a decade we've been actually taking blood samples from the workers in that gold room. We've also been testing regularly dust in areas like that where it would be expected that a heavy metal like lead would concentrate. We've never had an exceedance. Whilst we certainly weren't discounting the concerns raised with us this year, it did catch us off guard because we're just not expecting, having not seen exposure on site with comprehensive measuring processes and sampling, that we would expect to see that occurring kilometres off site.

**The Hon. EMILY SUVAAL:** Just to clarify, you've been doing that monitoring for 10 years?

**MICK DEWAR:** Correct.

**The Hon. EMILY SUVAAL:** Ms Duhe, you mentioned in your opening statement you have workers that have worked there for in excess of 10 years or so. Is that correct?

**SHERRY DUHE:** Yes. That's correct.

**The Hon. EMILY SUVAAL:** In terms of the community, what is Newcrest doing to protect the community, and how can you improve?

**SHERRY DUHE:** I'll start by reiterating that for us it's the totality of our ongoing monitoring, our operations and our commitment to be in regulatory compliance, our interactions with the community in listening but also gathering independent studies when it's required such as we've done in this last year so that collectively we can look at all of that data and be sure that we're operating safely and in a healthy manner with the community. Mick can share a bit more detail around some of the recent interactions and activities that we've had with the community.

**MICK DEWAR:** Yes. I actually commenced in this role the week that the concerns were raised to us around metals in tanks, so I've had a little bit to do with this in the last six months. That did take us a little bit by surprise, as I was saying. Nonetheless, we treated it very seriously. It's not something we had any baseline data on outside in those areas. We launched a comprehensive water sampling program. We had an ANSTO 2.5 micron dust study that had already been initiated earlier, the results of which cover the period when VR8 was operating. We did a lot of lead isotope testing and we had the SAGE health risk assessment.

We've been engaging with the community regularly. Initially, it was weekly and then fortnightly. As new information came we would set up meetings at a location on our site where they were free to come and talk to myself. Occasionally, where we had a report submitted, they were given access to the authors, as in the case of the ANSTO report and the recent health risk assessment. Throughout the process, we been releasing the data quite quickly. The water sampling results, for example, were released to members of the community and households at the same time that we received them. We've been issuing those reports on our website and then allowing through to Q and A forums questions to be asked of those reports for understanding or concerns, as the case may be.

**The Hon. EMILY SUVAAL:** Where do you see your products going in the world, and how is this part of our clean energy future? Obviously, we've got net zero emissions targets to meet. How is Newcrest operations a part of that?

**SHERRY DUHE:** Thanks for that question. Let me share a bit of context as it relates specifically to copper. If you think about the amount of copper that the world is going to require under any reasonable scenario that says that we're going to achieve net zero by 2050, we collectively as a global society need to produce as much copper in the next 27 years—between now and 2050—as we have in the last 125 years. Arguably, that was close to the beginning of copper production. You're talking about, essentially, more than we've done ever before as humans. Cadia has an essential role to play in that because the copper quality and grade will remain very stable going forward for at least 25 years according to our current projections, and barring any additional exploration. It is the second largest copper producer in New South Wales. It's not going to be just Cadia because, obviously, when you think about all of the global production that will be required, it is a global challenge. But Cadia plays a very essential and material part in the specific context of New South Wales.

**The CHAIR:** What proportion of the copper that you're currently producing is used in the manufacture of electric vehicles?

**SHERRY DUHE:** The way that the copper sales happen is very globally commoditised. We sell in two formats, in doré and in concentrate, and we don't see where it goes to the end customer, but there are many studies out there that talk about the fact that copper is essential for electrification for electric vehicles and for many other applications. I'd again point out the global supply demand analysis that is out there from different sources that says we're not on track yet as a global society to produce the copper that's needed. It's really essential that we have an order of magnitude change in that production and, of course, continuity of current stable production to meet that demand.

**The CHAIR:** I understand this may need to be taken on notice or provided in confidence to the Committee, but I'm interested in understanding who your customers are and who you're selling the copper to. Can that be provided?

**SHERRY DUHE:** We can certainly take that on notice. Some of that information is included in our financial statements. We can take on notice what else we can provide.

**The Hon. SUSAN CARTER:** Thank you for being here today. It's very clear that there's a lot of community concern in relation to dust. I acknowledge the evidence that you've given about the perimeter monitoring and that you're watching release of dust from the Cadia site into the community, but it's also clear that there are community members who are concerned in relation to dust. My apologies, I'm not an engineer. I have read your submission. I wonder whether you could explain a little bit about the isotope testing that you've done, for example, in relation to lead particulate and lead dust to track how much dust was actually from the Cadia site.

**SHERRY DUHE:** I'll defer straight to Mick, who is the engineer in the room today and can talk about that detail.

**MICK DEWAR:** As part of the water sampling program, we sampled 144 households and where we could—where there was enough to take a sample—we took sediment and sludge scrapings from the bottom of the tanks. We sent that off to the University of South Australia for this isotope testing and then we subsequently had that independently reviewed and analysed by Emeritus Professor Brian Gulson. Lead isotope testing itself is a process that looks at four different isotopes of lead that generally exist in the natural world. An isotope is essentially just lead as an element with a certain neutron count; so four different isotopes, four different neutron counts in the nucleus. The reason it is a strong and useful tool for fingerprinting source of origin is because man-made processes generally can't alter the isotope count of an atom of lead. So the scientists can look at that and look at the ratio of different isotopes of lead in a sample and then go back and compare it against known sources. Typically known sources could be Broken Hill or Mount Isa mines; they will have their own characteristic. North American lead and European lead from different places all have their own isotopic range.

As part of this we sent just under 60 samples from the Cadia ore body so that we could have a fingerprint determined for Cadia ore. That formed the basis of analysis to determine whether it matched the samples in the tanks. What that found was that there was no correlation to Cadia ore for 84 per cent of those samples. Of the remaining 16 per cent of samples, they couldn't be discriminated between Cadia ore and the district soil. There is a certain amount of naturally occurring lead in the soil around Cadia. Furthermore, when we looked at where those 16 per cent of samples sat, they were in the lowest concentrations of samples taken. The highest concentrations of lead found in tanks were completely dissimilar to Cadia ore. We looked at that on balance. We had our ANSTO report that suggested that we were a very low contributor to 2½ micron dust emissions. We looked at the various

boundary monitors in the long history we had there and from that we concluded there was no evidence suggesting that Cadia was actually contributing lead to those tanks.

**The Hon. SUSAN CARTER:** Can I explain it in lay terms. You can essentially use isotopes to fingerprint lead and when you fingerprinted, you found there was lead in the community but it was predominantly not sourced from Cadia, and the source that had the same fingerprint range as Cadia lead was also the same fingerprint as the local soil. Is that a fair lay description of the process?

**MICK DEWAR:** Correct. Lead can come from a variety of sources. As most people here would know, for many decades we ran leaded petrol in cars. The environment is still decaying that residual lead—it sits in dust on the side of roads and gets kicked up every now and again. Aviation fuel used for propeller aircraft still uses leaded fuel. Historically, back in the sixties and seventies, there was leaded paint, leaded roof guttering, ceramics, and car batteries so it's present as an industrial product in a wide range of sources. To determine where the lead has come from is a whole other exercise. We were focused on whether it was us and we concluded there was no evidence suggesting that that was the case.

**The Hon. SUSAN CARTER:** So while there is understandable community concern about dust, the community need not be concerned that that dust carries particulates, as such lead, from the Cadia mine?

**MICK DEWAR:** Yes, correct. As per the ANSTO study in air boundary monitoring, the levels of dust that are present in those instruments is well within project approvals and accepted standards also.

**The Hon. SUSAN CARTER:** In relation to your relationship with the community, can you tell me how you responded to concerns from the community about what was possibly contaminated water tanks?

**SHERRY DUHE:** That's another one straight for Mick because he was very much at the centre of that and wrapped a response that we undertook when we became aware of those concerns.

**MICK DEWAR:** I suppose to give a bit of background, I've worked at Cadia and lived in Orange for nearly 17 years now. My girls—one's nearly finished school and the other is in year 10. My wife works locally as a receptionist and interacts with a lot of people. We have 1,200 people out there that work for me, some of which live around the mine, and we have another 1,000 contractors in the district as well. For me personally there's a range of ways to which you can feel the weight of accountability for managing a situation like this. It's not just as simple as some sort of problem to solve or some corporate problem to solve. When this teed off, it was very clear that there was a level of real anxiety there about these results that we had heard about, and we responded quickly.

For my part, I've tried to make myself personally accessible to the members of the community through the meetings that we hold, and we've been doing that. Off the top of my head, I may have only missed one, maybe two. We hold those every few weeks. Whilst the anxiety is there, we've been very serious and I've been personally very serious about making sure that we are being very transparent and open about what we are putting out there and that we are not trying to lay out a narrative that is non-factual. Whilst we are getting some positive feedback from members of the district that are actually absorbing it and drawing their own conclusions and having their anxieties alleviated, we know that there are others that are yet to be convinced. For the reasons I've outlined—I'm a member of this area. I don't live near the mine, but it's my community too. I have a lot of people at work that hold me to account to make sure that we're operating in a proper manner and we provide that assurance also.

**SHERRY DUHE:** If I may add to what Mick has said, in my role as the CEO, as soon as these concerns were being raised, that was brought to my attention immediately. My response, in line with our company values and our focus on compliance and being a good citizen, was to make sure that we did anything and everything as rapidly as possible to address those concerns, regardless of the root cause. Hopefully the evidence of that action that we took has been demonstrated in our submittal and how we are looking at this also going forward.

**The Hon. GREG DONNELLY:** Thank you both for coming along today and thank you for the submission from Newcrest. On the matter of workplace health and safety standards and protecting the health and wellbeing of workers, both direct employees and contractors, can you provide an overview for the Committee about what the company has been doing to concentrate on this matter, post becoming aware of these matters that are the subject of this inquiry?

**SHERRY DUHE:** Straight back to you, Mick, in terms of what specifically we've done at Cadia.

**MICK DEWAR:** The first thing we did with our workforce, as we did with the local neighbours, is communicate what was going on. Initially, as you would expect, when this got some airplay in the media, we certainly had people that worked for us that wanted to know what was going on. But the workforce is actually well informed in terms of how dust monitoring works. The guys in the gold room are certainly well aware of what we do in those areas. So it didn't take a lot to actually alleviate concerns within the workforce, because they are quite well informed as to what we do.



Monitoring for dust and metals takes on a wide variety of forms at Cadia. For people that work underground and in areas that have sources of dust present, we have people that randomly wear samplers on their collars because it represents what is closest to the mouth. We have areas underground that are engineered so that dust is taken out of the environment for people that operate in certain cabs and machines and we have a range of other policies at site around wearing masks in certain areas and things like that. There's a range of different ways that apply to this to make sure that we keep our workforce safe, and the workforce is quite well informed on that.

**The Hon. GREG DONNELLY:** In terms of the underground work and matters to do with ventilation, you have explained usefully in your submission the investment in the new filtration equipment. Prior to that, what type of dust protection did the workers have? Did they have it across whole underground tunnels or did they have it in certain parts? Can you just explain?

**MICK DEWAR:** The issue we're dealing with with ventilation is different and always has been different to the programs in place for the workforce. That's simply because the mine vent system draws air down underground into the workings. When it gets hot and it gets mixed with things like exhaust gases and things like that, it gets exhausted through dedicated drives. We don't have people working in the drives that are classified as exhaust for the vent. For many years now, we've had an occupational hygiene program in place. When working underground, for example, you have to be clean-shaven so that you can wear a P2 respirator or a full-face dust mask. In certain areas, that's mandatory. In others, where we've been able to engineer out the dust exposure, it's not. Cabins on loaders are pressurised and get maintained using smoke tests to make sure that the aircon systems actually keep the dust out of the cabs.

In certain areas on the conveying system where we have operators stationed, they too have cabs where they operate where they're dust sealed. So you have a combination of engineer controls where people can work in an environment that's sensibly dust-proof underground. In others, where they're exposed and they're working in headings and things like that, we rely on filtration for diesel particulate on the machines themselves, mine vent, and also respirators and facial protection. We then back that up with hygiene monitoring to make sure that what we think is going on there and what types of particle concentrations are being set up for exposure to people is actually correct.

**The Hon. GREG DONNELLY:** My final question is a complex one, so I'm just looking for a summary answer. With respect to the mitigation of the dust from the north site, can you provide an overview of what the mitigation work is and the effectiveness of that work?

**SHERRY DUHE:** Go for it, Mick. I think you've talked about it previously. Let's summarise it again to make sure it's absolutely clear.

**MICK DEWAR:** After the slump in 2018—we obviously were not expecting that to happen, and we were heading into a fairly deep drought. We responded, in the first instance, with aerial suppressants and aerial suppressants essentially coat the surface of the dam in a material that's not dissimilar in consistency to wood glue. We continue to use that to this day. Right now, for example, leading into summer, we have drones go up and survey the dam. They look for areas where we're getting bare patches and things start to appear, and the aircraft go and reapply that material. In addition, in mid 2019 we were able to start trialling hydromulch, and hydromulch is a grass, essentially. It gets sprayed onto the surface of the dam, mixed with various compositions of fertiliser that we've been experimenting with, and we try to promote the growth of grass on the dam as a dust suppressant, in addition to the aerial suppressants for the bare areas.

That has been challenging; we've had mixed results with that. If it's too wet it tends to get washed out and if it's too dry it can die off. Nonetheless, we spend about \$10 million a year on those two programs. It has vastly improved the severity and frequency of the events we suffered in 2019 and 2020, but it hasn't closed the gap and we still do get lift-off events, particularly when we get gusts up around 90 kilometres an hour. This year we've designed and we're in the process of procuring an irrigation system for the north dam. The irrigation system serves two purposes. The first is to stabilise the feeding of water onto the hydromulch to give that the best chance of success. Secondly, it gives us the ability to dose water or spray water when we do have high wind or dry events. That's coming online in the next few months. As I said, it's 650 or 660 football fields' worth of area. It's quite a big project, but we're quite serious about trying to get this back to the way it used to be when it was operating.

**The Hon. WES FANG:** Thank you for appearing today. In relation to similar mine operations located elsewhere, both in Australia and overseas, what sorts of suppression measures do you use that perhaps aren't being used overseas? Or are there suppression measures that are being used overseas that are potentially able to be brought in over here?

**SHERRY DUHE:** Let me start by answering that at a principled level. As you can imagine, it's not an off-the-shelf solution because each mine is different. The composition of the tailings in each mine is different,

and how that evolves over time as you produce through different sections of the mine is unique. One of the things that's been happening is, I think, a very constructive and positive industry compliance and self-regulating trend, if you like, and that is the introduction of global tailings management standards. Institutions that we ascribe to, such as the International Council on Mining and Metals, have adopted those standards, and Newcrest has adopted those standards as well. So what we do in this situation is we do try to look across and understand where there can be similarities, where there are best practices and, again, where the industry is going to really have the highest level of compliance, and care and sustainability in that. Mick may be able to talk about specific things that we've learned from that but, again, they are all very unique, and we do try to look globally for comparisons to make sure we have the best and safest solution in each individual mine.

**MICK DEWAR:** Yes, as part of the works that were done in 2018 and 2019, and periodically even now, we do look at what other operations are doing. We do find, as Sherry says, that every operation is different and has its own challenges, and it's very much a bespoke type solution. Some of what we've had is viewed by others as having some modicum of success in terms of hydromulch crop. In terms of the area we're operating in and trying to reach elimination, obviously we have more to go. But it is a highly customised problem, and we will keep at it until it's solved.

**The CHAIR:** Thank you for attending this hearing. Committee members may have additional questions for you after the hearing, and the Committee has resolved that the answers to those, along with any answers to questions taken on notice today, be returned within 21 days. The secretariat will contact you in relation to those questions.

**(The witnesses withdrew.)**

**(Short adjournment)**

**Ms GEM GREEN**, Chair, Cadia Community Sustainability Network, affirmed and examined

**Ms FRANCES RETALLACK**, Vice Chair, Cadia Community Sustainability Network, affirmed and examined

**Dr IAN WRIGHT**, Associate Professor, Environmental Science, Western Sydney University, affirmed and examined

**The CHAIR:** I now welcome our next witnesses. Before we go to opening statements, I note for Committee members that we received an amended submission from the Cadia Community Sustainability Network late yesterday and that the amendment was just to the page numbers.

**GEM GREEN:** Correct, thank you very much—an oversight.

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

**GEM GREEN:** I would, thank you, on behalf of the community. Good morning and thank you for the opportunity to share our community's lived experience. We live and work in the area around Cadia Valley Operations, a mine producing gold and copper, with molybdenum a by-product of production. The CCSN was established by community members to work with Newcrest to safeguard, for all, the economic, social, and environmental future of our region. As a community and recently as an organisation, we have been lodging complaints with regulators regarding excessive dust and other issues for more than 10-plus years. Residents for years have observed significant visible dust leaving the site, and this has triggered our health concerns.

In August of '22 an independent expert report that was commissioned jointly by DPE and CVO identified that CVO's main vent shaft, VR8-1—at that point with no filtration—was emitting particulates at 18 times the permissible rate. In response CVO has commissioned the following reports. The ANSTO report on PM 2.5 distribution—although this is a small part of the total emissions, the report identified a well-mixed airshed and that with a gentle breeze of three metres per second, dust could travel in a radius of 259 kilometres in 24 hours.

In the lead isotope report by Professor Brian Gulson, five out of 12 tank water samples have isotopic ratios, which lie in the ore field—that is, lead in tanks matches the mine. On a 7.30 report and in an ABC article recently, Professor Brian Gulson said the mine cannot be excluded as one of the sources of lead. The Todoroski air dispersion model 2022 assumes 1.6 tonnes per day of total particulates—90 per cent less than the independent air audit. However, CVO has recently informed the community consultative committee that the first filtration unit is collecting 12 tonnes per day. These reports appear to contradict Newcrest's media release of 19 July 2023: "Cadia not linked to lead in district water tanks."

Dr Ian Wright tested an initial small set of water tanks. The CCSN then tested a further 45 tanks. Many had been contaminated with a range of heavy metals in the "bottom of tank" sludge. NSW Health was notified of all water testing results in March 2023. Following the announcement of this inquiry, with the support of Peter Bentivoglio from the Mudgee Region Action Group, we organised a further round of blood and hair testing, including a control group in the Lue-Mudgee district. By this time, many in the community had been drinking bottled filtered water for up to five months.

In the absence of NSW Health, the CCSN has established 47 Cadia residents' blood tests had 19 exceedances, compared to 44 Lue residents with 10. Cadia residents' exceedances were primarily copper and molybdenum. Of Cadia's 45 hair tests, 73 per cent identified exceedances, primarily copper and cobalt, and the blood test for a four-year-old living in a house built five years ago approximately 13 kilometres east of the mine had excess copper and molybdenum at more than double the upper reference range.

This parliamentary committee has the opportunity to change the mining industry and its regulation to make it safe for our children and for generations to come, as well as sustainable for all. Our key recommendations are reports on all subjects to be produced by independent experts, selected by a panel managed by the appropriate regulatory agency; human health analysis for all mine sites should be based on actual data; buffer zones must be appropriate for the real health risk; full enforcement of all regulations with significant fines, such as the banking sector in New South Wales post-royal commission; and progressive rehabilitation should be non-negotiable. Thank you for allowing to us make our opening statement.

