

## QUESTIONS AND ANSWERS

### 1 Clean TeQ Sunrise

**Clean TeQ has referred to Clean TeQ Sunrise as a highly sophisticated chemical processing plant. We thought it was a mine?**

Both are true. Clean TeQ Sunrise will have both an upstream (mining) component, and a downstream (processing) component. Ore taken from the mine will be processed onsite using Clean TeQ's continuous resin-in-pulp (c-RIP) technology. Our goal is to be a highly sophisticated operation that encompasses Clean TeQ's proprietary technology, which we have developed over 25 years. This will set us apart from other traditional mining operations.

**Clean TeQ has said that its proposed Clean TeQ Sunrise mine will not be like other mines. Please explain the Pressure Acid Leach process – how it will work and what the impacts will be?**

Clean TeQ Sunrise is unlike other mines in that the ore body is a type of deposit called a laterite. Most mines developed in Australia are not laterite deposits, though with Clean TeQ's technology, these projects will become more commercially appealing in the future and possibly more prevalent. Clean TeQ's proprietary processing technology also differentiates Clean TeQ Sunrise from other mining operations in Australia.

Part of the processing at Clean TeQ Sunrise will include a technology called Pressure Acid Leach (PAL). PAL is a process used to extract nickel, cobalt and scandium from laterite ore bodies. The PAL process utilises elevated temperatures and pressures with sulphuric acid to separate nickel, cobalt and scandium from the laterite ore.

The PAL process works as follows: ore is mined and crushed to create a fine material. These fines are mixed with water to create a slurry which is then preheated. This hot slurry is pumped into an autoclave (a giant pressure cooker of sorts) where acid is added. The slurry takes approximately 60 minutes to complete the leaching process in the autoclave. Upon leaving the pressurised and high temperature atmosphere of the autoclave the slurry must be returned to atmospheric conditions. This is accomplished through two or more let-down or flash stages.

Once the slurry is at atmospheric conditions it is washed using a resin that attracts the desired minerals. The unwanted elements are separated from the minerals, at which point the nickel, cobalt and scandium can be recovered from the liquid fraction. The tailings are neutralised with limestone and lime and stored in a tailings storage facility.

**What is your plan in respect to the proposed construction camp?**

We have an approved site for the construction camp on the mine site. The site will accommodate up to 1,000 people. An alternate location for the construction camp has been identified on the adjacent property (formerly known as Sunrise) which is owned by Clean TeQ. However, approval to relocate the construction camp to Sunrise will need approval from the NSW Department of Planning & Environment.

**What is the approved Life of Mine?**

The mining operations are approved at the mine for 21 years which is the current basis of our business case.

## 2 Local opportunities

**What sorts of jobs will be advertised locally? How many?**

We are currently estimating employing around 300 people in steady state operations. There will be a mix of operational, analytical and management roles requiring skilled workers. Clean TeQ is committed to supporting the communities in which we operate and providing local opportunities wherever possible. All Clean TeQ personnel will be given the training they need to be successful in their role, as part of the advanced operation that Clean TeQ aims to deliver.

During the peak year of the construction phase of the MPF, an average of approximately 600 contractors would be required to build and install the infrastructure at the MPF site.

**What supplies for the miners' camp will be sourced locally? Will the company implement a Local Purchasing Policy?**

We are currently developing Clean TeQ's Procurement Policy. We are yet to release the tender for management of the camp, but Clean TeQ is committed to supporting the communities we operate in, and so local sourcing will be encouraged. All commercial decisions made by Clean TeQ must make economic sense. We will be interested in hearing from local vendors and will advise on how to do this when we have the appropriate processes in place.

**How and where will contracts/tenders be advertised?**

Clean TeQ Sunrise is not yet at the stage of advertising tenders. Once we are ready, opportunities will be advertised as widely as practical.

Clean TeQ is always interested in hearing from potential suppliers. We will be making a careers and procurement page available on our website in the future where interested members of the community can self-register. The details of this will be made public as soon as possible.

### 3 Air Quality

#### **When the mine is up and running, what will it smell like? How dusty will it be?**

No significant odour is expected from the Project therefore no specific olfactory assessments have been undertaken. As explained in the Modification 4 application, hydrogen sulphide or “rotten egg” gas will not be produced or used in the project.

