NSW Health
Information
Minister for Health and Minister for Regional Health

B23/259

Bowdens Silver Project – State Significant Development number 5765 (the Project)

Analysis	The NSW Independent Planning Commission (the Commission) was the consent authority for the project. The Commission gave detailed consideration to the health risks associated with the project. It specifically considered the proponent's human health risk assessment (HHRA), an independent peer review of this assessment, and submissions made by and on behalf the community, including submissions by Honorary Professor Mark Taylor. The Commission determined that the project should be approved subject to conditions to prevent or minimise environmental impacts.

For information

Noted by (signature)		**Date**	

Key issues

The Commission was the consent authority for this project and thoroughly considered health risks

The Commission considered evidence presented in the proponent's Human Health Risk Assessment (HHRA), an independent expert review of the HHRA by Roger Drew, changes to the HHRA made in response to the peer review and information provided by and on behalf of the community.

The Commission specifically considered particulate and gaseous air pollution, heavy metals and silica. In relation to heavy metals, and based on the evidence of the HHRA, the independent expert review and the public submissions, the Commission found that total exposure to all metals (except manganese) would remain below levels at which adverse health effects would be expected to occur.

The Commission concluded the project could be managed in a manner that would comply with relevant criteria for particulate matter, exposure to heavy metals, silica and gaseous pollutants, and that health and amenity related impacts are also capable of being managed. The Commission's approval are subject to conditions to prevent, minimise and monitor environmental impacts. Relevant conditions include B27 and B31-34. These conditions specify the air quality criteria required, and for air quality management plans to be developed by suitably qualified persons in consultation with the EPA.

Health Risks

According to the HHRA, the project could potentially increase community exposures to a range of contaminants, pollutants and stressors including water, air, dust and soil.

Environmental Risk Sciences Pty Ltd stated the following regarding the potential Health Impacts and identified mitigation measures in its assessment. These were described in the HHRA as:

Air emissions

Based on the available data and information in relation to emissions to air from the Project, which include dust which comprises lead and a range of other metals, potential impacts on the health of the community have been assessed. The impact assessment has concluded that impacts derived from the Project make a negligible contribution to overall exposures to these metals and there are no health risk issues of concern relevant to the Project (including construction and operational phases). These conclusions apply to all members of the community, adults and children as well as sensitive individuals.

Water

Based on the assessments undertaken, the potential for adverse health impacts within the off-site community associated with impacts to surface water and groundwater as a result of the Project is considered to be negligible.

Noise emissions

Based on the predicted noise levels and potential mitigation measures, the potential for adverse health impacts within the off-site community associated with noise generated during construction and operations is considered to be negligible.

The District's participation in the approval process for the project

The District provided limited input to the assessment process. The District reviewed the EIS and made a submission to the then NSW Department of Planning, Industry and Environment (DPIE).

In its review, the PHU confirmed that the methodology used in the HHRA was undertaken in accordance with the enHealth Environmental Health Risk Assessment, Guidelines for Assessing Human Health Risks from Environmental Hazards (enHealth 2012b). These guidelines provide the standard for health risk assessments.

It is noted that the HHRA considered the populations of Lue, Rylstone, Kandos, Gulgong and Mudgee and noted demographic differences in their community profile.

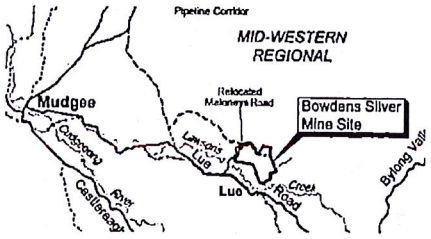
Professor Mark Taylor's presentation to the NSW Independent Planning Commission

On 15 February 2023, Professor Mark Taylor, Honorary Professor Macquarie University and Victoria's Chief Environmental Scientist (appearing as Honorary Professor), presented at a public hearing of the NSW Independent Planning Commission. He was critical of the EIS and raised concerns about the impact that the project could have on the community.