**IAN WRIGHT:** Thanks for the opportunity. The derelict Sunny Corner mines and the active Cadia mine demonstrate to me how metal mine operations can emit pollution beyond their physical boundary and also for decades after commercial mining ceases. Sunny Corner mines mostly closed in the 1920s. It's quite simple to track the sources, pathways and downstream impacts of pollution from Sunny Corner. I have sampled contaminated leachate bubbling from underground workings, flowing into the Daylight Creek down towards the Turon River. Metals were highly elevated and dangerous for human life and aquatic life.

I have not seen adequate detailed information about the exact pollution pathways and risks from the Cadia mine. As this is a large and highly regulated operation, there should be no such lack of information or ambiguity. So on 30 and 31 August this year, I inspected water supplies at 10 properties, along with CCSN, in the Cadia Valley. I sampled their water tanks, both at the top and at the bottom of tanks and kitchen tap. All 10 supplies received results showing lead at concentrations above the Australian Drinking Water Guidelines—all 10, 100 per cent. These guidelines are 10 parts per billion. The US EPA does not recommend that there is a safe level for lead. One tank exceeded the guideline by 6.6 times, one by 110 times and one by 140 times. There were also exceedances in some of arsenic, nickel and another metal that has slipped my mind.

The contaminated samples were all collected in the bottom of tanks. Although samples at the top of tanks and kitchen taps had no metal exceedances, I strongly suspect that metal-enriched dust from the Cadia mine is falling out onto roofs and is then washed into water tanks. I suspect this is a strong contribution; I cannot be sure of the exact quantity. In my view, the EPA regulations that should protect the community from metal-enriched dust that's emitted from the Cadia mine need to be revised and improved. Also, recent sampling of water tanks by NSW Health and the EPA did not adequately document the contaminants deep in the water tanks. In my opinion, their sampling was not fit for purpose and underestimated the health risks for users. Why is the contamination at the bottom of tanks important? Firstly, that's where the offtake is. That's where water is removed for supply systems. Also, when tank levels drop, it's susceptible to disturbance, particularly with inflowing water that can stir up the contaminants.

**The CHAIR:** Thank you. We will move to questions from the Committee.

**Ms CATE FAEHRMANN:** Thank you for appearing today and for the many hundreds of hours that you have given up to protect your community near Cadia goldmine. We are hearing different things around the drinking water and whether it does, in fact, meet the safe drinking water guidelines. According to Cadia and, potentially, NSW Health and the EPA, it does. What is going on there, Dr Wright? Why are we getting conflicting evidence?

**IAN WRIGHT:** The sampling I've seen, particularly from NSW Health and the EPA, has concentrated—they call it the point of use. That's generally the kitchen tap. Sometimes samples have been collected from the top of tanks. If your tanks are full and the contaminated water at the bottom is stable and doesn't enter the water system, that's fine. That's good. I repeated those results too. But in dry periods, when the levels of tanks fall, number one, there is less dilution of that clean water lying above that contaminated water. But also any disturbance—I sampled during rain. You could actually see water swirling and from some of these big roofs there is quite a strong physical force. I suspect that, from time to time, there are spikes from this contamination at the bottom of tanks. What I know for certain, as an absolute fact, is that a clean water-supply system doesn't have these sorts of levels of contaminants lying in the bottom of tanks.

**Ms CATE FAEHRMANN:** Just on that, correcting a few things, or giving your scientific view, what about the lead isotopes—the ANSTO study—do you have a view on that?

**IAN WRIGHT:** Number one, it's quite hard going. But my reading of that is that Professor Gulson suggested that some of the lead in the tanks was due to or matched the lead in the Cadia ore. In a way, for me, I'm actually taking the mine out of the equation. My question is what is in the water tanks? Problem one is that we need to recognise is it safe to drink? Is it always safe to drink? And then question two is where is it coming from and what can we do about it?

**Ms CATE FAEHRMANN:** I could go on and on with that. I want to go to a bit of the history of your community in terms of dealing with Cadia and the regulator. Your submission says that you've been told many times that the emissions from the vents was steam. Who told you that and what was it in response to?

**FRANCES RETALLACK:** We've had years of community meetings and many, many people have asked that question. It's very visible. There's this huge white plume that goes up and spreads over the district. It accumulates in different valleys, depending on the wind. We've been told it by many executives—I could give you a list—on many occasions to many individuals in the community. It is a widespread mistruth.

**Ms CATE FAEHRMANN:** Steam does look very different to dust pollution. Were you convinced that it wasn't steam? With some of these clouds, were you seeing it settle onto surfaces, for example? Was it obvious it wasn't steam?

**FRANCES RETALLACK:** We were seeing dust settle. What you've got to understand is that the plume is going up, I'm estimating, a couple of hundred metres and then dispersing. My husband and I live to the south of the mine. When we first moved there 12 years ago, it didn't really bother us. But things changed. I think things changed as production increased, as the tailings dams—when the tailings dams failed, that was a major dust source. Then when they put the extra fan in, we were told—I think Cadia was asked earlier today did they know.

When we first went to the mine for a community meeting and said, "There's a problem", we were told that they had installed the new fan that operated 100 kilometres an hour. Before they did that, they were removing mud from the bottom of the vent shaft with mechanical loaders. Once they put the new fan in, they didn't have to do that anymore. We were also told they noticed that the fan blades were wearing very rapidly.

**Ms CATE FAEHRMANN:** Did they not have to do it anymore, just to be clear, because the fan was blowing everything out and up and into the atmosphere?

**FRANCES RETALLACK:** That's what I believe. Yes, the mud had disappeared.

**GEM GREEN:** Cate, if I could just add in addition to that, I think part of the general conversation the community really escalated after there was a visual change in the way this steam dust—well, we know it's dust—was coming up and out. That sort of really evoked greater levels of conversation within the community. That was sort of post-December 2020 when that fan was installed that we understand runs at 100 kilometres an hour.

**Ms CATE FAEHRMANN:** You've made complaints multiple times to both the regulator and to Cadia. What's the kind of history of the response there, starting with Cadia? When did they actually do anything about it in your view? And what about what is clearly outlined as quite a few contacts with the regulator as well for them to do something?

**FRANCES RETALLACK:** They didn't do anything about the actual vent shaft until the EPA stepped in this year.

**Ms CATE FAEHRMANN:** Despite being requested and despite being informed by the community—complaints to Cadia, do you mean?

**FRANCES RETALLACK:** Multiple complaints to the EPA—\$15,000 fines. It is economically rational for the mine to cop the occasional fine and do no remediation. The community had no idea that that vent had been built with no filtration. We had no idea there was no filtration on any of the vents cleaning the air out of the mine. I don't understand how that could've happened. It's one of our issues.

**Ms CATE FAEHRMANN:** There was a human health impact assessment more recently that has been undertaken. It wasn't mentioned, I don't think, by Cadia today. That assessment also found disturbing results in the children in terms of respiratory conditions in Orange and Blayney. Is that correct?

**FRANCES RETALLACK:** Yes.

**Ms CATE FAEHRMANN:** Would you like to expand on that?

**FRANCES RETALLACK:** The assessment—they included information from the recent census and NSW Health that basically we have double the lung disease incidents in the Blayney shire and south Orange than north Orange and New South Wales. And we were unaware of that particular statistic. We've repeatedly as a community talked about, "Do we have a cancer cluster?" We've been unable to get NSW Health to engage in looking at anything like that. Anecdotally—"There's another brain tumour", "Oh, there's another leukaemia." I shouldn't know this many people who have those things—that sort of feeling.

**Ms CATE FAEHRMANN:** You've requested NSW Health to explore that and what's been the response?

**GEM GREEN:** We've had a long history with initiating conversations with NSW Health. The first conversation was a phone call back in July of 2021. Admittedly that was during the pandemic and we fully appreciated that the State was obviously triaging what had to come first. Really, it was February this year that was the beginning of a couple of conversations and a webinar with NSW Health. They suggested that they would look at replicating our water testing, as best as possible. Of the 45, 19 were completed. That formed the basis of their, "Everything's okay with water."

**FRANCES RETALLACK:** But all they did was test the kitchen tap.

**GEM GREEN:** Yes.

**FRANCES RETALLACK:** And those tests were done after two very dry months. Our tanks, whilst they were pretty full—our water tanks are big. They were full, but they were very settled.

**Ms CATE FAEHRMANN:** Just in relation to that, I have got one more question around the health aspect, even though, again, there could be many more. NSW Health held a webinar for local GPs. You state in your submission that GPs were told not to proactively test any of the residents for heavy metal contamination, that they had to wait until there were potential symptoms that indicated heavy metal contamination. Is that what NSW Health did?

**FRANCES RETALLACK:** Yes.

**GEM GREEN:** Yes.

**Ms CATE FAEHRMANN:** How does that make you feel? How did the community feel when you heard that?

**FRANCES RETALLACK:** Gem was away when that—you were overseas.

**GEM GREEN:** I was.

**FRANCES RETALLACK:** And she phoned me up. "How are things going?" I was the person who had the children's blood tests. I was the person in the community who received this webinar and was probably the first to realise that we'd been deserted by—the agency that you would expect to prioritise our health completely threw the community under the bus, in my view. They have refused to meet with us. I don't know how many emails we have got. We do now have a meeting scheduled for later this week. But the realisation that the community—we had done blood tests, but people had gone to their own doctor and they'd gone to this pathologist and that pathologist and you couldn't compare. But we were seeing patterns. We were seeing elevated creatinine. I am not a doctor, but when the doctors start talking to you about your creatinine levels because of kidney stress and you are seeing it repeatedly in these tests that people are sharing together, you become concerned. It was horrifying.

**Ms CATE FAEHRMANN:** I do need to move to questions for Dr Wright on the Sunny Corner dam. In your submission you say that there was a sign 1½ kilometres downstream from that mining area which stated, "Polluted water. Do not use for drinking or washing." When was that photo taken?

**IAN WRIGHT:** From memory, in 2005—a long time ago.

**Ms CATE FAEHRMANN:** I think you made the point that that sign is no longer there.

**IAN WRIGHT:** I have looked for it, and I can't find it.

**Ms CATE FAEHRMANN:** There are no signs anywhere that point to the fact that there is highly polluted water in those streams?

**IAN WRIGHT:** No, and there's public access throughout the area. It is a very, very popular recreational area.

**Ms CATE FAEHRMANN:** You have undertaken tests that indicate how much higher for cadmium and lead. Will you briefly state what that is?

**IAN WRIGHT:** For human health it's by hundreds of times, sometimes thousands of times, the Australian Drinking Water Guidelines. The guidelines usually look at one pollutant at a time, but if you were to drink water downstream of that mine, with the combination—with the chemical cocktail, I hate to think about the consequences if someone was to drink a couple of litres. It is entirely plausible—it's particularly popular for bushwalking, mountain biking and trail bike riding—because the water is so clear. It's polluted; it actually looks really clear. I have looked at the bugs living in there. There is very little life in the river. It has alarmed me for a long time about the potential risks. I think there should be regular testing of mines like that, also to help prioritise what are we going to do about fixing that mess. But the bigger one is, really, how are we going to effectively warn people about it? It's also a trout-fishing waterway downstream—Turon River. I would not touch a fish in that area.

**Ms CATE FAEHRMANN:** Notification is clearly very low hanging fruit, you would think. You've also talked about the need for environmental protection licences to adequately reflect, for example, what's contained in dust and what have you. Would you like to expand on what you want to see in terms of reforming that area?

**IAN WRIGHT:** Absolutely. The EPA is a key player and its legislation, the Protection of the Environment Operations Act, is extremely powerful. Large sections of it aren't used that much, but the ability to create licences—a licence really is a pollution permit. It follows the US EPA, "This is how much you can pollute." It does things like specify what are the dangerous pollutants in the emission. They are quite detailed for the Cadia mine in its environment protection licence for water. It lists all the different metals that could be of concern. But when it comes to air and the enrichment of metals in the dust, there is no such detail, so it is very hard to follow what is actually there.

The clean air regulations are a one-size-fits-all across the State, whereas the water pollution and the licence is site specific. I would like to see improvement there, but at the moment you have to dig through the clean air regulations. It talks about type 1 and type 2, yet we've seen fragments of information here and there, some

relating to planning approvals, but I still haven't got a picture about exactly what is in that dust and the exact fallout zone. But I have seen data that substantiates my concern that lead is one of those metals in the dust.

**The Hon. EMILY SUVAAL:** Thanks to you all for appearing today. My first question is to Dr Wright. In your opening statement you mentioned that the mine—or referred to the mine—cannot be excluded as a source of lead. Now, I want to pose to you also that could the mine categorically said to be for blame for that lead? We have heard evidence this morning to suggest that lead is prevalent in the area more generally, so would it be possible to say that the mine is responsible for the lead, or is that not a—

**IAN WRIGHT:** In my opinion, it is not possible at this stage. I should also say that I have been appointed to an external advisory committee for the EPA. I have heard a lot of information from EPA and other officers, as well as some of the reports produced by consultants on behalf of Newcrest. I am still confused and I see many large gaps. I've got to be honest, as a water scientist I come back to absolute first principles: What is in the tanks that people are drinking? I see substantial concern there. All 10 that I inspected on 30 and 31 August—all 10, at the bottom of the tanks, had lead concentrations exceeding the Australian guidelines. If it's not from the mine then we've got a statewide problem, and I can't rule that out. I'm on good terms with the EPA. We had a meeting with CCSN and the CEO on 12 May. I've been really impressed by all the action it is taking, but I think in many ways it is trying to catch up after 25 years of less-than-adequate regulation, in my view.

**The Hon. EMILY SUVAAL:** In terms of the regulatory role of the EPA, could I get your views broadly on its role and the monitoring that is occurring?

**IAN WRIGHT:** Yes, great question. It is the frontline agency in protecting the environment and the community from pollution, but it does work under a planning approval from the planning Minister. The EPA cannot have regulations, I understand, that conflict with that planning approval. It is a large mine; it has been going for 25 years, so there have been numerous approvals on the way. For example, when the underground crusher and the vent shaft were created. The EPA regularly reviews its environment protection licence.

In terms of water pollution, again, I think it's adequate. I think it offers rather generous pollution concentrations, remembering that the Belubula River is really valuable and houses a population of platypus of huge conservation significance. They have a key role in setting up the environmental monitoring that confirms—or not—whether the environment is being protected. And, again, on the air front, and particularly—air quality to a lot of people is CO<sub>2</sub> or methane or other gaseous substances. Dust is far more difficult. I think it's fair to say the EPA, the industry and consultants are struggling to get their head around it, how to quantify it, what targets to pitch for and how to measure. I'm personally not comfortable at the moment that we can actually track that pathway of pollution, but I still believe it's plausible and that metal-contaminated dust is literally falling out on roofs and is flushed into water tanks.

**The Hon. EMILY SUVAAL:** Thanks, Dr Wright. I have a final question for you. You mentioned the Sunny Corner mine, which closed in the 1920s. How has the regulatory framework changed since such a mine was in operation?

**IAN WRIGHT:** Look, it's a great question. We had no regulations back then. In fact, prior to 1970 there was almost nothing, which is why Homebush Bay and much of the pollutants in the harbour were created. It's changed enormously since the Clean Air Act, the Clean Waters Act, and then the Protection of the Environment Operations Act. But right around Australia, unfortunately, there are lots of Sunny Corners, up at various mine sites—Captains Flat is one I think of that's had quite a lot of attention, near Canberra; Rum Jungle in the Northern Territory. We have lots. Even with modern regulatory regimes I've seen coalmines shut down over the last 25 years and pollution still coming out today. So how we regulate and guarantee controlling pollution after a mine operation shuts is enormously problematic.

**The Hon. EMILY SUVAAL:** Thanks. My next question is to the Cadia Community Sustainability Network, to both of you. What is your view on the regulatory role of the EPA and their function?

**GEM GREEN:** My first personal contact with the EPA was probably in late 2018, where we were beginning to realise that—where else could we go with giving feedback in and around the tailings dust that we were visibly seeing more and more often? I'd have to say that up until 12 May this year I have been grossly disappointed. I've made, personally for our family and on behalf of the community group as well, 36 applications of feedback to the EPA. I've received four emails in response. Those were just acknowledging that they had received and had forwarded those to the Environment Line. I've had one roundtable conversation with the local EPA, handing over three years of video and footage evidence on a USB, and that pretty well covers it until 12 May this year.

**The Hon. EMILY SUVAAL:** And 12 May this year was the meeting?

**GEM GREEN:** It was a meeting with Mr Tony Chappel, CEO, in conjunction with Frances and also Dr Wright.

**The Hon. EMILY SUVAAL:** Right. Thank you.

**FRANCES RETALLACK:** Can I add to that? As Gem mentioned, I was at that meeting. Our experience of the EPA up until that meeting was substantially non-existent, unresponsive. Even after—and we've put some of these letters in the submission—they had initiated the inquiry into potential criminal charges following the discovery of the vent shaft No. 8 emissions last year, community members were trying to call in to the hotline new events running up to Christmas and they were receiving written comments back saying, "There is no evidence dust is leaving the site. We're not collecting samples at this time." And the problem with that is, when you don't come and collect samples, you deny the community an opportunity to report another dust event and eventually the community learns not to bother. On the broader question of the EPA, if the EPA has no tools in its toolbox to change the culture of mining, we may as well not have an EPA.

There is no point in fining them \$15,000. We might as well just all give up and accept Armageddon; it's going to come because we will have no rivers in New South Wales. Every tailings dam, every mine in our shire is already polluting the river and we're standing back and talking about another however many. There is no evidence—they are asked to design a tailings dam that is stable for a thousand years in perpetuity. The bonds that the mines put up do not include any cost for monitoring or maintenance or anything going wrong because the assumption is it was designed so that it was a passive system, stable for a thousand years. There isn't a tailings dam that meets that criteria. Therefore, why are we letting them get away with no bonds? The whole thing is such a mess and the EPA doesn't have the tools to change it.

**The Hon. EMILY SUVAAL:** I want to bring you back to a comment you made earlier about the dust and the dust monitoring. We've heard evidence this morning from Newcrest about them conducting the monitoring for 10 years and their being confident, in terms of the boundary of the mine, that they could pick up those elevated levels if and when they were to occur, and all of that is publicly available.

**GEM GREEN:** I'd probably like to say that I think Mick is actually correct in what he says. They are around the boundary and they sit at the six-foot level. It completely disregards a vent shaft stack that pumps whatever is coming out and through at 100 kilometres an hour. This is where I really would request that you view the visual evidence that we have put in our submission with regards to the photo specifically of the vents. You can see that it lifts quite a significant height, and then whatever direction the wind is flowing, it then just drifts. You can see that just moving up the valleys. There is no measuring for that in what they are currently being requested to measure. It is all at ground level.

**FRANCES RETALLACK:** Can I add one comment. The air model dispersion report—the Todoroski report that we've included in our submission, which Newcrest actually avoided talking about today—basically assumes that because the Woodville monitor, which is the one closest to the vent shaft, is broadly in compliance, therefore the mine is in compliance. They worked backwards and said, "How much dust must be coming out of vent eight for Woodville monitor to be in compliance?" "Oh, it's 10 per cent of what was measured in the independent expert's report." That 10 per cent number has flowed into the health analysis done by SAGE; nobody is talking about that, either. What has become apparent since the Todoroski report was published is that Cadia has now actually started measuring the dust coming at the bottom of the vent through the filtration system. Whilst it might not be 90 per cent, what's actually being collected isn't that far off what was in the original report. Therefore, the SAGE health report is wrong and the Todoroski air quality report is wrong.