An air quality assessment has modelled the dust generation associated with the project for four representative years of mining operations, selected to assess the air quality impacts of worst-case operations. The results show that no neighbouring landowners would experience exceedances of the NSW EPA’s dust criteria. In addition, Clean TeQ is required to prepare an Air Quality Management Plan that must be approved by NSW EPA and the Secretary of the Department of Environment & Planning.

The plan will include air quality (dust) monitoring to ensure any requirements are not exceeded. Clean TeQ will use best practice management to minimise dust generation from the project including site-wide vehicle speed limits, progressive rehabilitation of disturbed areas, minimising the double handling of material and during periods of dry, windy conditions where watering is not sufficient, certain activities may be ceased or relocated to more sheltered areas.

#### **What impact will gaseous emission have on neighbouring properties?**

The processing facility has been designed to minimise potential impacts of gaseous pollutants through the use of emission control equipment incorporated into the processing operations and stack design.

The adoption of the RIP processing method as proposed in Modification 4 would result in the elimination of three currently approved emission release points which will reduce gaseous emissions from the processing facility.

Clean TeQ will carry out any stack monitoring as required by the NSW EPA and will publish the results of this monitoring on our website. We will also ensure we meet the requirements of our Environmental Protection Licence (EPL) as issued by the NSW EPA.

#### **What monitoring programs will Clean TeQ be required to undertake (environmental and flora/fauna) and have monitoring locations been determined?**

Clean TeQ will undertake a wide environmental monitoring in accordance with the various environmental management plans required by the Development Consent and the Environmental Protection Licence. Proposed monitoring would cover a suite of environmental factors with specific focus on the following key issues:

- meteorology (temperature, rainfall, evaporation, wind direction and wind speed);

- air quality (dust deposition, total suspended particulates and gaseous emissions);
- noise (operator attended and unattended);
- surface water (quality);
- groundwater (level, quality and use);
- erosion and sediment control (structural integrity and effectiveness);
- weed and animal pest control;
- rehabilitation performance; and
- landholder and community consultation.

**At what time will the company start developing related Management Plans?**

We are developing the required management plans now. Consultation with several government regulatory bodies is required and plans must be prepared to the satisfaction of the Secretary of the NSW Department of Planning & Environment.

## 4 Power

**What are your power requirements, is the gas pipeline still required?**

The plant will generate sufficient power from the acid plant to meet most of its needs. There are times when there will be a requirement to either import additional power or dispose of waste heat. The additional power requirements can be generated using gas or through imported electrical power. We are moving to try and enable this through electrical power, which will also enable us to distribute surplus power to the grid and explore renewable energy in the future. If we can't do that, we will use gas.

## 5 Water

**Tell us about your planned water use.**

We recognise and respect the importance of water to the sustainability of local farms and businesses. Due to our own water business – Clean TeQ Water – we have an enhanced understanding of this precious commodity.

At Clean TeQ Sunrise, water will be used to process the ore. It will be mixed with ore from the mine to create a slurry, which will be processed on site.

Clean TeQ currently holds a water access licence (3,154 shares currently equivalent to 3,154 ML/year) in the Upper Lachlan Alluvial Groundwater Source.

We aim to generate the most value possible from our water usage. We are currently seeking approval to recycle water to minimise our water use and reduce our costs. In addition, if approved, the processing plant will include a Clean TeQ proprietary water system which will help with the optimal use of water, including recycling.

**What are the likely impacts for farmers neighbouring the borefields? What impact will Sunrise's proposed 'take' have on the existing wells in the area?**

Clean TeQ currently holds a water access licence (3,154 shares currently equivalent to 3,154 ML/year) in the Upper Lachlan Alluvial Groundwater Source.

There are no changes proposed to the approved extraction from the groundwater borefields as part of Modification 4, therefore the approved groundwater impacts remain unchanged.

Our consent conditions require us to monitor any impacts of the bores on landholders around the borefields as well as the regional and local aquifers. We are also conditioned to supply a compensatory long-term water supply to anyone whose basic landowner water rights are impacted.

A Water Management Plan which will also include a Groundwater Management Plan will be developed. This plan needs to be prepared in consultation with NSW DPI Water, NSW EPA and to the satisfaction of the Secretary of the Department of Environment & Planning prior to Clean TeQ being able to operate the borefield.

## 6 Traffic

**What road works will be required in the district? When will these start?**

We are currently working with local councils to develop a long-term road upgrade and maintenance plan. The Development Consent required the route between the rail siding and the mine site (including intersections) to be upgraded prior to the commissioning of the mine.