Context

Bowdens Silver Mine – Major Project SSD5765

Bowdens Silver Pty Ltd (Bowdens Silver) sought and gained development consent under Part 4 of the Environmental Planning and Assessment Act 1979 to develop and operate an open cut silver mine near Lue, NSW. Located about 26 km east of Mudgee and about 2 km to 3 km northeast of Lue, the proposed mine site is a greenfield site, and the mine would have a capacity to extract and process up to about 2 million tonnes per year of ore and would have a mine life of 16.5 years.



Environmental Risk Sciences Pty Ltd (enRiskS) was commissioned by the project owner to undertake a HHRA to evaluate impacts of the proposed mine on human health.

The population surrounding the mine site is small and comprises several rural-residential properties along with residential properties and other key premises such as Lue Public School within Lue. The Australian Bureau of Statistics provide the following 2016 census data.

Professor Taylor's ongoing work with the Lue community

Professor Taylor has also written the following reports in relation to the proposed project:

- 15 July 2020, 'Components and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 202)'. The Lue Action Group requested that Professor Taylor "evaluate the risk of lead dust associated with the proposed EIS submitted by Bowens Silver mine operations. The request for review was to include the possible effects on the adjoining communities and businesses and to incorporate the risk of lead dust associated with traffic movements and prevailing winds."

- 6 August 2018, 'Interim report for dust monitoring at Rylstone Olive Press'. The Rylstone Olive Press was concerned that the quality of their product could be adversely affected by metal-rich particulate matter in relation to the proposed Bowdens Silver mine. Rylstone Olive Press commissioned Macquarie University to undertake a pre-mining assessment of atmospheric particulate matter deposition at the olive grove.

Contact

Name	Position	Phone and email
Tim Brokenshire	Manager Environmental Health	

Approval

Name	Position	Date
Dr Kerry Chant AO PSM	Chief Health Officer, Deputy Secretary, Population and Public Health	22/05/2023 24/04/2023
Dr Paul Douglas	A/Executive Director, Health Protection NSW	21/04/2023
Mark Spittal	Chief Executive, Western NSW LHD	02/05/2023

NSW Health

Expert Advisory Panel meetings – Lead in Broken Hill

14 May 2024, 3-5pm

Chair: Dr Jeremy McAnulty, Executive Director, Health Protection NSW

Attendance:

Organisation	Attendees
Health Protection NSW	Dr Jeremy McAnulty, Kishen Lachireddy, Suhasini Sumithra, Dr Sam Daneshjoo, Dr Stephen Conaty, Keren Francis
Western NSW Local Health District	Priscilla Stanley
Far West Local Health District	Melissa Welsh
Poisons Information Centre (PIC)	Professor Andrew Dawson
Department of Rural Health, Broken Hill	Professor David Lyle
Independent public and environmental health consultant	Professor Sophie Dwyer
Maari Ma Aboriginal Health Corporation	Dr Hugh Burke, Dr Adelaide Morgan
NSW Health Pathology	Neil Catlett
Centre for Alcohol and Other Drugs	Dr Thanjira Jiranantakan
South Australia Health	Dr Peter Bain
NSW Environment Protection Authority	Dr Frances Boreland

Apologies: Dr Craig Dalton, Dr Garth Alperstein, Professor Peter Sly

Meeting notes:

Endorsement of previous meeting minutes, updated terms of reference and forward program of meetings

- The group endorsed the minutes from the previous meeting in February 2024. There was agreement to combine two of the action items relating to analysis of data on participation and non-participation rates from birth onwards into one action item to be led by Priscilla Stanley and her team in collaboration with the Epidemiology and Data Systems Branch in Health Protection NSW and Dr Frances Boreland. Dr Boreland advised that a previous study she had conducted on participation rates found that most children in Broken Hill were being picked up through screening by the time they were five. She noted however that there were disincentives to participating including venous screening and community members feeling that there were not many solutions available if high blood lead levels were identified.
- The options paper for point-of-care testing was noted.