**GEM GREEN:** We'd appreciate being able to give you that calculation and evidence on notice.

**The Hon. SUSAN CARTER:** If I can go back to water, Dr Wright—and acknowledging that I am a layperson trying to make sense of different evidence that we are receiving—I hear that you're saying that the ANSTO study indicates that 16 per cent of the lead could come from Cadia or could come from local sources and nobody's sure. With respect to that, are you aware if there is a baseline taken of heavy metals or other environmental contaminants before mining begins in an area so you can measure changes?

**IAN WRIGHT:** That's a great question. In a lot of the environmental impact assessment documents, exactly that sort of data is sought. I recently was asked to help review and advise the community about the new mine at Blayney—is it the Regis Mine?

**FRANCES RETALLACK:** Yes.

**IAN WRIGHT:** I was very disappointed in that EIS. I did not feel that exactly that sort of baseline data was adequately documented. I felt that anyone who was going to make a decision based on the approval for that mine really didn't have a picture of what's there. Looking in water tanks, because that's what a large percentage of



regional Australians drink, should be looked at as part of that baseline, as well as the creeks, the farm dams and even the groundwater.

**The Hon. SUSAN CARTER:** Because that would help us determine whether it was environmental lead or whether it's mine-added lead.

**IAN WRIGHT:** Absolutely.

**The Hon. SUSAN CARTER:** With respect to the water tanks, I acknowledge your evidence and the other evidence we've received that the testing at the kitchen sink tap was fine. But you've indicated that there could be problems if there are disturbances in tanks and things like that. As a person who gets her water most of the time from the Warragamba Dam, I filter my water all the time. I'm aware when there are major rain events or other things happening in the dam that care has to be taken with respect to water usage. In what way is swirling at the bottom of a water tank different to the sorts of precautions we all take, even in a First World country, with respect to drinking water? If the tests are showing that the kitchen sink tap water is fine, do we need to be concerned about scrapings from the bottom of water tanks, or are there ways to manage that with filtration and sensible practices when there are large rain events?

**IAN WRIGHT:** Great question. Our modern water supplies, and certainly town water supplies in New South Wales, are fantastic. We have the *Australian Drinking Water Guidelines*. NSW Health have a water unit. They are on top of town water supplies really well. There are all kinds of actions in terms of filtration and monitoring at various points through the system. But when it comes to private water tanks, you're kind of on your own.

**The Hon. SUSAN CARTER:** Maybe you've misunderstood me. Even with town water, people routinely filter the water before they drink it and take care. There are warnings—"Rain event, be careful." I acknowledge that tank water is not being filtered by a water authority or anything. I'm just asking whether the same principles apply. If the kitchen sink water is fine, isn't that the ultimate test?

**IAN WRIGHT:** I'll come to that last bit first, because I think that's a really important point—"If the kitchen tap is fine, there's no problem." When I sampled on 30 and 31 August, the kitchen tap was fine. But I've lived on water tanks enough to know that when the levels drop in dry periods, you lose dilution. But also the sediment down the bottom—I've seen the colour of water change. My parents had a farm 30 kilometres north of this area. A lot of people know that you don't wash white sheets during drought times because that sediment at the bottom gets disturbed. The principle of filtering the water is a very good one—that's right. But one of the big differences with the town water supply and private water systems is that I'm confident that every town water supply is rigorously sampled and monitored to ensure that it's safe to do so.

**The Hon. SUSAN CARTER:** I have one last question, if I may, for the Cadia Community Sustainability Network. I understand what you've expressed today and in your submission. There is a lot of community concern and a lot of anxiety. You are concerned about the role of the mine in relation to your community and to community health. I also note the statement that was made in evidence before us that it's economically rational for Cadia and other mines to essentially look at a fine and look at community health costs. Other than a concern about corporate behaviour, bearing in mind that Cadia is a mine that is entrenched in the community, that has a large community network and whose workers, managers and administrators have their children in local schools, use local playing fields and drink local water, is there any evidence other than your own perception to suggest that Cadia would only be interested in what's going to cost them least and has no regard for community welfare, in a community in which they exist?

**GEM GREEN:** One thing that I've really come to realise is that any time I go to a community meeting, I endeavour to step in their shoes and endeavour to understand better the world in which they work. I certainly don't work in that world as a grazier and I choose to listen. The culture of what I see is reactive action versus proactive action, and that is a big concern for me. In relation to how the community is going at the moment, I think we are very much stepping into a state of trauma because we still have not defined where the sheer magnitude of cocktails is coming from of what's sitting in our tanks. We are talking not necessarily elements and exceedence, but we are talking anywhere up to 24 to 26 elements sitting in the base of a tank. Look, my girls are at school with Mick's girls, we know each other. I have a respect for him and at the end of the day I proudly sit here to advocate for the community to get to the bottom of where this has all come from.

**The CHAIR:** We are out of time.

**The Hon. GREG DONNELLY:** Hang on, Cate had almost 25 minutes of questioning.

**Ms CATE FAEHRMANN:** I didn't have 25 minutes.

**The Hon. GREG DONNELLY:** Quarter past and at 11.37 a.m. you were still going.

**The CHAIR:** I have been timing and recording minutes of questions between Opposition, crossbench and Government all morning. I am happy to discuss that with you later. With the consent of the Committee perhaps we could run over by five minutes so that Mr Donnelly and Mr Fang can ask one question each?

**GEM GREEN:** Sure, thank you.

**The Hon. WES FANG:** I just wanted to understand briefly, is it possible to filter out those elements in order to make water safer, and how much would it cost to put a system on each, say, household water tank?

**IAN WRIGHT:** I'm really glad you asked that question. There are a lot of measures that can be taken. In visiting some members of the community I've seen bypass systems. They're sometimes called a first flush system. They've directed away from the water tank. But, again, filtration that is well maintained and appropriate for the purpose makes complete sense. But the biggest one of the lot is not to get the pollution in here in the first place.

**FRANCES RETALLACK:** Two very quick points: One of our community members, their daughter was allergic to the nickel in their tank. They thought she had eczema. They eventually worked out, with all the health testing, there's a nickel problem. It cost them \$8,000 for the filter because their family had a nickel problem. Nickel is a carcinogen anyway. You don't want it there. Nickel is not easy to get out. On the point on the water tanks, we went down this route on the blood testing and the water tank testing because it was the deposition gauge that we could control and trust. We did not trust the mine's deposition gauges because we knew the dust was going up and over the top of them. It was never in our minds about a point-of-use health risk from the kitchen tap, and we're tired of being told, "You should have been cleaning your tanks." That is not the point. The point is somebody has put something in the bottom of our tanks that should not be there.

**The Hon. GREG DONNELLY:** I've had the secretariat hand up a copy of the company's submission. I don't think the doctor has seen it. It is submission number 76 to the inquiry. You may have read it prior to coming today. Specifically pages 14 to 16 deal with this new ventilation arrangement that we understand has been implemented and is detailed in its report. Can I ask the doctor, on page 15—I'm a little bit confused about this statement—in the right-hand column at the top it has a paragraph that states:

Whilst particulate levels were measured in exceedance, it is noteworthy that Cadia has consistently remained in compliance with Clean Air Regulations in relation to metals emissions.

That is quite a definitive statement. I make that observation. Do you have any comments about that statement, about your views and the accuracy of it?

**IAN WRIGHT:** Can I add to my previous comment?

**The Hon. GREG DONNELLY:** Yes.

**IAN WRIGHT:** I do not think that the clean air regulations, which is one size fits all across the whole State, are fit for purpose for this situation, and particularly for dust. I still have not seen an accurate breakdown in the particle size and the metal enrichment in the dust. I think it's pretty obvious that there needs to be site-specific measures with clear targets for someone like Cadia to meet.

**The Hon. GREG DONNELLY:** Dr Wright, those regulations, you've obviously had a look at them. They are relatively old, I think. They've been in place for some time, or that's a question you can't answer?

**IAN WRIGHT:** I can't answer, but I gather that's true.

**The Hon. GREG DONNELLY:** But they're relatively unsophisticated; that's what you're saying. They're an overarching regulation.

**IAN WRIGHT:** In my view and, in contrast to water pollutants, absolutely, yes. If you look through the environment protection licence, absolutely yes.

**The Hon. GREG DONNELLY:** I asked the question because the Committee, after its inquiry and receiving this evidence, will make some recommendations and I'm pretty keen on hearing the thoughts about recommendations.

**FRANCES RETALLACK:** This statement is in contradiction of what we call the Zephyr audit report, which is the one from August of last year, which identified that the vent shaft was emitting at 18 times the national limit.

**The Hon. GREG DONNELLY:** This is referred to on page 14. On the left-hand column on page 14, it says just above the diagram or the photograph—

**FRANCES RETALLACK:** "Identified 360 milligrams."

**The Hon. GREG DONNELLY:** Yes.

**FRANCES RETALLACK:** And it's allowed 20.

**The Hon. GREG DONNELLY:** Yes.

**FRANCES RETALLACK:** If I can take the opportunity, the Zephyr report, which is in our submission, identifies a purple cloud where the expected worst of the distribution would be. The Gulson report, page 24—I'm sorry about this—has a map. The tiny numbered dots are the distribution of fingerprinted lead. It's also worth noting those little dark brown dots, which are almost the same colour as the water tank dots so it's very hard to read, that's where the soil was sampled. It's no wonder that the soil sample and the ore sample are indistinguishable. It's the same thing.

But interestingly, and this was a real shock to us when we actually were putting forward our submission just last week, the dots for the lead go this way and there's a couple down the bottom here. That matches the Zephyr report, appendix 8. We mapped molybdenum exceedences and it was a bit random. Gemma and I were sat in a kitchen—how are we going to show this data? How are we going to make it mean something? We picked, let's call, in our district, 14, which is actually the upper limit. The upper threshold is 16 units. We said, "Let's go with 14," which is our average, and we'll give all those a green dot because we were trying to see where does molybdenum drop out in our blood tests. Remember we're treating it as a deposition gauge. It's not a health question at that point. Where does it deposit? At 14, we'll give it a green dot.

**GEM GREEN:** Yellow, for argument's sake.

**FRANCES RETALLACK:** Sorry. Yellow were the ones that were 14 and 15. So we're getting up there statistically within the margin for error of the 16, which is where you've got an upper threshold. Then we said, "Over 16, you get a red dot." The red and yellow dots identify where that distribution has gone. It matches the Gulson's lead report.

**The Hon. GREG DONNELLY:** Thank you.

**FRANCES RETALLACK:** That was a real eye-opening moment for us, remembering that the 14, the Mudgee control group, their average molybdenum was 10. Fourteen is still an elevation but we were simply trying to work out where did we seem to stop depositing molybdenum, and this plant produces molybdenum.

**The Hon. GREG DONNELLY:** That's an interesting analysis. Thank you.

**The CHAIR:** We need to move to our next witnesses. Thank you for the time and travel you have taken to attend this hearing today. Committee members may have additional questions for you after the hearing. The Committee has resolved that answers, along with any answers to questions taken on notice today, are to be returned within 21 days. The secretariat will contact you in relation to those questions.

**FRANCES RETALLACK:** Thank you.

**Ms CATE FAEHRMANN:** Thank you. The Committee is very grateful.

**(The witnesses withdrew.)**

**Ms SUSANNAH WHITE**, Angus Seedstock Producer, Mudgee Region Action Group, sworn and examined

**Ms SHIREEN BAGULEY**, Environmental Consultant, Mudgee Region Action Group, before the Committee via videoconference, affirmed and examined

**Mr DAN SUTTON**, President, Belubula Headwaters Protection Group, before the Committee via videoconference, affirmed and examined

**Ms REBECCA PRICE**, Vice-President, Belubula Headwaters Protection Group, before the Committee via videoconference, affirmed and examined

**The CHAIR:** I now welcome our next witnesses. Would the Belubula Headwaters Protection Group like to start by making a short statement?

**DAN SUTTON:** Absolutely. Thank you very much. I'd just like to thank the commissioners and the panel for allowing us the opportunity to present the reality of impacts that mining projects have on communities. We have the unique ability to speak about impacts felt from the start of recent mining assessments through the DPE and IPC assessment process and all of the shortfalls that exist in the current systems. I encourage you to ask any questions you may have given our extensive involvement in the assessment process extending beyond half a decade from the side of the community. We request that, if not already on the list, you call Mr Peter Williams, chair of the IPC panel who made the determination on the McPhillamys Gold Project, to speak at a hearing and inquire as to why no community-proposed consent conditions were adopted or visibly considered by the IPC in their determination of the McPhillamys Gold Project which specifically attempted to address several issues in the terms of reference that this inquiry refer to.

We also request that the commissioners recommend that merit appeal rights be reinstated to all mining projects that have been assessed as a SSD, State-significant development, and approved via an IPC hearing method as opposed to an IPC meeting method but have not yet commenced. Additionally, it should be a standard that all mining assessments require an IPC meeting as opposed to a hearing which allows for merit appeal. Mining companies have been able to navigate away from objective assessments in New South Wales for far too long. This has resulted in direct negative health impacts on the communities and the environment, with no tangible repercussions to the operators who are not compliant with their own projections and models. If mining proposals are as good as these proponents imply, there shouldn't be any harm in having them objectively reviewed should a group decide to appeal an approved decision. Finally, we strongly encourage the commissioners to read our submission to the IPC, which is available on the IPC website, which not only listed our proposed consent conditions but explains why they're necessary and the benefits able to be provided over DPE standard conditions, which were ultimately imposed by the IPC.

**The CHAIR:** Ms Baguley, can you hear us? I'll leave IT to, hopefully, sort that. In the meantime, Ms White, would you like to make a short statement?

**SUSANNAH WHITE:** Sure. Good afternoon. Firstly, thank you, Chair and Committee, for holding this very important inquiry. I'm appearing today on behalf of the Mudgee Region Action Group. I'm a landholder and resident of the Mudgee region, and I live with my husband and two small children ten kays downstream from the proposed Bowdens lead, zinc and silver mine, at Lue. Appearing with me on screen today is Shireen Baguley. Shireen is a civil engineer with nearly 30 years' experience in hydrology and environmental impact assessment. She is a certified lead environmental auditor and is a DPE-approved auditor of State significant developments in New South Wales.

The framework for assessment and approval of metal mines in New South Wales is not fit for purpose, and the Bowdens project is a clear demonstration of this. The Bowdens project is a greenfield development of an open-cut lead mine two kilometres from Lue village and primary school. Approval was granted despite serious concerns around health, environmental and economic impacts being raised by hundreds of community members and numerous independent experts, including those engaged by the DPE itself. The project lacks crucial technical detail around water supply and prevention of acid mine drainage. And now, somewhat absurdly, one of the conditions of consent includes the routine blood-lead-level testing of surrounding community, including babies and children. The project doesn't have an adequate water supply. Expert evidence put before the DPE and the IPC demonstrated this, but approval was granted. The modelling used to try and demonstrate that they have adequate water supply was calibrated using flow rates from an entirely unrelated catchment. Shireen, hopefully, can elaborate on this today as required.

In terms of lead and human health, this mine will disturb 130,000 tonnes of lead—that's 90 times more lead than silver—on a water-constrained site. The DPE itself acknowledged that dust would be the key pathway for lead to leave the site. You can forget the modelling; you only need to look at Cadia to see how that plays out

in real life. When assessing the risk of acid mine drainage from the site, the department's own experts noted that acid drainage may continue for hundreds of years, saying, and I quote, "The waste rock dump design is unproven and substantially problematic. The site could be establishing the need for water treatment in perpetuity." This advice was ignored by the DPE and the IPC.

I expect you'll hear a lot later today about the importance of critical minerals and high-tech metals. The New South Wales critical minerals strategy is very broad. It casts a wide net, and these loose definitions leave space for vested interests to, essentially, lobby that any mining project that isn't coal be given a ticket to the approval fast lane. I urge you to see this for what it is. It's an attempt to skew the weighting of any cost-benefit analysis so that the value of what's coming out of the ground trumps the value of everything else. There needs to be an in-depth analysis of what actually constitutes a critical mineral or a high-tech metal, and its importance then needs to be weighed properly against the social, economic and environmental costs of extraction, particularly in areas of high agricultural and tourism value.

While it's true we all have a duty to contribute to the energy transition, at what point does that duty outweigh the duty to protect human health? It's true we have an opportunity to create jobs through metals mining. But, with this new wave of investment, we also have an opportunity to do a better job of firstly assessing and then regulating these projects. Projects like the Bowdens mine, and the McPhillamys mine at Blayney, are the thin edge of the wedge. If the Government's to pursue its Critical Minerals and High-Tech Metals Strategy, it needs to ensure the projects are assessed and regulated to the highest possible standard. Clearly, this isn't currently the case.

Today primary producers in the Mudgee region don't have to worry about how lead contamination might impede their market access domestically and overseas. If this mine goes ahead, they will. Today the Mudgee region water users don't have to worry about whether or not their water's safe for stock and domestic use. If the mine goes ahead, they will. Today the people of the Mudgee region don't have to worry about the levels of lead in their blood. If this mine goes ahead, they will.

**The CHAIR:** Thank you. I will check one more time if Ms Baguley is able to hear me? All right, if she can't hear me, we might start with questions from members to the witnesses we do have and I'll check back in another five minutes.

**Ms CATE FAEHRMANN:** Thank you for appearing today. I'll just go to a general question to begin with to both groups in relation to your experience with the IPC and with that process. I might throw first to Mr Sutton, or the Belubula Headwaters Protection Group. Did you feel that it was adequate and that your concerns were listened to?

**DAN SUTTON:** To be quite honest, we feel like it was an absolute waste of time. We were led to believe prior to the closure of submissions and prior to the hearing in Blayney that we should raise all areas of concern because the commissioners would thoroughly consider them—create videos, send in photos so they would understand the context of our comments and feedback. We were denied physical site inspections of neighbouring properties because they said that you can take photos and videos and show your perception to make sure that you get your point across. It was sold to us by the IPC staff as a genuine, independent opportunity outside of the State Government assessment to raise our concerns and have them genuinely investigated and raised to the proponent as an area of concern and then for it to be resolved.

Throughout the whole process, there was obviously hundreds and hundreds of hours spent on detailing these issues by individual people just in the IPC process—this is even after the DPE assessment. Our group submission had over 100 different modifications or new proposed consent conditions. We're not expecting them all to be adopted, by any means, but we justified every single one of those variations by explaining why they needed to be varied. We already know from our dealings with the proponent what the DPE's—or the IPC's—understanding was of something they're implying, which is contrary to what the reality of the outcome will actually be. So our consent conditions were very detailed for a very specific purpose, to ensure that things were being held to account and that they were actually genuinely enforceable.

The IPC's determination was a copy and paste of the DPE's consent conditions. We spent literally hundreds of hours of our lives—weekends, after hours after work. We were putting together these submissions, taking leave from work to attend the hearing on a weekday, and the outcome was absolutely no different to what the DPE had put to the IPC anyway. In the IPC's determination and findings report, at no point did they reference back to any of the proposed conditions we had put forward in our group submission or any of the individual submissions or the expert reports that we engaged on our own dollar to back up the items that we were putting forward.

**Ms CATE FAEHRMANN:** Thanks. I am conscious of time and there being lots of issues to get through. I will throw to the Mudgee Region Action Group.

**SUSANNAH WHITE:** Our experience has been very similar to that. Essentially, we engaged genuinely with the process. At that point it felt like our best chance to have an independent hearing of the serious issues that were raised not only by our community members but also by independent experts that we engaged and that the department themselves had engaged. The resulting report and decision was, as Dan said, essentially a copy and paste of the department's assessment report. I would summarise it as the IPC—their taking on board of our concerns was at best lip-service and at worst completely ignored.