The Henry Parkes Way/Middle Trundle Road and Henry Parkes Way/The Bogan Way intersections would be upgraded prior to commissioning of the mine.

Clean TeQ would contribute funding to the maintenance of key roads in the Project area via Voluntary Planning Agreements with the local councils.

There is no planned start date for road works, although other construction work for the project will begin in, or around, Q2 2018.

**How frequent will the trains be and how will the traffic at the new siding be managed in terms of disruption to existing use of Trundle / Tullamore road by vehicles?**

The approved siding will be located 7km north of Trundle. Safety is paramount to the Clean TeQ Sunrise operations. Clean TeQ will comply with all transport regulations, including ensuring appropriate safety controls are put in place. The logistics strategy for Clean TeQ Sunrise is a work in progress. The current plan includes the use of three trains per week.

## **What are the expected heavy vehicle movements through Trundle?**

### ***Limestone***

Once the plant is fully operational Clean TeQ expects 3rd party limestone usage to average between 1,100 tonnes per day (TPD) and a maximum of 1,480 TPD depending on the quality of the limestone and the processing conditions.

This will require between 54 and 72 heavy vehicle movements per day (using B Double trucks). This could be reduced to between 36 and 48 movements per day if AB Triple trucks can be used.

Clean TeQ would need to obtain approvals from the RMS and Councils prior to using the higher capacity heavy vehicles. Clean TeQ is eager to consult with the community on the size of heavy vehicles used to transport limestone.

### ***Fuel, lubricants and other reagents***

In addition, there would be 18 heavy vehicle movements per day to predominately carry lime, fuel and lubricants.

### ***Total***

In summary, this will see Project-related heavy vehicle movements through Trundle to be as low as 54 (2.25 movements per hour on average) and up to 90 movements per day. The Modification 4 Environmental Assessment has assessed the potential impacts associated with the maximum number of movements, being 90. Non-Project heavy vehicle movements are forecast to be between 85 to 140 per day.

Clean TeQ is committed to working with the community of Trundle to minimise potential impacts associated with the Clean TeQ Sunrise related heavy vehicle movements. We will seek the input from the community in this respect.

## **7 Noise**

### **What are the blasting hours / days / and limits (air pressure/vibration) at the limestone quarry?**

Operation of the limestone quarry is approved to be undertaken during seven days/week between 7.00 am to 5.00 pm. The loading and transport of crushed limestone is approved to be undertaken 24 hrs/day seven days/week.

Clean TeQ's Development Consent restricts blasting hours to 9am – 5pm Monday to Saturday inclusive at the limestone quarry. No blasting on Sundays or Public Holidays.

Blasting must not exceed the criteria in the following table:

Location	Airblast overpressure (db(lin peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately-owned land	120	10	0%
	115	5	5% of total blasts over any 12-month period

### What noise impacts will there be on neighbouring properties?

The Modification includes the addition of blasting at the mine site. A Noise and Blasting Assessment for Modification 4 was undertaken by Renzo Tonin in accordance with the *Industrial Noise Policy*, *Interim Construction Noise Guideline* and the *Road Noise Policy*.

The Environmental Noise Model modelling system was used by Renzo Tonin to assess potential noise impacts associated with the modified Project. The model considers the modified mine and processing facility operations, proposed mitigation measures, local landform and meteorological conditions, and the location of privately-owned receivers.

Three operational scenarios were selected in consideration of maximum potential noise emissions to evaluate the potential impacts at the nearest privately-owned receivers over the life of the Project. For each operational scenario, day, evening and night-time periods under calm and adverse meteorological conditions were considered.

Maximum case impacts were predicted to occur during the night under adverse meteorological conditions (generally occur in winter). During adverse meteorological conditions, operations would be modified to minimise noise impacts. With the modified operations, seven negligible exceedances (i.e. 1 to 2 dBA above criteria) are predicted. The NSW Government defines negligible exceedances as they would “not be discernible by the average listener and therefore would not warrant receiver based treatments or controls”.

## 8 More questions or concerns?

### What can you do if you have concerns about the proposals?

Clean TeQ welcomes feedback from the community and will answer all questions we receive, and address concerns, to the best of our ability. Please contact the community team via [community@cleanteq.com](mailto:community@cleanteq.com). We aim to respond to all messages within 24 hours. Also located in Parkes are Clean TeQ’s NSW Manager (James Fisher) and General Manager Government, External Relations and Community (Justine Fisher). Both belong to the CCC and are available to assist with any queries.