

## AIR QUALITY AND RADIATION

Iluka Resources is preparing an Environment Effects Statement (EES) for the Wimmera Project, a proposed mineral sands mine located approximately 35km south-west of Horsham. The Wimmera Project will introduce mining infrastructure and activities into an agricultural landscape, and the EES process seeks to understand and manage the potential impacts of this change on people and the environment.

### SPECIALIST STUDIES

An Air Quality Impact Assessment (AQIA) is being prepared by consultants at Tonkin & Taylor that characterises the local meteorology, air quality and sensitive receivers (including residences) and considers whether the project will affect the local air quality based on a comparison of air dispersion modelling results against applicable air quality criteria.

A Radiation Impact Assessment (RIA) is being prepared by consultants at Radiation Consulting Australia that considers baseline radiation levels in the environment and models potential impacts from project activities in comparison to regulatory dose limits. As part of this assessment, Radiation Consulting Australia attended a Wimmera Project community information session to describe the study and listen to community feedback.

A Human Health Assessment (HHA) is being prepared by consultants at Environmental Risk Sciences, and assesses potential risks from the project on community health and wellbeing, with consideration of matters such as air quality, radiation, noise, vibration and water.

Baseline data and stakeholder input are considered by consultants and Iluka to inform the project design and management strategies.

### EXISTING CONDITIONS

The air quality environment within the vicinity of the mine site was characterised by reviewing local climate data, collecting data from an on-site meteorological station, and measuring ambient air quality: particulate matter less than 10 microns in diameter (PM10) and 2.5 microns in diameter (PM2.5), respirable crystalline silica (RCS) and dust-associated heavy metals concentrations.

The existing air quality around the proposed mine site generally meets applicable air quality criteria. On occasions, some criteria for the existing conditions is exceeded due to windblown dust from more arid areas or nearby activities such as crop preparation (tilling and seeding) and harvesting. The existing concentrations of RCS and metals are below the applicable criteria.

The ore mined and processed by the Wimmera Project contains low concentrations of naturally occurring radionuclides uranium and thorium and their daughter products.



The average uranium concentration in mine site soils is approximately 0.6 parts per million (ppm) and the average thorium concentration is approximately 8ppm. These concentrations are typical of normal soils, where the worldwide average uranium concentration in soils is approximately 3ppm, and the worldwide average thorium concentration is approximately 9ppm (UNSCEAR 2000).



## IMPACTS AND MANAGEMENT

Mining activities, particularly ore mining and processing, have the potential to impact baseline air quality and radiation levels. These will be managed to ensure the surrounding environment and employees are safe.

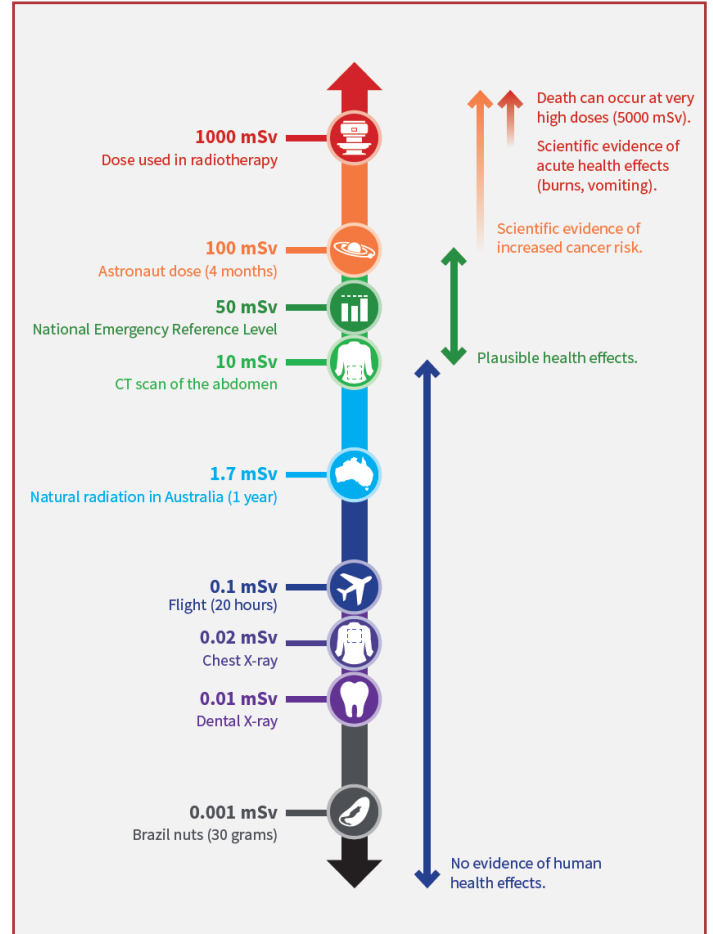
Iluka seeks to avoid impacts on the environment and people from the outset through careful project design. Where complete avoidance of impacts is not possible, Iluka will implement measures to minimise the duration, intensity and extent as far as practicable.

Project activities with greatest potential to generate dust include hauling overburden and subsoil in the pit. The presence of exposed surfaces (such as stockpiles) also has the potential to generate dust. Iluka will implement a range of best-practice measures to reduce dust emissions, for example keeping stockpiles damp, using dust suppressants and storing mined products in closed bins for loading into trucks for transport. The AQIA has modelled the effectiveness of these proposed measures and concludes that, once implemented, no exceedances of applicable air quality criteria are expected.

Low levels of radiation are present in soils of the Wimmera region. The processing of mined ore will separate some naturally occurring uranium and thorium, which in turn will result in some of the project's products and waste material being classified as radioactive. Controls will be in place to ensure that this does not pose a hazard to the surrounding environment or communities. The RIA determined that radiation doses to humans from the Wimmera Project will be well below the statutory dose limit of 1mSv/year. For context, the highest dose expected, 0.0356mSv/year, is comparable to the dose received from a short-haul domestic flight in Australia.

The project will operate under a radiation management licence in accordance with the Victorian *Radiation Act 2005*. The licence will require Iluka to ensure that radiation doses remain below the statutory limit by implementing a range of best-practice measures to reduce exposure.

The HHA concluded that project-related risks to human health are low for radiation and air quality. With the implementation of the proposed mitigation measures, particularly dust control and reburial of tailings, project-related radiation and air quality impacts will be managed to meet applicable criteria and internal standards to minimise potential risks to human health and the environment. This includes matters relating to the surrounding environment, water resources, air quality, agriculture and local residences.



Sources of ionising radiation and their potential health effects  
Figure source: ARPANSA

## NEXT STEPS

The Air Quality Impact Assessment, Radiation Impact Assessment and Human Health Assessment are being finalised and will be available to view when the EES is submitted in mid-2026. If you would like to be kept informed about this process and future opportunities for engagement on the Wimmera Project, please email [wimmera.project@iluka.com](mailto:wimmera.project@iluka.com) to be added to the project email list.