**Ms CATE FAEHRMANN:** I want to go to the issue of McPhillamys goldmine with the next question, and the fact that this is proposed to be built at the very top of the Belubula River, at the headwaters, as I understand it. Your submission states that there will be plugging of over two dozen natural springs that create the headwater of the Belubula River. Could you expand on "plugging" springs to build a mine or a tailings dam? Ms Price, I understand you're a grazier down south and potentially use that water as well, so what are the impacts on you?

**REBECCA PRICE:** That's right. We're downstream users, above Carcoar Dam and below the mine site. Our major concern—and that was one of our first introductions to the process of McPhillamys—was that we heard that they were planning a tailings storage facility in the river. The concern we had around that was that's what feeds the river. There are 26 springs that have been recorded in that area. There are also third-, fourth- and fifth-order streams, which they will be permanently covering. The major concern there is the contamination, the blocking of the river and the health of the river. The river initially uses those springs to feed the river in times of dry when there is no rain. It has done that for millennia. We are very concerned with not only the potential pollution of the Belubula but the blocking of what is essentially the beginning of the Lachlan system at our end of the river. It will be permanently blocked and plugged with cement. They're going to drill down, put cement in and then, in their own words, "let the river go on its merry way".

**Ms CATE FAEHRMANN:** It does sound like the most ludicrous position you could possibly imagine and the most outrageous site for a goldmine—literally on a river.

**REBECCA PRICE:** If you can get the perspective, this is going to be a 660-acre surface area. The dam wall is going to be 1.2 kilometres across the river path. It's only going to be 10 metres lower than the Wyangala Dam wall, so we're not talking about an insignificant dam. No-one can dam a river; no-one is allowed to do that but this has been allowed without any question. There's no reason why they're allowed to do that and permanently change, damage and block the river.

**Ms CATE FAEHRMANN:** You're downstream. What concerns do you have for your business, your family and your livelihood?

**REBECCA PRICE:** We have massive concerns if this mine goes ahead. We rely on the river, as do many other people. We rely on it not only for the health of the river system. They tried continuously to downgrade the quality of the river system, which goes to show that their modelling and their experts don't understand it—that what might look like stagnant and dry times is the river staying alive through the dribbling of these springs. We rely on it not only for our production—our flats where we fatten cattle are the most productive part of our production—but there's a plethora of environmental activity. As Dr Ian Wright said, there are platypus in this river, there are fish in this river. This supposed 4 per cent reduction in flow that they're trying to model this will have an effect of (a) is very questionable and (b) a 4 per cent reduction permanently will still have a massive effect on the health of this river.

**Ms CATE FAEHRMANN:** I will go to Mudgee Region Action Group with my next question. You mentioned in your submission and your opening statement about blood tests needing to be taken of the community, particularly children and schoolchildren and babies. Really?

**SUSANNAH WHITE:** Yes, that was one of the conditions of consent that came back in the IPC approval. That was one of the very few things they added on the department's conditions that they suggested. We, as a community, feel like that actually isn't a solution because it puts the onus of regulating exceedences on individual community members.

**Ms CATE FAEHRMANN:** How close is it to the school?

**SUSANNAH WHITE:** Two kilometres. An open-cut lead mine.

**Ms CATE FAEHRMANN:** The open-cut mine is two kilometres?

**SUSANNAH WHITE:** Yes, from a primary school. It's an elevated site at the top of the Lawson Creek catchment. Key to the lead dust issue—other than the fact, of course, that it is lead dust—is that the site is severely water constrained. The proponent to date has not been able to demonstrate how they have adequate water to run the site, to the point where they themselves conceded that in dry times they may have to reduce production. As a community, that raises real concerns around dust suppression. You obviously need water to suppress dust. The

context is important around the water supply. Previous owners of the asset conducted feasibility studies and walked away on conclusions that they didn't have enough water. The proponent, in their initial EIS, had a water supply pipeline coming from the Ulan coalfields. It was only at the eleventh hour that they scrapped that and with some tweaking and processing decided that they have enough water to draw from the site.

Everyone who lives there knows that that's actually not the case. The real issue here is that this was accepted. This is really the degree of detail that was in the EIS and it was given the green light, so where does that leave us as community? It's the same with the blood testing. Who is doing the testing? How much does it cost? Who is in charge of the data? How frequently do they report? We don't have any of this detail. Even if we did, is it really a solution when the onus then falls on the parents of the children? Are you a good parent by subjecting your child to the routine trauma of blood testing? Can you imagine doing that to a one-year-old on a routine basis? Or, if you don't do it, are you a good parent for protecting them from that trauma but risking that maybe they are being exposed to lead and you don't know about it? It's absurd.

**Ms CATE FAEHRMANN:** There are so many questions. I am looking forward to our visit next week. I will go back to the Lue mine biodiversity impacts. I'm hearing that there's koala habitat, regent honeyeater habitat and quite a bit of critically endangered woodland that will be cleared for this mine. I might go to Ms Baguley now that you are a part of the hearing and we can hear you and you can hear us.

**SHIREEN BAGULEY:** I have some of the details on that in terms of the koalas. There was a project that was recently done by Mid-Western Regional Council that actually started to look at mapping some of the core koala habitat. There have been a significant number of sightings in that area. I will take on notice the exact words of it but there is core koala habitat around in that area that has been underplayed for an extended period by the proponent. As you say, there is also the grassy woodlands and there is all of the biodiversity that relies on those woodlands, which we can supply further information on.

The other thing I'd like to possibly raise, if I can, is the groundwater dependent ecosystems, because these have been completely missed in the assessment process. There is actually some montane peatlands and swamps in that area. It is, again, only something that has been recently uncovered over the last couple of years. It has been raised in submissions to the department as well as in the IPC and it has not at all been investigated. The department's assessment is actually flawed, I believe, because it not only assesses State-listed EEC but it also is federally listed. There's supposed to be a combined assessment. The department is supposed to be assessing on behalf of the Commonwealth and they've not done that. They've not fully assessed all the species that are there. They've not assessed this EEC, so I cannot see how this is actually a valid assessment that has been done, at this point.

**SUSANNAH WHITE:** Ms Faehrmann, I have the numbers here. There will be removal of 180 hectares of critically endangered box gum woodland, 139.5 of core koala habitat and 182 hectares of regent honeyeater habitat. On cultural heritage, of the 52 surveyed Aboriginal artefacts in the area, 25 will be destroyed.

**The Hon. SUSAN CARTER:** Thank you all for making yourselves available today. My first question is to the Mudgee Region Action Group. As I understand from your submission and the evidence you've given today, you are very concerned about the process of approval—what has been looked at, what hasn't been looked at—and you are concerned that the issues raised by local residents, particularly about human health, haven't been properly acknowledged or properly weighted. With a view to what sorts of recommendations we may make as a result of this, is it your view that the mine shouldn't go ahead at all, or that with different considerations or different protections it could proceed in the same or a limited manner? Do you have any insights into the assessment process of what should have been taken into account that wasn't or what shouldn't have been taken into account that was?

**SUSANNAH WHITE:** Thank you for the question. For context, when the proposal first popped up in the Department of Planning—people had been talking about it for a while, but when they first lodged their EIS and it was game on, we had mining engineers with 20 and 30 years of experience with top-tier mining companies look at it and laugh, basically. We thought, "There's just no way this is going to get through," because of everything from human health impacts and the fact that essentially it's an open-cut lead mine in the middle of Australia's most popular tourism region, down to technical aspects of their mining engineering and technical flaws that are not resolved in what they put forward.

Now we are where we are, and that proposal is the proposal that got the green light. So it's a difficult question to answer as it's slightly hypothetical. Our feeling is that the proposal as it currently stands should never have received approval. The company essentially lobbed in the cheapest, lowest-ball offer they could, and it got through. And when you see how mining operations play out—not all of them, but a lot of them—and communities in regional New South Wales particularly are pretty woke to what it's like to live next to an open-cut coalmine now, I don't think the wool can be pulled over the eyes as much as maybe it could 30 years ago. A new skate park or a very well-sponsored rugby team isn't going to cut it when it comes to buying a social licence. We know what's

up and, essentially, we feel that what they have put forward is not good enough. Were other options explored? We don't know. They probably didn't need to explore them because they got the tick on their first crack.

**The Hon. SUSAN CARTER:** I understand if you don't feel competent to answer this question, but are there extra protections or adjustments that could be put in place, in your view, or should it not proceed under any circumstances with any level of adjustment or protection?

**SUSANNAH WHITE:** I'm not a mining engineer. I don't know what their budget is. I don't know what their earning potential is, so it's a very difficult question for me to answer. I'm happy to take something more specific on notice, if it's helpful.

**The Hon. SUSAN CARTER:** In terms of adjustments to the assessment process, what sort of adjustments do you think would be helpful to protect the interests of local communities?

**SUSANNAH WHITE:** Evidence that we were actually at any point listened to would be a really good place to start. The system is designed to obfuscate. The density of the documentation, the way the modelling is presented, the layers and layers of consultant reports—particularly in this case, this process was riddled with amendments and unclear data analysis. It falls on the community to go through that with a fine-tooth comb, and the devil really is in the detail. It's unfortunate, but it is. That system is not fair, and it's geared against communities. It is really stacked against you as volunteers and people who don't have the expertise. It's stacked against you financially; it's stacked against you in terms of your human resource ability to deal with the proposals. You really do get the feeling like you're in a process that is just a process to get to yes. You have to try, but whether it's worth it or not. We're here, aren't we?

**The Hon. SUSAN CARTER:** Perhaps I could just ask essentially the same question of the Belubula Headwaters Protection Group. What changes, balance points or adjustments to the assessment process do you think would be helpful?

**DAN SUTTON:** I guess very quickly, as it stands, we don't think it should go ahead as it is. There are far too many flaws in the desktop modelling that's taken place. There are too many unknowns, too many assumptions that A, B and C will work perfectly 24/7, and therefore there'll be no issues. Obviously, the biggest issue is the tailings dam on the headwaters of the river. The proponents themselves admit that if it fails, it will, guaranteed, go into Carcoar Dam and then the Lachlan catchment.

There was no alternative ever looked at. It was just this spot because it's already pretty much a valley. It's very cheap for them to just build one wall across the front of it, dig it up, lay their clay and move on. So it was the cheapest, easiest option; nothing else was ever looked at. Again, it's probably difficult to comment on whether or not there's a viable alternative. But at a bare minimum, as I mentioned, there were over 100 variations to the consent conditions that we put to the IPC, which would go a long way in actually improving what was approved. But in our opinion, it should not be approved as it was proposed.

**The Hon. SUSAN CARTER:** Back to the Mudgee Region Action Group and Ms White, the consent condition was that there be regular blood tests. Is there responsibility, then, for the mine to stop when blood tests reach a certain level? What was the corollary of the blood tests?

**SUSANNAH WHITE:** It's a very good question, and we don't know the answer because the detail is not there. It's been pushed to the post-approval phase to be resolved between the proponent and the Department of Planning.

**The Hon. EMILY SUVAAL:** Thanks so much to you all for appearing today. To those who have made the special trip, we appreciate it. My first question is to the Belubula Headwaters Protection Group. In your submission, you lay out that you're a representative community group on the Community Consultative Committee for the McPhillamys Gold Project and are the lead objectors to the proposal. Balancing and weighing up the evidence that's before us, we've also received a submission from Regis Resources that talks about research it carried out late in 2022. I'll read it out for you in case you do not have it in front of you. Submission number 69 states:

Research carried out by ISO-accredited SEC Newgate late in 2022 showed strong community support for the project with over 70% of people surveyed in the Blayney LGA supporting McPhillamys. The remainder were neutral (15%) and a small number negative (15%). This is reinforced by the fact that the majority of submissions to the IPC were from the local area and were positive.

Is it fair to say you're one of the only objectors to the proposal?

**DAN SUTTON:** Absolutely not. It would be fair to say that the proponent was very selective in their surveying. They did targeted phone calls, which we received feedback from the community about. Their phone calls were specifically to people that they assumed or could reasonably guess would be in support of the project, and a lot of the feedback that we got from people who were not in support of it—in the conversation that they had



with the firm that were engaged to do the surveying, they didn't take your immediate response. If it was a no, you do not support it, they actually gave feedback and they said, "What about the jobs that it will bring? What about the economic stimulus for the town?" So they attempted to actually sway the position of the people they were surveying.

In direct response to that survey, no. It's entirely skewed. Then in reference to the submissions in support, again, they were form submissions. They were pieces of paper which a couple of the people employed by the company sat at the door of the local shop or went around to the footy fields that they sponsor the teams of and just said, "Hey, can you just circle the "yes" box or write a quick sentence that says why you support us?" If you actually read any of those supporting submissions, most of them are one-liners that say, "It will create jobs," or "It will be great," or "We need it. It means progress"—simple, straightforward things like that.

So absolutely not. We are not one of the few that object to it. My contrary position is that our members have relied on us to, effectively, speak on their behalf because they're not confident or comfortable in making their representations themselves. We have hundreds of people that are financial members—so they actually pay money to support us—and then there are hundreds more that support us without making a financial contribution. But the answer to your question is no.

**The Hon. EMILY SUVAAL:** In your submission, you also mention that there are over 130 financial members. Thank you. You obviously live in the local area?

**DAN SUTTON:** Correct, yes.

**The Hon. EMILY SUVAAL:** I think, Ms Price, you mentioned you are downstream of the dam. What about yourself, Dan?

**DAN SUTTON:** I'm across the highway from the proposed mine, so I'm 600 metres from their proposed waste rock wall and a kilometre from their open pit.

**The Hon. EMILY SUVAAL:** In terms of the EPA and their role more generally, I just wondered if, Ms White, you wanted to comment on how you saw their role.

**SUSANNAH WHITE:** Sure. We're slightly different to the Cadia situation, obviously, because that is an operating mine and has been for many years now. The Bowdens project hasn't started yet, so all we are going off is what we have seen and experiences through family and friends in other areas where open-cut mining is regulated, like the Hunter Valley. I suppose what I would say aligns pretty closely with what the Cadia group said, which is, to date, the EPA has been ineffective at regulating dust but most environmental impacts. It certainly seems they're saying the right things at the moment, but, at the end of the day, I think it has been said today the \$15,000 maximum fine is borderline irrelevant and there needs to be serious action. Essentially, the problem is not—the mining companies will do what they're allowed to do, and the problem is what they're allowed to do. Really, that's what we're talking about here.

**The Hon. EMILY SUVAAL:** Are there any other comments online?

**SHIREEN BAGULEY:** Can I just add to that? In terms of the EPA, they are consulted by the Department of Planning when the SEARS are being pulled together, and the EPA gave a list of its requirements, which became part of the SEARS. Many of those requirements were not addressed in the EIS, and there doesn't seem to be any kind of consequence for that. As part of the submission I've made, I've outlined where those points were missed and what wasn't addressed. I would imagine that could only make the EPA's job harder if what they would like to have in the first instance is disregarded.

**The Hon. EMILY SUVAAL:** Thank you. Ms White, you mentioned earlier the Government's critical minerals strategy, which has been recently announced. We know with the Bowdens mine, in particular, that this is a silver mine. There's other evidence that we've received to the inquiry about the importance of silver, in particular, the growing demand for it in terms of solar panels, EV batteries and all of those sorts of things. I just wondered what comments you might have about that in terms of our needing to get to net zero and what role these critical minerals like silver have to play.

**SUSANNAH WHITE:** I think I said in my opening that, obviously, we all have a role to play in the energy transition. The second thing I would say is that it is a silver mine. It's called a silver mine because the revenue that it will earn from the silver is much higher than the other products that are coming out, but, by and large, it's a lead, zinc and silver mine. Ninety times more lead than silver will come out of the ground at Lue if the mine goes ahead. I think the issue with the critical minerals strategy is that it's too broad. There is no weighting within that. Anything that's got the "critical mineral" tag on it appears to be given an equal weight. We're talking about lead here; we're not talking about lithium. You need to look at the location and the existing businesses. The value of the industries needs to be given proper weight in the assessment of the importance of the specific mineral.

To just tag anything that isn't coal as "critical" and "essential" to enabling us to achieve net zero is misguided and actually an enormous risk for the State Government. If this new wave of investment comes online and those things aren't weighed properly, we are going to be left with a lot of long-term, intergenerational environmental issues. Mudgee will be the next Captains Flat if this proposal goes ahead.

**The Hon. GREG DONNELLY:** Thank you to both organisations for coming along today. I appreciate the long-distance travel and your comprehensive submissions. The Hon. Susan Carter, the Deputy Chair, has asked my question, but I might revisit it. The Committee will produce a report with recommendations. Given the amount of detailed work you've done in looking at your specific issues with respect to the particular matters at hand, rising above that for a moment and looking down, could you provide any specific recommendations that should go to the Government arising from this committee inquiry? You've obviously looked into things in great detail and quite specifically but, rising above that and looking down, what recommendations do you think the Committee should consider making to the Government?

**SUSANNAH WHITE:** I think the Committee should recommend that this gets taken back to the drawing board and that proper weight be given to the issues that were raised. There are hundreds of specific technical issues that are unresolved. They need to be addressed. The department of planning's assessment report mentions tourism three times. The Mudgee region was voted the top tourism town in the whole of Australia for two years in a row in 2021 and 2022. Together with agriculture, it provides 12 times the number of jobs that the Bowdens mine will provide. This was completely ignored by the department and the IPC. As a group, we have the feeling that it was ignored because it's powerful, it's material, it's economically valuable and a lead mine is incompatible with those industries. I don't know how you can model your way out of that incompatibility, so they just left it out.

**The Hon. GREG DONNELLY:** So it's a zero-sum game—one or the other?

**SUSANNAH WHITE:** This proposal, where it stands, yes. It is incompatible.

**The Hon. GREG DONNELLY:** And to the other organisation?

**DAN SUTTON:** We tried to be very clear in our submission, so we have itemised items one to six. We believe they're very specific recommendations that need to come from this commission to the Government—one of them being that any SSD-approved mine is, if not sent for merit appeal rights, just scrapped entirely and reassessed, exactly as the Mudgee Region Action Group is requesting. It's far too obvious that the assessment process is fundamentally flawed and skewed to approve projects regardless of the evidence that remains in relation to the impacts that they're going to have. One of the items that we touch on is a more equal cost-benefit analysis. In the McPhillamys assessment, the critical mineral item—which has been touched on a few times today—the proponent openly states in their EIS that 92 per cent of the gold that they're going to mine is going to jewellery and investment instruments.

It's all good and well to say you need gold in technology. But when their own report is saying only 7 per cent of the gold that they're mining is going to go to technology, it can be done a whole lot more efficiently with the existing gold resources we have that aren't going to risk the water streams that create the Belubula River and then flow into the Lachlan catchment. So a more equal cost-benefit analysis and appropriate health assessments—which, again, we touched on; that wasn't done. After a lot of pressure, McPhillamys eventually came back and did a very basic health assessment based on the Western NSW Local Health District data, as opposed to actually surveying the people around their mine site. So it was entirely inaccurate. The six items I've listed in our submission—they're the specific recommendations that we would like to see result from this.

**REBECCA PRICE:** Could I also add something as well? You asked us to look from a point of view above the specifics and overall looking at the whole process. For us and our group and the people that are going to be affected or already are affected by this process, the whole system of how this proponent goes from the very start, getting its SEARs, right through to the end process of the IPC is totally flawed and damaging to the community that it hasn't yet even physically affected. Where the proponent can work with the DPE for years and years and years—they're not given a time frame, therefore we are not given an end date that we have to go through this process—this is drawn out in our families, in our homes, in our businesses for years. I cannot stress [audio malfunction] everyone who has been involved in this process—we have been permanently affected by this.