Guidance for early detection and clinical management in Broken Hill

- The group agreed that the current guidance for early detection and clinical management in Broken Hill is appropriate. However, concerns were raised about limited capacity and resources to respond to all children who are over the National Health and Medical Research Council guideline of 5 µg/dL. At this point, there is limited capacity to remediate all children with elevated blood lead levels of 15 µg/dL and above. At 10 µg/dL, families receive home visits. For children with blood lead levels below this level, response generally includes education to families and providing incentives like cleaning supplies.
- There was discussion that clinical guidance should not be seen as the sole way to mitigate elevated blood lead levels and that actions need to be taken further upstream, such as reducing emissions and remediating the land and intervening at birth with environmental assessment.
- A point was raised that once children go to school, it becomes harder to monitor children because there are fewer routine touchpoints (e.g., immunisation and blue book milestone checks).
- Far West Local Health District noted that they do not have a medical officer or paediatrician attached to their program so families are referred to their family GP for further management of elevated levels including confirmatory venous testing. It was noted that this is challenging given primary care can be patchy in the region. Access to allied health is not always consistent as well.
- The group discussed the risk of removing screening at 6 months of age in Broken Hill. Given there are limitations in referral pathways and meaningful solutions that can be provided at this point, the group agreed that having the first screen at 12 months rather than 6 months would be acceptable. The group noted, however, that there would be circumstances when a 6 month screen would be recommended, for example when there are risk factors that warrant earlier screening. The group also noted that they would review the decision to no longer screen at 6 months if there was an increase in the number of 12 month old babies presenting with high blood lead levels.
- The group did not recommend screening beyond 48 months and also agreed that screening pregnant women and women of reproductive age in Broken Hill is not required.

Governance arrangements for early detection and clinical management

- The group did not raise any concerns about current governance arrangements for early detection and clinical management.

Topics for inclusion in a cross-agency bid to government

- The group raised the following areas as priority for a cross-agency bid to government. Environmental Health Branch will seek input from the expert panel on how to rank them by priority (e.g., through an online survey).
    - Clean up legacy lead contamination in residential and public lands. This could include prioritisation of hot spots for remediation and working through them over time.
    - Reduce emissions from mines and consider what the regulatory mechanisms are to control emissions.
    - Maintain interventions that are currently in place to support screening and referral of children as well as access to remediation services.
    - Continue to look into alternatives to point-of-care screening options.

- Provide multidisciplinary wrap around services for children, not just screening during the developmental stages. There is also a need for input from paediatricians and allied health clinicians with childhood development expertise including psychologists and occupational therapists because any exposure to lead is having an impact and flow on effect for school aged children. Consider having the program continue into schools to help children settle.
- Co-design the program to ensure targeted Aboriginal specific strategic goals.
- Support childcare and education settings to keep high risk children out of risk and maintain safe environments for children at risk, noting that childcare options in the area are limited and most centres have low lead levels. Childcare should also be low cost so people can access it.
- Improve quality of housing especially for Aboriginal families.
- Embed evaluation and ongoing monitoring into the program.

Actions carried forward from previous meetings and new actions

Actions	Status	Lead
Ms Stanley to review the Epidemiology and Data Systems Branch's analysis of testing coverage in Broken Hill by age group and see if is possible to use the data to better understand where engagement/screening efforts can be better targeted for August expert panel meeting. This will be done in consultation with Dr Frances Boreland.	In progress	Priscilla Stanley with support from Health Protection NSW Epidemiology and Data Systems Branch
Dr Boreland to share a paper that provides analysis on screening coverage in Broken Hill historically and methods used to help answer the question about rates of non-participation.	Complete	Dr Boreland
Consult with the Environment Protection Authority whether a) the 150 mg/kg noted in the Exposures and Forward Solutions report prepared for the Broken Hill Environmental Lead Program Steering Committee (Mark Taylor et al.) is the target concentration to achieve a blood lead level of 5 µg/dL and b) if this is realistic for soil abatement response in the Broken Hill context.	In progress	Kishen Lachireddy
Develop and circulate a survey to help prioritise strategies to reduce blood lead in children to put forward to the Broken Hill Environmental Lead Work Group for a cross-agency government bid/new policy proposal for funding.	Complete	Environmental Health Branch