To have it set up so that the proponent can just keep ploughing ahead, amendment after amendment, going back to the DPE—they don't even have to tell us what they're doing. For them to do that indefinitely—I rang and said, "How long have they got until we get this going?" And they go, "Well, as long as they're working on it, they can keep doing it indefinitely as long as they can prove to us that they're working on it." As people in the community whose lives this is going to change forever, this is a very unfair situation. We did not ask for this project. We did not ask for this company to come into our community, but we have lived and breathed it for over

six years. I know Lue—these two projects are so similar in what experiences we have gone through. The Committee needs, if it can, to look at how the whole process is set up and how, in some way, the community can be less affected by the process.

Whether it be that an IPC-type commission comes in at the very beginning and looks at the preliminary EIS and either goes, "No, back to the drawing board", or, "Yes, we think this is plausible and something that's worth investigating", or, "Forget it. This is not going to work", maybe something like that needs to go in and maybe the screening process needs looking at before they're allowed to just keep going and keep going and then the department changes regulations and water-sharing plans and they give them special purpose access licences after five years. Instead of that process, maybe there needs to be a bit more of a pull-up at the beginning and a really hard look at whether these projects should be given the opportunity to come into the community and do this before they even start.

**DAN SUTTON:** I'll just make two very quick comments on this. I just mention that one of the other items that we've requested is that—the only reason this project actually got the final green light was because there was a change to the water regulation that allowed them to move special purpose access licensing north of Carcoar Dam. The department of water came out and said, "You do not have sufficient licences to cater for the capture of water which is going to exist for this mine and we can't approve it without that." Those licences did not exist. So the Minister came in and said, "Okay, we'll just change the water regulation. We'll just say that you can have special purpose access licences further north and only specifically for this project."

That shouldn't be able to happen. If a project can't go ahead within the confinements of the current regulations, a Minister should not be able to then change a regulation to then allow such an application to go ahead. The second point I'll make is that the DPE spoke with our group on one single occasion in the six years that this has been going on—one occasion before any of the three amendments were ever made. They spoke to us once and they've been speaking with the proponent every single day for the last six years to try and get this over the line. To emphasise the absolute one-sidedness of the assessment process—it's fundamentally flawed and needs changing from the bottom up.

**The CHAIR:** I have a question for the Mudgee Region Action Group. One of your recommendations was about amending the Environmental Planning and Assessment Act to reinstate the right to bring appeals on the basis of merit. What current right of appeal do you have without us making that change?

**SUSANNAH WHITE:** On the basis of merit—so on the basis that the decision made was a really bad one—none.

**The CHAIR:** Thank you very much for attending the hearing and for the time and the trouble that you've taken to share this information with us today. Committee members may have additional questions for you after the hearing. The Committee has resolved that the answers to those along with any answers to questions taken on notice today be returned within 21 days. The secretariat will contact you in relation to those questions.

**(The witnesses withdrew.)**

**(Luncheon adjournment)**

**Mr TONY CHAPPEL**, Chief Executive Officer, NSW Environment Protection Authority, sworn and examined  
**Mr STEPHEN BEAMAN**, Executive Director Regulatory Practice & Services, NSW Environment Protection Authority, sworn and examined

**The CHAIR:** I now welcome our next witnesses. Would either of you like to start by making a short statement?

**TONY CHAPPEL:** Thank you for the invitation to appear before this Committee and to represent the Environment Protection Authority, which I will refer to now as the EPA. I was certainly pleased to be able to assist the Committee with its inquiry into the current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales. I want to say warimi, which I have been taught means "hello" in the Dharug dialect—where the EPA is based out in Parramatta—and to acknowledge the traditional owners of the land on which we meet here today, the Gadigal people of the Eora nation. I thank them for the custodianship of country since deep time that continues to this day, and I acknowledge their enduring connection to the land, sky and waters of this place. I pay my respects to their Elders past, present and emerging and extend that respect also to any Aboriginal and Torres Strait Islander people here today or watching on live stream.

The EPA is the primary environmental regulator for New South Wales. In the assessment of development applications, it advises the Department of Planning and Environment on potential environment and human health impacts of proposed developments. EPA advice is not binding on consent authorities in their decisions on the granting of development consent nor on conditions imposed on any development consent. It is important to note, as the New South Wales Government submission sets out, that the Environmental Planning and Assessment Act 1979 provides that the EPA cannot refuse to issue an environment protection licence if it is necessary for carrying out State significant development that is authorised by development consent, and also that the environment protection licence must be substantially consistent with that consent. Large mining projects in New South Wales typically are State significant developments. This shapes how the EPA can use its regulatory tools in the initial operational phase of a large mining project. I say initial because these requirements, under the Environmental Planning and Assessment Act, only apply up until the first statutory review of the licence, which is after an interval not exceeding five years from the date of issue of the licence.

I note that various jurisdictions have different requirements when it comes to how environmental regulators interact with the planning system. For example, Victoria operates under Ministerial Direction No.19 issued under the Victorian Planning and Environment Act. This requires a Victorian planning authority to seek the written views of the Victorian EPA about strategic planning decisions that have potential impacts on the environment, amenity and human health. The planning authority is then required to include a statement in an explanatory report on how the Victorian EPA's views have been addressed.

I have read many of the public submissions to this inquiry, and they do raise a broad range of issues. I note that a recurring theme in submissions by members of the public is a perception that the environmental impact statement, or EIS, is not prepared with a sufficient degree of independence from the person or company lodging the development application. I certainly acknowledge that it is often difficult to strike the right balance in the use of third-party consultants for these kinds of matters. I note the EPA has grappled with this issue directly in the way in which we administer and seek to continually improve the New South Wales contaminated site audit scheme. This scheme is administered by the EPA under the Contaminated Land Management Act and provides a pool of accredited site auditors who can be engaged to review investigation, remediation and validation work done by contaminated land consultants.

I note another recurring theme from the submissions from members of the public is that fines for environmental offences are too low. The EPA may issue a penalty notice to an individual or corporation and fine them if they carry on an activity in breach of their environment protection licence conditions. The issuing of a penalty notice can be done without having to commence and successfully prosecute formal legal proceedings. The maximum fine that can be issued under a penalty notice is \$15,000, and amendment to regulations would be required to change this maximum amount.

I acknowledge that submissions by members of the public generally raised concerns about the impact of mining operations on human health and the environment. I want to assure the community and this Committee that the EPA seeks to use the full range of regulatory tools at its disposal to protect human health and the environment in a manner consistent with its statutory objectives. Environment protection licences are the EPA's central means to control the localised, cumulative and acute impacts of pollution from major industrial activities including mining. However, they are by no means the only tool the EPA uses. In particular, providing the community with

transparent monitoring data and access to information is also a powerful tool to build and maintain community confidence that any impacts from a project are being well managed.

I also want to mention that the EPA is always seeking ways to harness advances in technology to better monitor, report on and respond to potential environmental harms. Previously, the EPA has established air quality monitoring networks in the Upper Hunter, Newcastle and Namoi regions. In a more acute situation, the EPA deployed smart sensors for community-based air monitoring in the Cadia Valley along with a range of other measures to respond to issues relating to the Cadia goldmine. There is an increasing use of technology in this area of regulation, and I particularly note the real-time monitoring of emissions in Queensland at the Mount Isa mine as an example. As the EPA, we have recently commenced consideration of additional monitoring in other mining provinces in New South Wales.

Lastly, I'd like to share a reflection based on my recent experience at Cadia and what I've learned from the community there and in other places. People who have concerns, especially acute concerns, about their health, their family's health or their local environment will engage with the regulatory framework to seek to have their concerns addressed. One thing I've heard from these experiences, and that is reflected in some of the public submissions, is that the regulatory framework can be complex, difficult and challenging to navigate because different government agencies are responsible for overseeing different aspects of a mining project through its life cycle.

For example, many people think the EPA holds security bonds for mine rehabilitation, but it doesn't. That is the function of the NSW Resources Regulator. The EPA also does not regulate for compliance with consent conditions. The planning department enforced these. Thank you for the opportunity to make an opening statement. My colleague and I would be pleased to assist with any questions from the Committee.

**The Hon. SUSAN CARTER:** Thank you for your time here today and for the time involved in the preparation of the submission. I was interested in your observations in relation to the fines. There is certainly a theme in the submissions and in the evidence today in terms of sufficiency of the fines. I am happy for you to take this on notice if you don't feel able to answer it: Do you have any evidence that there are corporations that regard the penalty notices as cost of business, and so would be regularly receiving penalty notices because they regard that as less of a cost of business than actually taking appropriate remedial action?

**TONY CHAPPEL:** I can't think of a specific example. I think the issue of fines and broader penalties is certainly one where you can see the context of those penalties perhaps dwarfed by the level of net profit that some of these operations generate on an annual basis. But I don't have a direct example. I'm happy to take that on notice, though. I have some anecdotal experience there, but I'd rather check and see if we have anything more rigorous that we can share with the Committee.

**The Hon. SUSAN CARTER:** Thank you, I'd appreciate that. In the same vein—for example, in terms of the framework for the regulation of trade practices in New South Wales and Australia there are other tools such as adverse publicity notices and things like that. Do you have any evidence in relation to the adverse publicity that is received by companies who are subject to penalty notices, and the extent to which in a corporate environment, and whether adverse publicity notices of the kind used in other environments might be appropriate here as well? I was also very interested to hear your discussion in relation to looking at monitoring that is used in Queensland and other places. Is there a timetable, is there a framework or is it ad hoc? How often are standards reviewed? How often are benchmarks reviewed to make sure that they reflect current scientific evidence?

**TONY CHAPPEL:** I think, at a minimum, we review licence conditions and so on every five years—often sooner, though, where there are community concerns. Would you like to add, Stephen?

**STEPHEN BEAMAN:** I can also add to that. A lot of our requirements actually sit in subordinate legislation—so regulations. There is the Protection of the Environment Operations (Clean Air) Regulation. That gets reviewed under the normal statutory subordinate legislation time frame, so every five years. The last review of that regulation was completed in 2022 and the new regulation gazetted, I think, in December 2022. It goes out for public consultation, we look at what's happening overseas and nationally in terms of air quality and air quality standards and we build those into our regulatory framework.

Also, I just want to follow up quickly on the issue of penalties under the Protection of the Environment Operations Act. People get very focused on the \$15,000, which is on the spot. The Act actually has three tiers of fines. Tier 1 are our most egregious offences. They are ones where we have to prove someone has been wilful or negligent. They can be penalties of up to \$5 million and/or seven years' jail. And then our tier 2 offences are strict liability offences and they'll have a maximum penalty of \$1 million. Tier 3—for want of a better word, as Tony said—they're administrative in nature. They're similar to a speeding fine in terms of the way they're issued. They're \$15,000. So there is a sort of cascading hierarchy of fines. But often it's not just the fine that we think about. We

also go to addressing what the actual issue is on the site that needs to be addressed and then requiring those licensees or those polluters to actually take action, and that also comes at their cost.

**The Hon. SUSAN CARTER:** With respect to those tier 1 fines, that would be proof of a crime—mental element and physical element?

**STEPHEN BEAMAN:** Yes.

**The Hon. SUSAN CARTER:** So presumably that would have consequences for the directors of the company in terms of their ability to continue to be directors of a company?

**STEPHEN BEAMAN:** Correct. Our legislation also has executive director liabilities in it—section 169, by memory—and so when we do take those serious proceedings it is often the company and also the directors we take personally. Under our provisions for licensing, we are required to take into account whether someone is fit and proper and that goes into a person's prior regulatory history.

**The Hon. SUSAN CARTER:** When, if ever, has there been a tier 1 prosecution in relation to a mining company?

**STEPHEN BEAMAN:** I might have to take that on notice, if that's okay?

**The Hon. SUSAN CARTER:** Certainly, please.

**STEPHEN BEAMAN:** Yes, I'll take that on notice, thanks.

**The Hon. SUSAN CARTER:** As I understand it, the environmental planning Act is focusing on the environment but a number of factors need to be weighed—affordable housing, human health, management of State resources. It's been put to us today that provision of critical minerals plays an increasingly important role in the environment if we are moving to a zero carbon future. It's been put to us today that that aspect of the environment—provision of critical minerals—is perhaps being weighed more heavily than other aspects that we're being asked to look at in the context of the environmental protection Act or assessment of State-significant developments. Do you have a comment on that?

**TONY CHAPPEL:** Firstly, just to note that the planning conditions inform the initial licence conditions. Whatever the industry, under our legislation and the planning legislation that's a requirement. From the EPA's point of view I don't think there is necessarily a conflict between mining for critical minerals to enable the low carbon transition and very high quality environmental outcomes. I think well-implemented strategic planning and then well-designed projects that are well regulated can deliver high-quality outcomes on both fronts.

**The Hon. SUSAN CARTER:** So you're not suggesting that provision of critical minerals is weighed more heavily than other factors?

**TONY CHAPPEL:** I'd certainly contend it doesn't need to.

**The Hon. SUSAN CARTER:** Is it?

**TONY CHAPPEL:** Not in my experience.

**Ms CATE FAEHRMANN:** Mr Chappel, remind me how long you've been in your role?

**TONY CHAPPEL:** A bit over 12 months.

**Ms CATE FAEHRMANN:** We heard from witnesses this morning from the Cadia Community Sustainability Network that many of their members, it seemed, had put forward and put through complaints about Cadia's operations. We got examples of complaints in the lead-up to Christmas in terms of dust pollution. One of the witnesses said that they had submitted complaints 36 times between October 2018 and May 2023. They got four emails back and sometimes a few questions. They've said that the first time that they met and got anything significant from the EPA was 12 May, which I understand you had a strong hand in arranging. What happened in the lead-up? Until the 12 May meeting, though, the community didn't seem satisfied with the EPA. Why did it take until that time to provide an adequate response to the community on this issue?

**TONY CHAPPEL:** I think there are a number of factors there. Certainly I think the way you've characterised the community's experience and sense is fair. My understanding is that for those preceding years the EPA had been doing a large number of serious pieces of work in the background with the company but had clearly been failing to adequately engage and communicate with the community. I guess the EPA has some very empowering legislation, and I think one of the ways it has historically sought to operationalise that is often through quite narrow legal lenses.

The Cadia example is I think a good one of the need for a more integrated sense of stewardship, which is certainly a major priority for me as the leader of the EPA. In the last few months there have been a series of senior executive and leadership changes at the EPA to try to better support that and bring in the capability to deliver that. I think that not just around mining but on various issues, the way we've historically engaged with the community has been inadequate and probably contributes to unnecessary stress and anxiety with the community.

Building an environmental regulator that has the capability to properly stand in the shoes of the community is perhaps my highest priority in this role. I think we've made some good progress in achieving that. I hope the community would acknowledge that post that meeting in May, which I attended, the EPA has delivered a comprehensive response seeking to understand, analyse and then resolve the various concerns that have been raised. But it's certainly a piece of practice as a regulator that we continue to seek to build and improve on.

**Ms CATE FAEHRMANN:** Thank you. I appreciate that response. It did also come about as a result of, would you agree, increasing media attention on the issue—the fact that the community had to get their own rainwater tanks independently sampled and went to the media with that out of frustration? That's when the Government and the EPA responded. But it shouldn't take that, should it, Mr Chappel? This is one issue that we know about because the community was incredibly active. We know about it because they got so much media attention on it. What has changed? You've given us a commitment today, but does anything else need to change to make sure that it's not the media that gets a response from the EPA but it's the pollution events themselves?

**TONY CHAPPEL:** I would not accept that it was the media that drove this response. There has been, in recent months, a lot of media about the Cadia mine, and some of that has focused on the quite assertive actions that the EPA has taken. But it was shocking to me to see community members so concerned that they'd had their own blood testing and hair and urine samples analysed in various labs in the US and had gone to that extent because the level of the concern. That was really what prompted the response, not any media coverage. One of the challenges for all regulators is that there are demarcations around a project like this or other projects through its life cycle, and sometimes agencies can put themselves in bounds that don't serve the community. The community has to deal with four, five or six regulators here versus getting one comprehensive response. There is work that we as government collectively can do behind the scenes to be joined up. But certainly from the EPA, our highest commitments is, on all matters going forward, to be effectively standing in the shoes of the community.

**Ms CATE FAEHRMANN:** I don't want to dwell on what should have happened too much. With the many complaints that seemed to go unanswered or unaddressed, is that an issue of, for example, resourcing? Have you been able to provide more resources in terms of personnel to the complaints line, or was it just a stubbornness or refusal to respond to those questions? Genuinely, in terms of the issue of "We need to be making recommendations to government", was it an ideological stubbornness or something? That's not the word, but is it resourcing or was a decision made not to respond?

**TONY CHAPPEL:** I'd have to interrogate the specifics of the various complaints.

**Ms CATE FAEHRMANN:** But I'm sure you did look into it. Sorry to jump in but, given the media interest and your own, as you said, surely you did look into why those complaints weren't responded to, didn't you?

**TONY CHAPPEL:** Yes, and I have actually commissioned a formal review of how the EPA engaged. I'm expecting that back to me imminently. The reflection I would have is that I don't think there was any bad intent. I think it's just a historic practice that was perhaps too legalistic and rather inadequately focusing on the need to be working with the community as well as working with the proponent or the operator behind the scenes. A lot of that was going on. There was a long series of interventions that the EPA was having with the mine directly. None of that was visible to the community.

**Ms CATE FAEHRMANN:** But none of it was working.

**TONY CHAPPEL:** Well, some of it is now bearing fruit.

**Ms CATE FAEHRMANN:** That does suggest a failure, though, in that the community's complaints weren't being responded to. People within the EPA were doing whatever it is you say they were doing with Newcrest and Cadia, but the pollution was still happening. They've got three \$15,000 fines. Ultimately, you've found out how much they've been polluting. That does suggest that your officers or whoever was in liaison with Cadia probably wasn't being tough enough on them.

**TONY CHAPPEL:** Yes, I think there is a series of things there and that's what I am unpacking internally now. The EPA's commitment is and must be to the protection of human health and the environment, and when you have an exceedance, as we have observed at Cadia, it needs to be rapidly addressed. That's what we have

insisted upon but I agree that the way we engage with the community and the way we took that forthright action needed to be more proactive.

**Ms CATE FAEHRMANN:** Do you think mining companies are fearful of the EPA?

**TONY CHAPPEL:** I think they're certainly fearful of both losing their social licence to operate, but their literal licences as well. I can tell you, we wouldn't have hesitated in this case to require further action or suspension of operations to achieve compliance if the company hadn't acted immediately to bring itself into compliance. I guess the only other point I'd make is that we are now in court prosecuting a series of offences and we have a number of other investigations under way. The relevant investigation that's leading to these criminal proceedings commenced in August 2022.

**Ms CATE FAEHRMANN:** I have just been told this is my last question. This morning one of the witnesses from the Mudgee Region Action Group said something along the lines of if the EPA has no tools in the toolbox to control the behaviour of mining companies, we may as well just give up. That's not a great line from somebody from a community who is fighting a new mine. Do you have the tools in the toolbox to hold these mining companies to account? Do you need more tools and tougher tools?

**TONY CHAPPEL:** We certainly have a good tool kit. I think it is quite powerful, but we are always looking for how that can be improved. What would you add, Steve?

**STEPHEN BEAMAN:** Yes, I think that's right. The Protection of the Environment Operations Act—the people who drafted that have left us with an amazing set of tools. We are there to help to compel people to comply with the law. What we are always looking to do is looking at overseas and other jurisdictions around Australia at what best regulatory practice is. Regulatory practice is always evolving; it's always changing. We need to evolve and change with it. We are always trying to look at adopting that best practice in terms of our regulatory stance.

**The Hon. BRONNIE TAYLOR:** To follow up on Ms Faehrmann's question, obviously the job of the EPA is there; everyone knows what you do, what you are supposed to do. Communities should feel confident that you can do that and you have the regulation to implement that. Listening to the response to what recently happened, how do you think the community sees you?

**TONY CHAPPEL:** I think the community probably see us as part of a bureaucratic machine that has been too challenging to navigate and too slow to engage effectively with their underlying concerns. I hope the community in the last six months has seen a much more proactive, comprehensive and empathetic set of responses from the EPA, but we will continue to work on delivering better engagement, better outcomes.

**The Hon. BRONNIE TAYLOR:** It is the role, is it not, of the community to have confidence in the EPA? Would that not be one of your core values?

**TONY CHAPPEL:** Absolutely, we want the community—

**The Hon. BRONNIE TAYLOR:** Do you think the community has confidence in you in this area, with what you've done in terms of the response?

**TONY CHAPPEL:** I think ultimately the community can answer that, rather than us.

**The Hon. BRONNIE TAYLOR:** But I'm asking you, Mr Chappel, as head of the EPA.

**TONY CHAPPEL:** What I would say is the community can be confident. We have heard their concerns. We have now delivered the most comprehensive soil, air and water monitoring program of any context in the EPA's history and we're continuing to build that up. We are going to work closely with the community on their own data and understand and analyse any gaps or differences. We've convened an independent expert panel, so the community can have confidence, not just in the EPA but the advice coming to the EPA, which can also be transparently shared. We are working with our colleagues across government to ensure that the community can have the necessary level of confidence.

**The Hon. BRONNIE TAYLOR:** I thank you for telling me what you're doing, but my question was quite specific. I have jumped in already, and thank you for indulging me.

**The Hon. EMILY SUVAAL:** Thanks to you both for appearing today. You touched on this in your opening statement, but could you explain what the demarcation is for what the EPA looks after and what the mining regulator looks after?

**TONY CHAPPEL:** The Resources Regulator essentially governs all conditions of environmental rehabilitation, remediation and also, as I understand it, work health and safety on mining sites. Anything else?



**STEPHEN BEAMAN:** No, that's correct.

**TONY CHAPPEL:** The EPA, through licensing and other tools, regulates performance while the mine is operating.

**The Hon. EMILY SUVAAL:** Thank you for clarifying. Could you also talk us through some of the current environmental monitoring that you're engaging in as the EPA? You touched on this earlier as well.

**TONY CHAPPEL:** Sure. Would you like to take that one?

**STEPHEN BEAMAN:** Yes. I think we heard a little bit this morning when you get into the details of things like isotope testing, it can be quite challenging. There's nothing—obviously having done this previously like other investigations—there's often not one single source of evidence that will answer it conclusively in one go. What we're doing is adopting what we call a lines of evidence approach. We're looking at a whole range of things and not ruling anything in or out at the moment. We've done the water testing. We've carried out water testing at 97 properties. We put a call out to the community. It was a voluntary opt-in. People registered with us and we went out and have done 97. We've got results in for 85 of those properties. We're pending 12 still from the labs. We tested for arsenic, cadmium, chromium, copper, lead, nickel, selenium and zinc. They were the metals of concern the community raised with us.

I know there's been a bit of discussion around methodologies. The thing around the methodology, you do it in phases so this isn't the end of the process. Phase one, we want to make sure: Was the drinking water people are using today fit for purpose or meeting the guidelines? That's the whole idea of testing at point of use, which is the kitchen tap. That's commonly done by other agencies in jurisdictions around the country, so we're adopting a pretty standard method there. Then we're working our way back through. We've also sampled the top of the tanks and the sludge at the bottom of the tanks, so the type of work that Dr Wright talked about today. We sampled about over 20—collected 20 samples of sediment at the bottom of the tanks.

You need to work your way through the system. The kitchen tap, 38 of the 85 properties had lead concentrations slightly above the health guidelines, so about 3 per cent. One of the 85 had nickel concentrations above the guidelines. But all those ones that had a reading exceeding the guidelines, the water met the standard in the tap. So it can often be the plumbing in the interim from the tank to the tap. There's a new Australian standard—I only learned recently. They're a low lead level. It's an Australian standard for brass taps to have low lead in them now because there can be lead in the plumbing network. The water tanks, 14 of the 85 properties showed a level above the health guidelines, which is about 16 per cent. Two of the 85 had cadmium and one of the 85 had antimony, but all the kitchen taps, in those ones that exceeded, met the guidelines. So it's not a straightforward story but we're not stopping.

We're looking at the sediment in the tanks now. That's what the community has asked us to do and Dr Wright has asked us to do. We've gone back through all what we know—the literature—around the country so this has been talked about. I think out of the millennium drought, when everyone was putting in water tanks, there was lots of research done in both urban and rural settings around sediment deposition in the tanks. The data we're seeing out of Cadia is consistent with the data we see nationally around heavy metal contamination in tanks. It's the fallout that falls on the roof and then washes into your tank, so you need to do things like—and Dr Wright talked about it today—first flush so the first rush of water doesn't go into the tank; and/or there's a really excellent NHealth guideline from 2010 around the management of water tanks. There's a whole lot of management strategies in there, including you should clean your tank every two or three years to minimise the amount of sediment at the bottom of those tanks. We're waiting for the analysis from the tank sediment and we'll share that with Dr Wright and the expert panel. That's coming shortly.

We've also done soil monitoring on public land through the Cadia Valley. We've taken 30 samples at the surface and, I think, 13 samples at half a metre around a 15-kilometre radius. What we're looking for there is, is there any sort of gross deposition of heavy metal contamination that might be shown on the surface of the landscape? All the soil testing for heavy metals met the national standards, and the EIS before the mine actually did soil testing so we've got a pre-mine operation and those results are actually the same. We haven't seen any further excessive deposition of heavy metals in the environment. The expert panel's advice to us is, "You've closed that line of investigation down."

Then finally we've got the air monitors. So we've got 35 what we call smart sensors; they're known as PurpleAir monitors. This is this thing that Tony was talking about around technologies being much cheaper and you can get this community monitoring. We really want to support the idea of citizen science. Having these monitors out in the community gives the information back into the community's hands. We've got those 35 monitors up; they're out live now. You can jump on the website and people can see that data in real time.

We've actually put an air monitoring station at Millthorpe, one of the big air monitoring stations. That's part of the New South Wales government's overall ambient air quality monitoring network. That does a whole range of things, including gases and particulates. The next piece of work—we're working with community members, which is fantastic—is we're going to have six what we call "high-vol monitors". They suck in about 1,500 cubic metres of air, and it runs it through a filter paper so it collects the sediment on the filter paper. Then we can test what the heavy metal concentration is. The idea is to have six monitors around geographically, like a sentinel around the mine, and you can turn them on and off for prevailing weather and wind conditions.

**Ms CATE FAEHRMANN:** Quick question on that, when you're saying "around the mine", what distance?

**STEPHEN BEAMAN:** We're working out locations as close as we can. I can come back to you on that. They're relatively largish bits of equipment, so we've got to put a concrete slab down and power. We're doing that at the moment. We've had good uptake from the community to get involved in the monitoring. That's going to be a really interesting piece of data. We've got the mine monitoring, we've got the sentinel monitoring and then we've got the PurpleAir monitors. There's a lot happening in the monitoring space.

**The Hon. EMILY SUVAAL:** Great. Could you talk us through how the EPA came to uncover the pollution at Cadia a bit more?

**TONY CHAPPEL:** There was a planning modification sought, a condition of which was to do an analysis of emissions coming out of the stack. The preliminary analysis that wasn't a standard methodology showed a significant exceedance of the clean air regulation and we commenced an investigation then, as I mentioned. I probably shouldn't talk much about that because it's now before the courts and subject to a criminal law process. What else would you add?

**STEPHEN BEAMAN:** I think the thing with that, the Department of Planning had the requirement for an audit and it was the audit information that demonstrated that they were exceeding—

**The Hon. EMILY SUVAAL:** So it was your own audit.

**STEPHEN BEAMAN:** No. To correct the record, it was the Department of Planning.

**TONY CHAPPEL:** But there's a separate question around some of the infrastructure installed by the mine at the site and whether that required planning approval or was potentially installed or constructed without necessary approval, and there's a planning investigation that's underway about that so I can't speak directly to that.

**The Hon. EMILY SUVAAL:** My final question: Is it possible that lead already existed in the soil at Cadia and that's why it was found in the community?

**STEPHEN BEAMAN:** Lead is a naturally occurring mineral. The reason the mine is there—it's a high metalliferous zone. The geology that's in that landscape is high in metals; that's why there's a goldmine there. So we've got data there are heavy metals in the soil outside the mine site. The real piece of work now we're trying to do and then do with the expert panel is trying to identify—we've done the water testing at point of use. Now the next phase of work is to then go, "Okay, what's the apportionment? Where are the sources of heavy metals in the environment? Can we further nail those down to a point where we can make sure that there are appropriate controls in place?"

**The CHAIR:** We heard this morning in evidence that the proposed lead, zinc and silver project near Mudgee has a rather extraordinary condition of consent: that residents in the area must have routine blood tests. Are you aware of any other mining projects that have such a requirement? Whose job is it to actually monitor that? I note in your opening statement you said that the EPA is not responsible for compliance with conditions of development consent. Whose job is it? Is the planning department monitoring people's blood test results?

**TONY CHAPPEL:** I think I'd better take that on notice, Chair, because I don't think that would be the subject of an environment protection licence condition. My assumption would be it would be a planning department compliance issue. I'm not personally aware of other projects with that condition, but we'll check and confirm.

**The CHAIR:** Thank you. I'd appreciate your input on notice. I think several Committee members have spent the morning, trying to unpick whose job that would be.

**STEPHEN BEAMAN:** Just quickly, the Committee is probably aware of this, that lead is one of the notifiable blood levels. When you get a blood test and it goes above five micrograms per litre, then it's notified to NSW Health.

**The CHAIR:** That's right, but only if a test is done for clinical reasons.

**STEPHEN BEAMAN:** Yes.

**Ms CATE FAEHRMANN:** Back to Cadia's EPL, environment protection licence. Has that been altered to now take into consideration—I understand that it didn't to begin with, didn't have—not adequately regulated in terms of metal-contaminated dust emissions, that EPL didn't address that. Has it been amended to address that? Is that the latest variation? Has it now picked up all of that?

**STEPHEN BEAMAN:** Yes. The installation of the fan and the VR8, we weren't consulted on as part of that process. For whatever reason, we weren't consulted as part of that proposed development change to the site or that modification. Then we've seen the audit result for that. That was the exceedance that was coming out, the alleged—

**Ms CATE FAEHRMANN:** Is that unusual? You made a point that you weren't consulted. Is that standard, that the EPA would not be consulted during—

**TONY CHAPPEL:** Under State-significant development, there are a series of simplifications in various SEPPs that were modified in the last few years that reduce some of the formal internal processes. Generally, we are consulted, but I don't think it's legally required.

**STEPHEN BEAMAN:** The clean air regulations have requirements and limits on what we call type 1 and type 2 substances. Type 1 is antimony, arsenic, cadmium, lead and mercury. So any emission point needs to comply with the general requirement in the clean air regs for type 1 air emission limits. Now they've been included.

**Ms CATE FAEHRMANN:** Just to be clear, the EPL now has discharge limits for—

**STEPHEN BEAMAN:** Yes, for type 1, so a whole range of heavy metal. Dr Wright talked about it this morning. There's an equivalency in the air framework as there is in water. The approved methods for air monitoring and assessment in New South Wales has a whole lot of how you monitor it and whatever, but it also sets a whole lot of criteria that are typically health-based.

**TONY CHAPPEL:** We've also asked the independent technical panel for some advice on any specific limits that should be considered in the context of the Cadia licence.

**Ms CATE FAEHRMANN:** Has the EPA internally—your policy people, legal people—been asked to develop any recommendations for how to strengthen the regulatory framework for mining activities? Has that been a body of work that you have undertaken; making recommendations to give yourselves, ideally, greater and more effective power in curtailing the polluting activities of these companies?

**TONY CHAPPEL:** Yes. I've written to some of my colleagues in government and we've agreed to work together on progressing those.

**Ms CATE FAEHRMANN:** That's very interesting. Thank you.

**The CHAIR:** Thank you very much for attending the hearing. Committee members may have additional questions for you after the hearing. The Committee has resolved that the answers to these, along with any answers to questions taken on notice today, be returned within 21 days. The secretariat will contact you in relation to those questions.

**(The witnesses withdrew.)**

**Mr STEPHEN GALILEE**, Chief Executive Officer, NSW Minerals Council, sworn and examined

**Ms CLAIRE DOHERTY**, Director, Policy, NSW Minerals Council, sworn and examined

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

**STEPHEN GALILEE:** The Minerals Council is the peak industry body for mining in New South Wales. We have 80 members, including most of the major producers, explorers and supplier businesses. Our metals-related membership has grown from around 20 per cent of our total membership a decade ago to around 35 per cent today, reflecting the growth in metals mining in New South Wales over that period. The metals-mining sector employs close to 8,000 people in New South Wales, which is a 40 per cent increase over the last five years, and supports more than 2,600 supplier businesses across the State, primarily across the Central West and Far West regions of New South Wales where mining activity contributes 19 per cent and 36 per cent of gross regional product respectively.

Gold is New South Wales' second most valuable commodity export. Primary sources of demand include jewellery, driven by its cultural significance worldwide. Gold, of course, also plays a central role in global financial markets. Gold's conductivity and corrosion resistance make it ideal for certain electronics applications, and it also plays an important role in medical applications, including for breast cancer treatments involving gold nanoparticles.

Silver is the best conductor of electricity of all the metals and is in almost all electronic devices, including computers, mobiles, phones and televisions. It is also an important component in electric vehicles and widely used in the aviation and space industries. One of the fastest growing sources of demand for silver is for solar panels, where it is used as a conductive layer on silicon solar cells. Zinc is primarily used globally for galvanising steel to prevent corrosion. Zinc demand is therefore closely linked to demand for galvanised steel in the construction and automobile sectors. Wind turbines and solar panel structures also rely heavily on zinc for corrosion protection.

Vehicle batteries account for 80 per cent of current lead usage. Other uses include in underwater cable sheathing, solder, casting alloys, chemical compounds, ammunition, soundproofing material, weighting, glassware and radiation protection. While not covered by this inquiry, copper is commonly mined alongside these metals due to its geological occurrence. Several of New South Wales' major goldmines are also major copper mines. Copper is widely acknowledged to be central to the energy transition. A range of global megatrends, including the energy transition, will drive increasing demand for these minerals in the coming decades. Put simply, more mines are needed to provide the materials essential for our modern economy and to transition the world to net zero. This is why the pipeline of metals and minerals projects in New South Wales has increased from six in 2018 to 19 in 2023, of which 17 are for new mines.

These projects also have the potential to deliver almost \$10 billion in new direct investment and more than 9,000 jobs, mostly across the Central West and Far West of New South Wales. Development of these mines is crucial as resources are depleted at existing mines. A predictable and efficient assessment and regulatory framework is essential. If projects are unduly delayed, or the regulatory environment becomes too risky, investment opportunities will go elsewhere, including potentially to jurisdictions with weaker environmental and other regulation, and New South Wales will miss out. My colleague will say a few words about the assessment and regulatory framework in New South Wales from an industry perspective.

**CLAIRE DOHERTY:** The assessment regulation and mining projects in New South Wales is a highly rigorous and transparent process. We have a strong record of compliance in what is a large and complex operational and regulatory environment. Beginning with the exploration process and prior to lodging a formal planning application, companies undertake significant work internally and in consultation with the community and other stakeholders to understand whether a project is feasible and how the impacts can be avoided and mitigated.

Assessment of projects is an iterative process with submissions made by community and government agencies on the environmental impact statement. In this process, changes are frequently made to the proposed project and the management and mitigation of impacts to address concerns of government agencies, the community and the decision maker. Mining projects in New South Wales are most often determined by the Independent Planning Commission, which undertakes its own process of consultation with the community. Importantly, if a mine is approved it will be based on a development consent that contains typically hundreds of conditions. Many are designed to address the concerns raised by the stakeholders, including the community, through the lengthy assessment process.

In addition to the development consent, mines require additional approvals, permits and licences, including an environment protection licence and a mining lease. Operating mines is subject to high levels of

ongoing monitoring by regulators, including the Resources Regulator, the Department of Planning and the Environment and the Environment Protection Authority. The NSW Minerals Council and our members are committed to constructive engagement with government, other stakeholders and the community on the continuous improvement of the regulation of the State's mining industry.

**The Hon. SUSAN CARTER:** Thank you for your submission and thank you for your time here today. I note in your submission that you highlight the strong track record of compliance with regulatory frameworks. I wonder if you have a view of what drives that high level of compliance? Is it the risk of financial penalties if there's a breach? Is it the reputational risk of a breach? Is it because the mining companies are embedded in the communities where they're working? Is it other factors or a combination of all three?

**STEPHEN GALILEE:** The number one compliance focus for the industry is safety—safety for our people, safety for the communities near where we operate and more broadly. All of our other compliance priorities flow from that. I'll give you an example of that. During the COVID pandemic our industry was extremely well placed to be able to adapt to the additional requirements that were placed upon our operations and to allow the industry to keep operating during that period. While that was more of a workforce safety focus, there was obviously a lot of focus on the need to maintain safety in the communities from which our workforce is drawn. Our industry was able to do that because of the very strong safety focus and the compliance responsibilities that are drilled into our workforce and our industry every day.

Those other factors that you mentioned are also important as well. Environmental compliance and community engagement is a very important focus of the industry's day-to-day activities. If there is a breach in compliance, it is taken very seriously by the people that are involved in the industry, and the rest of the industry more broadly takes note of what has happened and we learn lessons from that. That is as much true in relation to any particular safety incident as it is in relation to any issue of environmental noncompliance as well.

**The Hon. SUSAN CARTER:** If I could paraphrase, what are you saying is that there's a strong culture of safety and that because of that it's a positive driver for what your submission states is the high rates of compliance.

**STEPHEN GALILEE:** It's a hazardous industry and the compliance focus needs to be laser-like to ensure that we keep our people safe, yes.

**The Hon. SUSAN CARTER:** How do you balance safety of the workers and safety of the members of the community impacted by mining operations?

**STEPHEN GALILEE:** In most cases here, in New South Wales, the people that work in these mining operations live in the communities nearby. We're different to Queensland and to WA in that respect, who have mines in fairly remote locations. With some exceptions in New South Wales, in most cases, the people that work in these mining operations live in the communities nearby. They raise their families there, they are part of the local communities there, they breathe the same air as their neighbours, they drive the same streets and they drink the same water. The focus on keeping our workforce safe in that respect does flow very strongly through to the local communities where our workforce lives and to the people that are working in those communities as well. Improving the quality of life for mining communities is a big focus of the NSW Minerals Council. It's why we engage in seeking additional funding for mining communities through government programs and it's why we engage through programs in the Upper Hunter like the Upper Hunter Mining Dialogue. It is something that is a big focus for operations right across the State.

**The Hon. SUSAN CARTER:** What would you say is the role of mining in ensuring a sustainable future for New South Wales?

**STEPHEN GALILEE:** I am probably a little bit biased in that respect. To put it simply, without mining, we don't have anything. Everything that we have, essentially, if it's not grown, it's mined. The role that mining has to play in delivering the technology that we use every day, the technology we want to have for tomorrow and the energy transition that is underway—that pathway to net zero is not possible without what is being extracted out of the ground, and our industry understands that responsibility. We take it very seriously. It is why we seek to mine responsibly for today and tomorrow, because we know that we have to do that or we're not going to achieve those targets or we're not going to have, simultaneously, a strong economy and strong communities, particularly those mining communities, which we do feel a responsibility for.

**The Hon. SUSAN CARTER:** You acknowledge in that answer that it's mining and agriculture that both need to be part of our future?

**STEPHEN GALILEE:** Yes.

**The Hon. SUSAN CARTER:** So how does mining go about balancing the needs of mines with the needs of those who produce our food and fibre from the land?

**STEPHEN GALILEE:** Ironically, for some, most of our mining operations are also big landowners and run agricultural companies as well. Some of them are running some of the biggest farming operations in the Hunter. Putting that to one side, we work constructively with our neighbours and other landholders, understanding there are always going to be concerns about particular projects in much the same way we see concern about other major projects impacting on agricultural land in New South Wales, some of which have been the subject of other parliamentary inquiries and another one about to start. We don't look at it through rose-coloured glasses. There are obviously issues that need to be worked through.

In a practical sense, some of the things that we have done is to seek to rehabilitate land post mining back to a state where it can be used for cattle grazing. We've conducted trials with the Department of Primary Industries in relation to things like that to prove that it can be done, provided that the right work is done at the right moment of rehabilitation. There is a range of other examples that we have where we've had to do that. A lot of people that work in the industry come from farms. A lot of people that are working in the industry are using their mining employment as a second source of income to supplement their farming income.

A lot of these agricultural communities, particularly in the Tamworth and Gunnedah regions, are also reliant on the economic activity that is being driven by mining operations locally to provide an economic boost for those towns. Over the last decade, when we've seen periods of drought, a lot of those communities have relied upon the alternative economic activity that has come from mining to ensure that their towns can be sustained through periods of drought. It's a responsibility that the industry does take seriously. We're part of those regional communities. We are just as important and just as much a part of those regional communities as our colleagues in the agricultural sector are.

**The Hon. EMILY SUVAAL:** Thank you both for appearing today. You touched on it a little earlier in your answer to the previous question, but how integral will these metals be in ensuring the future energy transition and our net zero targets?

**STEPHEN GALILEE:** It's absolutely critical. We put some detail on this in our submission. The World Bank states:

A low-carbon future will be very mineral intensive because clean energy technologies need more materials than fossil-fuel-based electricity generation technologies.

The International Energy Agency states:

Rapid, orderly energy transitions require strong growth in investment in mineral supply to keep up with the rapid pace of demand growth.

It states:

... resource-owning governments can support new project development by reinforcing national geological surveys, streamlining permitting procedures to shorten lead times ... and raising public awareness of the contribution that such projects play to the transformation of the energy sector.

I spoke before about the role that some of these metals and minerals play. That's not just limited to the metals and minerals that are being covered by this inquiry. We have nickel and cobalt and other metals and minerals across New South Wales that are part of that project pipeline that I mentioned earlier that are critical for batteries, that are critical for the new energy infrastructure of the future. As I said earlier, without these metals and minerals, not just here but around the world, we are not going to get that transition in any fit-for-purpose framework by 2050.

**The Hon. EMILY SUVAAL:** And it's not just the transition; as you touched on earlier, there are also some uses for those metals and minerals in health care and cancer treatments. Is that right?

**STEPHEN GALILEE:** Yes, gold nanoparticles—I'm not a doctor, not an expert. Gold nanoparticle technology is a new frontier of early detection, diagnosis and treatment of diseases. It's being used to target and deliver antibodies directly into cancerous tumours. They are also being engineered to attach to cancer-related proteins and to aid earlier detection, and they are a pioneering treatment, as I understand it, particularly in relation to breast cancer. Gold and copper are used in fetal monitors. Gold is used for dental crowns and bridges. Copper is used to kill surface microbes to reduce infections and widely used in electronic medical devices. Copper is also used for dental fillings. Copper is used in ultrasound machines. Copper is used for air conditioning. And if it doesn't go well, gold and copper are used for coffins and urns.

**The CHAIR:** Can I ask a follow-up question specifically related to the uses question? The most controversial projects that have come up in the submissions to this inquiry have been two goldmines and a silver

mine. I'm sure it's in your submission somewhere, but what proportion of gold currently being mined in New South Wales is going to those kinds of technological applications versus, say, jewellery?

**STEPHEN GALILEE:** We don't have that data; we've only got the data for worldwide use of gold. That's something that you'd have to ask the companies and their customers about, but it is true that a small proportion of gold, for example, is used in medical treatment. But I would put it this way: If you are someone accessing some of that small proportion of gold used for medical treatment, you would regard it as important. You would regard it as critical and you wouldn't want to have to go without it. I know there have been arguments put that gold is only used for jewellery; it's not important. I think the reality is that the wide array of uses that it is able to be deployed for, which are increasing, do make it important apart from its role in relation to jewellery, which is culturally significant for many people around the world, but also in relation to the role it plays in global financial markets.

**The CHAIR:** I'm about to ask the same question for silver. I'm really getting at the efficient use of these things, if we acknowledge that they're critical to our communities moving forward, but also the tremendous impact those projects are having on communities. If we assume that the minerals dug up in New South Wales are entering a global market—I'll make it a global question rather than a New South Wales question—what proportion of silver is currently going to those industrial applications in electronics?

**STEPHEN GALILEE:** I would have to take that on notice in relation to silver, but I would note that the biggest demand growth for silver is for solar panels.

**The Hon. EMILY SUVAAL:** How does the New South Wales minerals industry provide financial reassurance for post-mining rehabilitation?

**CLAIRE DOHERTY:** I can answer that, thank you. In New South Wales we have a system of security bonds for rehabilitation. Every mining project is required to calculate the cost of rehabilitating that project on its completion at any point in the operation. At any point in the operation, they will have a sum calculated in accordance with a government calculator that says, "This is the amount of money that would be required today to rehabilitate this project."

Under the assurance scheme in New South Wales, they're required to provide security for that entire amount. That's either a direct cash security which is paid to the government and held by government, or it's a cash equivalent, so a bank guarantee—something that is called upon and will be paid. In New South Wales, there's currently \$3.5 billion held in security for mining projects and exploration projects, and that can be called on at any point in time if it's required. If a company becomes insolvent and they can't complete their rehabilitation, there is already that cash available for that rehabilitation to be completed and the project closed in the same way as it would be if the company had remained solvent.

**The Hon. EMILY SUVAAL:** Some of the other submissions to this inquiry have referred to some of the historical mine sites—there was one mentioned this morning—and some of their legacy issues. Since those sites were operating or were closed, how has the regulatory framework changed?

**CLAIRE DOHERTY:** I think the one that was referred to this morning is probably the Sunny Corner mine—

**The Hon. EMILY SUVAAL:** Yes, that's right.

**CLAIRE DOHERTY:** —which closed in 1922 and was a silver mine, and, obviously, there are continuing impacts from that mine. It's acknowledged that there are legacy mine sites around the State that have continuing impacts, and the Government has a legacy mine fund and they have a steering committee for that fund. They actually use funds that come partially from industry to rehabilitate and dress and mitigate the impacts of those legacy mines. That's an unfortunate legacy of a previous regulatory scheme. But, for many decades now, we have had much tighter regulation around mining and, particularly in the last probably 10, 15 years, greater evolution still in regulation of mining.

You've heard from us and, I think, from others about the really significant process involved in approving mines, about the environmental impact assessment process that's undertaken, that iterative process with the community and with government agencies to come up with a project which is approvable under the current legislation. A lot of work goes in pre-application process in terms of the design of the project, and we understand a lot more about how to deal with impacts of mining now than we did in 1922, when that particular project was closed. Those impacts are dealt with. They are assessed on a project-by-project basis and ways of avoiding impact of managing and mitigating are required as part of the development consent and other permitting processes that are undertaken. The combination of those factors really gets you to a point where you have a project which shouldn't result in the types of ongoing impacts that come from those legacy mines.

In addition to that, there has been a really big focus in New South Wales—particularly since rehabilitation reforms, which were brought in 2021—on progressive rehabilitation of mines, so that they are undertaking rehabilitation progressively as the mine proceeds rather than it being something that occurs at the end of the mine. Our industry practice over many decades—and you'll see this probably most obviously in the coal industry—is to rehabilitate mines progressively as they are mining. So you will see large areas that, as Steve alluded to before, have already been brought back to pasture—areas of ecological mine site rehabilitation that are tracking really well, that are obviously recognisable as the community and are beginning to move towards sustainability. That's because we have a track record of doing progressive rehab.

In 2021 the Resources Regulator brought in changes to the mining leases, which make that even more obvious to all companies and even more of a requirement for all companies. Over the last two to three years, they've been going through a process of getting every mine to update their rehabilitation objectives and of digitising all of the information about progress on rehab so that that will, in probably 12 months to two years, be available online for the community to see how those projects are tracking in terms of rehabilitation, what they've undertaken and what they've disturbed. That's a huge focus. That makes a big difference when you consider how these projects are doing their rehab as they are mining, rather than it simply being left to the end of the project, and will make a really big difference for current mining operations in New South Wales.

**Ms CATE FAEHRMANN:** With the New South Wales critical minerals strategy, did the Minerals Council provide any input into that?

**STEPHEN GALILEE:** My recollection is no. My recollection is that was announced by the Government without any industry consultation. Other States and Territories were releasing similar strategies, but I don't recall any input into that particular strategy from the NSW Minerals Council at the time or prior.

**Ms CATE FAEHRMANN:** Looking at lists of critical minerals—for example, the Federal list of critical minerals and the list of critical minerals that is published by the International Energy Agency, which you mention in here as well—gold doesn't appear as a critical mineral, does it, Mr Galilee?

**STEPHEN GALILEE:** I'd have to check that.

**Ms CATE FAEHRMANN:** It doesn't.

**STEPHEN GALILEE:** We did recently make a submission to the Commonwealth seeking consistency and that they add the New South Wales critical minerals that are excluded from the Commonwealth's list to the Commonwealth's list.

**Ms CATE FAEHRMANN:** Most critical minerals lists that I have seen globally do not list gold as a critical mineral, do not list silver as a critical mineral and do not list lead as a critical mineral. They usually don't list zinc as a critical mineral. They are the four metals that we are looking into because of their impact on human health and the environment. You have talked today about the energy transition but, realistically, they're not defined as critical minerals around the world. Is there a reason why you're here today suggesting that gold is an essential part of the energy transition?

**STEPHEN GALILEE:** For all of the uses that I outlined for all of those metals and minerals. Whether a government defines them as critical or not, given there are different definitions across different governments, we would argue that those are very important metals and minerals for the future. Whether they're on a government list or not—

**Ms CATE FAEHRMANN:** It does seem like gold and silver are just riding on the back of this—there is a critical minerals strategy. If you look at cobalt, platinum, magnesium, manganese and titanium, there are a lot of metals that are part of the vast majority of critical minerals lists. But the four that we are focusing on for this inquiry, for very good reason, are not part of what are deemed the classic critical minerals. Even though we have had questions about energy transition—we can do the energy transition without opening up a new McPhillamys mine and silver in Bowdens. It's not about the energy transition, is it?

**STEPHEN GALILEE:** Fourteen per cent of silver is used for solar panels. It's expected that if we don't make changes to solar panel technology by 2050, 98 per cent of the world's silver, according to our submission, will be required.

**Ms CATE FAEHRMANN:** How about we not produce as much of that jewellery, for example? We don't have to open up the Bowdens mine.

**STEPHEN GALILEE:** Fifty per cent of silver use is for solar panels and electronic batteries. It's in our submission. If that's your view, that's fine. But I'm just putting our view, from an industry perspective, that these



metals and minerals are vitally important for the energy transition, whether they're on a government list or not. Try doing it without them.

**Ms CATE FAEHRMANN:** What you have put here as well, in terms of the uses of gold—it's a very miniscule amount of gold. For example, with the existing Cadia goldmine or existing gold supply—some of the gold bullions that are lying around—surely that could be used instead of saying that it's because of this energy transition that all of these mines should be approved, which is your argument today?

**STEPHEN GALILEE:** If they meet the rigorous planning and assessment standards that do apply, then those mines, in our view, should be approved. If you think you can do the energy transition without copper, go for it.

**Ms CATE FAEHRMANN:** We're not talking about copper, Mr Galilee.

**STEPHEN GALILEE:** Those goldmines you're referring to—Cadia is a major copper supplier.

**Ms CATE FAEHRMANN:** I'm aware it's a major copper supplier.

**STEPHEN GALILEE:** How do you get the copper if you're not going to conduct the mining operation?

**Ms CATE FAEHRMANN:** I think it's very important, in terms of evidence to this inquiry, that the definition of "critical minerals" is very clear. In relation to Cadia, you mentioned the regulatory environment just then in terms of going through the planning approvals and everything. Do you think the regulatory environment was sufficient to protect the community from Cadia's operations? Do you think it has worked as it should?

**STEPHEN GALILEE:** I haven't seen the specifics of each stage of what has happened in relation to that. We've seen some parts of it. We've seen some of the media coverage. We've seen some of the reports that have been released publicly since then. The regulatory system was triggered and a response was generated, and it was taken very seriously from an industry perspective by the operators of that mine. A number of actions have been driven by that and are ongoing.

**Ms CATE FAEHRMANN:** The three fines that they received over a period of a couple of years for pollution incidents—maximum fine \$15,000, three fines—a total of \$45,000. I think their profit last financial year was \$778 million. Does the mining industry see those types of fines as just the cost of doing business here in New South Wales?

**STEPHEN GALILEE:** Absolutely not. There's a bigger cost for a company than the financial cost of any fine that is imposed. There's the reputational cost to the company. There's the cost involved for the people that are involved in operations at that mine. Anyone who is involved in a breach at any mining operation takes it very seriously. They care about it. They don't want it to happen. The suggestion that it's simply a cost of doing business is an insult to those mining workers that are working at those mining operations and trying to do their best every day. To think that they would just dismiss that is completely wrong. The industry would reject that.

**Ms CATE FAEHRMANN:** It's largely the very wealthy mining owners and not the workers that I'm talking about here.

**The CHAIR:** We are one minute over time. Thank you for attending the hearing. Committee members may have additional questions for you after the hearing. The Committee has resolved that the answers to these along with any answers to questions taken on notice today be returned within 21 days. The secretariat will contact you in relation to those questions.

**(The witnesses withdrew.)**

**(Short adjournment)**

**Ms GEORGINA BEATTIE**, Chief Executive Officer, Mining, Exploration and Geoscience, NSW Resources Regulator, affirmed and examined

**Mr PETER DAY**, Executive Director, NSW Resources Regulator, sworn and examined

**The CHAIR:** I welcome our next witnesses, representing the NSW Resources Regulator. Would you like to start by making a short statement?

**GEORGINA BEATTIE:** I'll do that. Thank you for the opportunity to speak today before the inquiry. Mining, Exploration and Geoscience is a group within the Department of Regional NSW and is the New South Wales government agency responsible for administering the Mining Act, the Work Health and Safety (Mines and Petroleum Sites) Act and related legislation for exploration and mining in New South Wales. It is the objective of the department that the mining industry operates safely and sustainably. A key role for us in administering the legislation is to assess applications to explore and mine and, where those applications are approved, to impose conditions for operation.

An important requirement is the need for mine operators to progressively rehabilitate disturbed land and achieve safe and sustainable final land forms. This is enforced by the Resources Regulator. The rehabilitation obligations include the requirement for a title holder to lodge and maintain a security deposit that covers the full cost of rehabilitation. The rehabilitation security bond is a guarantee to be used if rehabilitation is not undertaken or obligations are not met. It is a tool of last resort and would be used alongside enforcement action to ensure rehabilitation is covered at the cost of the title holder, not the State of New South Wales.

The Resources Regulator, a division of Mining, Exploration and Geoscience, is a specialist regulator focused on the exploration and mining sector, with responsibility for ensuring the resources sector complies with its obligations under the legislation. The Resources Regulator takes a proactive and risk-based compliance and enforcement approach to ensure the industry meets its regulatory obligations. It can and does take quick and strong compliance action where appropriate. This can include issuing notices and directions to stop or prohibit unacceptable activities, issuing penalty notices, suspension or cancellation of authorities, enforceable undertakings, and prosecutions which can lead to substantial fines. The Resources Regulator has strong powers under both the mining and workplace health and safety legislation and has a proven track record of enforcement action, the details of which are published on the website to support transparency.

Under the Mining Act, the New South Wales Government also has a role to ensure that New South Wales receives the social and economic benefits from extracting the State's mineral resources. Currently, there is an opportunity for investment in critical minerals and high-tech metals. The geology of New South Wales has many of these minerals, with occurrences of 17 of the 26 nationally identified critical minerals. These include scandium, rare earth elements and cobalt, and we have copper and silver in New South Wales, which we call high-tech metals, given their importance for our future. There is global demand for critical minerals because of the importance of achieving net zero objectives.

While the New South Wales Government supports the development of these minerals and there is a commitment to develop a new strategy to support this opportunity, the regulatory framework that surrounds the assessment of these projects must be rigorous and best practice to support a safe and sustainable industry. The Department of Regional NSW works collaboratively with other parts of the New South Wales Government to oversee the regulation of this sector. I want to assure this inquiry that Mining, Exploration and Geoscience and the Resources Regulator take our responsibilities for mine worker safety and mine site rehabilitation very seriously. Thank you.

**Ms CATE FAEHRMANN:** I will firstly ask about mine rehabilitation. I have heard a lot about how difficult it is to successfully rehabilitate mines. In fact, some say that mines really cannot be successfully rehabilitated. What are some examples in New South Wales where open cut mines have been successfully rehabilitated?

**GEORGINA BEATTIE:** I will have to take that on notice to give some specific examples. Obviously, mine operations go for a significant number of years and there's a lot of operations that are continuing to operate now under the current regulatory framework that have been around for some time and often seek expansions or extensions to their original consent conditions. What I would say about rehabilitation is that the framework that we have in place requires progressive rehabilitation. And there were reforms that were introduced in 2021, which really increased the requirement for that progressive rehabilitation to make sure, through the Resources Regulator, that operations are progressively rehabilitating their disturbance, as they mine, to ensure that they're meeting their final end land use, which is approved as part of their development consent.

**PETER DAY:** I might just provide some actual examples there—largely in the coal sector because of the historic nature of that industry. There is certainly Mangoola coalmine, for its ecological outcomes; West Cliff Colliery; Mount Owen coalmine; Baal Bone Colliery, for landform design; New Wallsend colliery, for restoring the land that was impacted by 100 years of mining; also, in terms of Westside Mine and Ulan Coal Mine, for ecological rehabilitation of part of their process with coal; and also Catherine Hill Bay, which was actually transformed into a residential subdivision.

**Ms CATE FAEHRMANN:** Thank you. Still on the topic of rehabilitation, I understand that you acquire security deposits from mine operators before they begin operation in case they go out of business and are no longer able to rehabilitate their mine sites. Is that correct? How many times have you had to utilise the security deposit since that practice came into effect? Is that a regular occurrence?

**GEORGINA BEATTIE:** It's definitely not regular. As I mentioned in my opening statement, it is a tool of last resort. Mr Day may have some specific examples.

**PETER DAY:** Yes. We've used the rehab bond for some small operations in the past—my understanding is. And we've never had to access it for instances of State significant development mines—so for any large mines. In terms of having to access that deposit bond, we've only had to use it for small mines, to date.

**Ms CATE FAEHRMANN:** Is it sufficient to cover rehabilitation requirements, from your experience or in your view?

**PETER DAY:** If I talk about the current framework, in terms of rehab, it needs to be looked at with the whole picture in terms of the actual compliance framework and, really, the bonds are, as Georgina outlined, the tool of last resort. Hopefully, our ideal is not to actually have to use that bond money. So, very much through the rehab reforms that we brought in place and since 2021, we're looking at progressive rehabilitation, which hopefully then lessens the liability over time so it doesn't become an end-of-life operation, so it's done during the life of that mine and it's done as soon as reasonably practical under the legislation. We also look at requiring the company to submit a forward plan that outlines what they propose to do over a three-year period. Then they will submit that annually in case there are any changes to that, which then need to be assessed by our officers as well, as part of the regulator.

We also require the companies in the future to actually have their spacial data, so we can measure their rehabilitation as they proceed over time. Our aim for that is to make that publicly available next year on the SEED Portal so that people can see the progressive rehabilitation. So in trying to compare the current framework with what has happened in the past, very much that was focused on end-of-life operations; very much now it's about progressive rehabilitation and having the company submit plans, objectives and very clear completion criteria so that we can assess and assure compliance going forward.

**GEORGINA BEATTIE:** If I may add to that as well, on the security bonds. As part of reforms that were rolled out in the last couple of years we are, as Peter mentioned, having an annual report where we're assessing what has been done. We also have a rehabilitation cost estimate tool, which is used by the companies to assess the cost of that rehabilitation. Like so much construction material, the cost of rehabilitation is increasing. So as that cost increases and we look at what the cost for full rehabilitation of that site is, we will require additional coverage from the companies to cover that amount.

**PETER DAY:** We did a major review of that rehab cost estimate tool a number of years ago. It's actually benchmarked with three or four industry experts to make sure that the costings we use to estimate the bond are current and accurate. So the companies will complete that tool and we assess that when they submit that to us.

**Ms CATE FAEHRMANN:** I just want to turn to the issue of tailings dams, which I understand is also your remit. I understand you have something called the compliance priority project, which has identified that further research and innovation should focus on dewatered tailings and a shift away from conventional slurry tailings dams. Where is this up to? Is that starting to be required in practice? This is a potential issue, of course, with Cadia.

**PETER DAY:** Certainly. Our remit with tailings dams is very much, once again, based on how they impact rehabilitation. Certainly, a tailings dam facility on a mine site is a major concern in terms of adding to the complexity of rehabilitation into the future. We put a lot of our time and effort in that in terms of our compliance programs. The work you're talking about there was actually instituted after the Cadia tailings dam wall failure back in 2018. As part of the process, a multi-agency taskforce looked at that. We put on a specialist workshop that invited a number of experts—Professor David Williams from the University of Queensland—to look at basically providing the industry with a whole range of alternatives and a whole range of research around innovation with tailings dam storage.

That, in the scheme of mining, wasn't that long ago. Companies are looking at that. I expect over time there will be some movement towards that in the future. Certainly, in terms of actual tailings dams themselves, they form a major consideration as part of the review of the rehab cost assessment tool. There certainly will be an incentive there for companies to explore innovation and other alternatives going forward.

**Ms CATE FAEHRMANN:** Does Cadia have a rehabilitation plan?

**PETER DAY:** It does. It had to submit a new one as part of our reforms. It is classified as a large mine. Large mines in New South Wales, under our regulation, are those defined as having an EPL from the EPA.

**Ms CATE FAEHRMANN:** I understand that Cadia is responsible for rehabilitating Annandale copper mine as well. Cadia committed to that four years ago—to fully rehabilitate that site within four years—and nothing has been done. Are you aware of that?

**PETER DAY:** I'll take that one on notice. I'm not aware of that one, no.

**The Hon. EMILY SUVAAL:** Thank you both for appearing today. If you could just explain for the Committee what is the demarcation for what the EPA looks after and what the mining regulator looks after?

**GEORGINA BEATTIE:** I'll start off and Peter may want to add. The Resources Regulator, which sits within the Department of Regional NSW, is responsible for regulating under two pieces of legislation, primarily: the Mining Act, and that's largely focused on the rehabilitation of mine sites, as we've just been talking about; and also the Work Health and Safety (Mines and Petroleum Sites) Act. That's for the workers at mine sites. That's the primary focus of what we do. The EPA's focus is on pollution. They cover a very broad range of environmental impacts offsite, away from the mine site. We work very collaboratively together with other parts of New South Wales government and with the Department of Planning and Environment as well, but we have a very clear remit in terms of our responsibilities.

**The Hon. EMILY SUVAAL:** Was there anything further?

**PETER DAY:** I think Georgina covered the bulk of that. Very much our operations are confined to the actual mine operation itself; the workers, on the safety side; and the rehabilitation controls, as well, under the Mining Act.

**The Hon. EMILY SUVAAL:** Thank you for clarifying. Could you explain for the Committee what was the NSW Resources Regulator's role in uncovering the Cadia pollution, if any?

**PETER DAY:** Given the issue around the pollution, that's very much an issue for the EPA.

**The Hon. SUSAN CARTER:** Thank you for being here today. As I understand it, you're primarily involved with the health and safety of mining workers and with the rehabilitation of mine sites post-mining, but you're also moving toward a framework where there's ongoing rehabilitation rather than a whole end of life. In terms of rehabilitation, if, for example, there has been lead released into the atmosphere, can that be rehabilitated? Are you just looking at the physical mine site itself? What do you mean by rehabilitation?

**PETER DAY:** Rehabilitation basically means restoring that mine site to an environment that is safe and stable when mining operations are completed. We're very much dealing with and focusing on the actual mine site and the impact that has been caused by the mining operations. It's very much based on that location itself.

**The Hon. SUSAN CARTER:** Historical mines that would have been in operation and closed down well before the Resources Regulator was even thought of—I'm thinking of Sunny Corner and Captains Flat as two examples. Do you have any role in rehabilitating those historical sites?

**GEORGINA BEATTIE:** We do, because we run a program called the Legacy Mines Program, which is focused on delivering or managing works to reduce risks from abandoned mines. It's important to note that those mines, as you mentioned, were around a long time ago under a different regulatory framework to now. But we do have a program and there is money that's been allocated, and we have a program of works to focus on high-risk sites to deliver remediation at those sites.

**The Hon. SUSAN CARTER:** Do you think that the resource allocation is sufficient for you to complete that work?

**GEORGINA BEATTIE:** Well, a couple of years ago we were allocated \$107 million over 10 years to deliver remediation works. That has been a significant boost, and we are busy rolling out a program of works at those sites.

**The Hon. SUSAN CARTER:** Thank you. In terms of your focus on the occupational health and safety of people who work at mine sites, if a mine itself is safe in terms of air quality particulate for those who work on the site, what different risks might exist for people who live adjacent to the site?

**PETER DAY:** The risk to the people outside the site is probably more of a question for the EPA. I can definitely talk about our programs onsite in terms of having strong regulation around workplace exposure standards for dust and diesel particulate. We were the first jurisdiction in Australia to introduce requirements for diesel particulate, way ahead of other jurisdictions, and there is now a requirement for diesel particulate being looked at as part of the Safe Work Australia guidelines for national safety regulators.

In terms of dust exceedences, we have a program where airborne contamination for workers is deemed to be a principal hazard, so mines have to have a control plan in place to monitor that and to notify us, as the regulator, if any of those standards are exceeded for inhalable dust, for carbon dioxide, for respirable dust, for silicosis and for diesel particulate as well. Once we get a notification, then we would investigate that and see if the matter has been brought under control by the company. There's also testing that is done by third parties that will monitor equipment on the miners to assess that and determine whether there has been any sort of exceedence there in dust levels as well.

**The Hon. SUSAN CARTER:** If inhalable dust was at safe levels on a mine site, is it your view that it's likely then to be safe for those outside of the mine site?

**PETER DAY:** I think we're looking at two different things there. Once again, we are focusing solely on the miners and the workers. I'd leave the exposure and the impacts on other communities to those agencies with broad knowledge and remit on that, like the EPA and the Department of Health. But, for ourselves, we've got a very good record in terms of implementing requirements for airborne contamination, taking strong action if there are exceedences there and making sure that companies rectify that as well.

**The Hon. SUSAN CARTER:** Could it be that the very measures that are taken to make it a safe environment for workers expel the dust into the surrounding areas?

**PETER DAY:** Well, expulsion of dust is a natural thing in terms of any mine, especially for underground mines where there are ventilation operations. But, once again, I wouldn't be able to comment on the impact of that. We focus on what our remit is in terms of worker safety, which is pretty important, and we make sure that we regulate that. We'll leave it to the other agencies around their controls.

**The Hon. GREG DONNELLY:** Thank you both for coming along today. I'd expect you to have a copy of the Government's submission in front of you. Could I please take you to page 8 of that submission, going over to page 11? I'll have some questions across those three pages. Commencing on page 8, it's got the heading "Environment Protection Authority". That section runs down page 8 over to page 9, at about point 5 on that page. The Resources Regulator section commences at about point 5 on page 9, running through page 10 and page 11.

In reading the work done by the EPA and the work done by yourselves, the Resources Regulator, there appear to be points in the description of what both do, but there either could be or may be some overlap in terms of intersection. Forgive me; I probably should know this, but I'm just trying to draw this out. With the Resources Regulator, that's to do with—I'm now jumping over to page 10—order programs, compliance priorities, enforceable undertakings and prosecutions. These are all discrete to yourselves. In fact, they do sit apart from and separate from the EPA. Is that the case?

**PETER DAY:** Yes. Essentially, they're compliance tools. You'd basically find them with any compliance agency in New South Wales. Not everyone has the power of enforceable undertakings; that's a very powerful tool. But in terms of the EPA, Planning, Fair Trading, Liquor & Gaming—a whole range of agencies—you tend to find that we've got the same tools that we use. But what we then cover with those tools is our area of remit under regulations and the Acts.

**The Hon. GREG DONNELLY:** With respect to the Resources Regulator in dealing with issues on a mine site, is it common or uncommon—and these are issues around matters like what we're looking at as part of this inquiry. They're quite broad. Do you find yourselves working side by side with the EPA to deal with the matters that are there?

**PETER DAY:** Yes, certainly. That's desirable. We have good collaboration with all other agencies. What I would call our key partners—definitely the Department of Planning, because of our input in the planning and approvals stage. We provide comment on and provide submissions on any planning approval applications from a point of view of looking at what impacts rehab down the track, very much recognising that if you want good rehabilitation of a mine site at the end of its life, and progressive rehabilitation, that has to be designed into the project at the very start. So that's what we focus on there.

With the EPA, often there are a range of projects or issues that will affect the community. They're outside of our remit but they come from a mine site, so we will work closely with the EPA. A good example of collaboration was the Cadia experience. We were part of a government task force with the EPA, Dams Safety NSW and Planning, as well. We led that process. One of our tools was a section 240 notice under the Mining Act, which has pretty broad powers and remit. By applying that, we provided the regulatory framework for Dams Safety NSW to operate and investigate the failing, which was their remit, requiring an independent investigation into why it happened and also what would have to happen to rectify that going forward.

We have a whole range of other activities. We work with the EPA out at Broken Hill, with the mines out there and with the community. Broula King is another one. We work with the EPA a lot. They have an operation next week called Bust the Dust in the Hunter around mine sites, and of course we're collaborating with them on that operation as well. Once again, I think you would expect that regulatory agencies, if they're effective, will collaborate and work together on issues that often aren't specific to one Act or regulation and that actually traverse the range of operations that agencies would administer.

**The Hon. GREG DONNELLY:** So we've got the EPA. We've got yourselves. We've got Planning. In addition to Planning, is there any other government agency that you're regularly dealing with? If there is, could you please explain who they are?

**PETER DAY:** Crown Lands is an agency that we will work closely with because of their ownership and tenure of a lot of lands where legacy mines were based. But we would also deal with NRAR and with Water as well. We have various numbers of committees and meetings with different working groups, with different agencies, as well.

**The Hon. GREG DONNELLY:** What's going to be exercising our minds as we proceed with the inquiry and consume all the evidence is recommendations, and I'm starting to think about that. In terms of what is or potentially can be a large intersection of a group of government agencies, were there any thoughts in regards to improving and enhancing that cooperation? Is there anything obvious that you see from your point of view that you think could be enhanced or improved vis-a-vis your workings with the other groups? Or do you think it's mechanically working quite well?

**PETER DAY:** I think it works quite well. I think we need to recognise that ultimately the agencies we've all been talking about are specialists for their area in their own right. And so, if you suddenly combine a whole range of things, you blend it in and you may then drop that specialisation. For ourselves, on the safety side, we're a specialist high-hazard regulator of safety. We operate in and with the model code for safety around Australia. We put mining safety, an Act and a regulation on top of the Work Health and Safety Act in New South Wales to complement the requirements of the highly technical and high-hazard area of mining so that we can focus on that itself.

Additionally, under the Mining Act, once again we very much focus on the rehabilitation controls because that in itself is a specialised area. That allows us to focus on that operation from the start of a mining operation—from conception, really, right through to completion and post-completion—to when we can relinquish that site. We do work closely with those agencies. There's the old story that you can always collaborate more, but I would suggest that we have good relations with those key agencies, and we talk very often and work together very well.

**The Hon. GREG DONNELLY:** Yes, sorry. I wasn't meaning to draw you out with an idea of amalgamation. I was just teasing out the idea of whether or not, as a group, there could be greater synchronicity between what you do. But I think you've answered that. I have one final question. We've had some evidence to the inquiry about mines that—their useful life has been completed not a few years ago but decades ago. They sit there, essentially, as unused mines, some of them going back to as early as last century. In terms of keeping an eye on those and the problems associated with them, whose responsibility is that, so that there is this ongoing eye on these sites to ensure there are not things festering away there which we don't know are going on?

**PETER DAY:** There are two things there. You could be referring to legacy mines, which I might hand to Georgina. But if an active mine goes into what we call care and maintenance, and shuts down as dormant, but still has a mining lease and has an authority to operate, the current requirements for rehabilitation don't allow them to get away with not doing anything. They've still got to comply with progressive rehabilitation, and we would monitor that. They might park their operations, but they can't park their rehabilitation. We would then take action. They've got to get approval from us to go into care and maintenance, and also we would monitor that going forward to ensure that they can't do that. That's under the current framework, which strengthens the process to a great degree.

**The Hon. GREG DONNELLY:** In terms of a site that was discontinued in terms of its use as a mine early last century or in the first part of last century and is just sitting there, what monitoring of that goes on? I'm

not talking about one that recently moved into a rehabilitation stage, but about one that's just sitting out there in the back of beyond.

**Ms CATE FAEHRMANN:** Sunny Corner, as an example. That's what we heard this morning.

**The Hon. GREG DONNELLY:** Sure, that one, but I'm thinking in general.

**GEORGINA BEATTIE:** There are many, many historical mining sites in New South Wales, given the long history of mining in this State, and the majority of those historical sites sit there without any negative impact on local communities. There are, however, some sites that were not subject to the regulatory regime we have today where there are either safety concerns or concerns about the impact on the local environment, and we have a Legacy Mines Program where funding is allocated to remediate some of those high-risk sites. That is a program we run within the department. On the identified sites, we do monitoring at some sites. We do remediation works at some sites. It really depends on the priorities and what's in the work program but, as I said, the majority of historical sites have very little impact. Some of them are on Crown land. Some of them are on private land.

**Ms CATE FAEHRMANN:** I'll just go back to the Sunny Corner mine. We heard evidence this morning from Dr Ian Wright, who does like visiting polluted mine sites and testing water. He provides an excellent service to the community and the public by doing that. But we heard that there were no signs informing the public about the contaminated waterways in that area. What's the process by which the community is notified and signs are put up about these contaminated sites? Do you oversee that as the regulator?

**PETER DAY:** No, we don't.

**GEORGINA BEATTIE:** The regulator focuses on sites that have a mining title. At these historical sites remediation works can take place where it has been identified as a high-risk site. In the case of Sunny Corner, there were some works undertaken there several years ago, back in 2016-17, where \$1.2 million worth of remediation works was undertaken at that time. I believe, in relation to the water testing downstream, that the EPA is looking to understand that level and do some testing of that water. Depending on the results of that, through that program we would consider whether it should be a priority for investment through that fund.

**Ms CATE FAEHRMANN:** I'm aware that Mr Donnelly also asked questions along these lines. But the responsibility, therefore, for disused mine sites—if it doesn't sit with the regulator, who within government does have responsibility for that contamination?

**PETER DAY:** Was your question before around the signs? I took it to be.

**Ms CATE FAEHRMANN:** That's right.

**PETER DAY:** Yes, but not the actual remediation of those legacy mine sites themselves?

**Ms CATE FAEHRMANN:** Yes. Well, it's both. Responsibility needs to fall somewhere for the Government, you would think, to put up signs notifying the community that this creek is contaminated by this disused mine site. Where does that fit?

**PETER DAY:** Our job generally is rehabilitation of those legacy sites. In terms of any impacts on public health, that would either be under the health department or under the EPA itself.

**GEORGINA BEATTIE:** To add to that, there are hundreds of historical sites. Where it's identified that there are risks to the environment or to the community from those historical sites, government would work together to look at what needs to be done to rectify that. In the case of Sunny Corner, as I mentioned, work was undertaken several years ago. We understand that there were improvements to water quality as a result of that, but further testing would be needed, which is now being undertaken, to determine the current state of that water quality. Based on the results of that water testing, government would determine the prioritisation and any further works that could be undertaken.

**Ms CATE FAEHRMANN:** It does seem to be an extraordinary kind of legacy—a toxic legacy, if you like—that does seem to fall between agencies in some ways. We've also been told by one of the community representatives with their submission—I think it was Cadia asking whether there has been any successful remediation or containment of mine tailings in any tailings storage facility in the Blayney shire. They say that that's not the case and give examples of Brown's Creek. Are you aware of this one? They said that this one was abandoned after the mine flooded. It's now a source of acid mine drainage directly into the Belubula River. There's a second one, the Junction Reefs mine. Are you aware of that one?

**PETER DAY:** It would be on the list of legacy mines, I'd suggest.

**Ms CATE FAEHRMANN:** It's also a failed rehabilitation after multiple attempts to control cyanide and acid mine drainage directly into the Belubula River—but it's nothing to do with you because it's legacy?

**PETER DAY:** In terms of MEG itself, MEG does legacy mines in terms of rehabilitation. There's a work program going forward in terms of targeting high-priority mine sites for remediation that have been identified as legacy mines.

**GEORGINA BEATTIE:** I would have to check whether any work has been undertaken on those sites in previous years through the Legacy Mines Program, but I don't have that information to hand.

**The CHAIR:** If there are no further questions, I thank the witnesses for attending this hearing. Committee members may have additional questions for you after the hearing, and the Committee has resolved that answers to these, along with any answers to questions that you've taken on notice today, are to be returned within 21 days. The secretariat will contact you in relation to those questions. Thank you very much for your time.

**(The witnesses withdrew.)**

**The Committee adjourned at 15:55.**