

27 September 2010

Letter to all Queensland State Members of Parliament

Ladies and Gentlemen,

We are an Australian company which has commenced a trial UCG project at Kingaroy to meet the increasing energy demands of our communities in Queensland.

I am writing to provide you with balanced and factual information about the cleaner, cost competitive alternative energy project – **Underground Coal Gasification (UCG)** - that our company, **Cougar Energy Limited**, is trialling in Kingaroy.

As you know, the project has been suspended while we address issues raised by the Department of Environment and Resource Management (DERM). We are currently working to supply the necessary information to satisfy the requirements of the *Environmental Protection Act 1994*. We are confident these matters will be addressed and Cougar Energy remains committed to the Kingaroy project.

Earlier this month the Kingaroy Concerned Citizens Group (KCCG) issued a *Letter to all State Government MPs* in which it posed nine reasons for opposing UCG. Most of these reasons were based on fallacies or misrepresentations of fact.

It is equally important that any debate about UCG is informed by facts and not by misinformation. This letter to you includes ten important facts about UCG in Kingaroy which highlight and emphasise the following points:

- *UCG technology boasts **lower emissions** than coal-fired power stations, has minimal impact on the ground surface utilising **one fifteenth** the land area compared to the land area required by Coal Seam Gas (CSG) to produce the same energy outputs. Importantly, UCG **does not generate the extraction of large quantities of groundwater**, unlike the CSG process.*
- *The technology we use is the world's best and proven at commercial scale. The Kingaroy project has employed a highly qualified engineering and operating team with both local and international experience.*
- *Our Kingaroy project has presented **no danger to human health, no danger to drinking water, no danger to livestock and no danger to other farming activities.***
- *Our project has **not contaminated the community ground water supplies at Kingaroy.***

10 FACTS ABOUT UNDERGROUND COAL GASIFICATION IN KINGARROY

Fact 1- No danger to drinking water and community groundwater at Kingarroy

There has been no contamination of community groundwater supplies at Kingarroy caused by UCG activity. Tests published by DERM from 17 July to 11 August 2010 show that groundwater sample results from in and around the Kingarroy plant present “no concerns with water quality in the local bores” and are “... below Australian Drinking Water Guideline standard...” (DERM Media Release 11 August 2010 *Landholder Bore Restrictions removed near Kingarroy UCG plant*).

DERM further confirmed (DERM Media Release 17 July 2010 *Kingarroy Underground Coal Gasification testing results*) that people will have significantly more exposure to the hydrocarbon chemical under investigation from the air they breathe:

“The maximum level of benzenes detected was 0.7 parts per billion (ppb) compared to an Australian Drinking Water Guideline standard of 1.0 ppb and this was only detected at the Cougar Energy plant site itself.

“Although it is difficult to compare exposures from drinking water to those in air, by comparison, this is less than 10% of the benzene level in the air of a city street and up to six hundred times less than the air at a suburban petrol station.”

Prior to commencing gasification at the pilot plant, Cougar Energy, in conjunction with a recognised groundwater expert, Golder Associates, developed and implemented a groundwater monitoring program in accordance with the requirements of the Environmental Authority issued for the Kingarroy site. Chemicals being monitored included benzene, toluene and phenol.

The Australian Drinking Water Guideline 2004 (ADWG) sets strict acceptable levels for water for human consumption. The guideline for benzene is one part per billion (ppb). Put in perspective, the World Health Organisation’s comparative drinking water benchmark is 5 ppb while the United States sets a 10 ppb standard.

In June, two tests of 2ppb of benzene were received at one *monitoring* bore within the pilot plant area, thus exceeding the ADWG, although the water already exceeded ADWG due to its high saline levels which makes it unfit for human consumption.

Investigations concluded that the detections were transitory in nature and had been confined to an isolated *monitoring* bore that does not access drinking water. Within a short time, readings at this monitoring bore fell below ADWG levels again and have remained below them ever since, and are in fact below the level of detection.

These results were supported by DERM in its media release 11 August 2010 *Landholder Bore Restrictions removed near Kingaroy UCG plant*.

There have never been any readings for benzene exceeding the ADWG in any of the landowners' (saline) water bores in a radius of 2 km from the site, and in fact all readings taken by the Company for these bores have been below the level of detection.

Fact 2 - Best practice UCG does not contaminate water supplies

Claims of water contamination at overseas sites are unreasonable or unsupported

Other UCG projects claimed by the KCCG to have "contaminated water supplies" were cited as Hoe Creek in Wyoming, USA, el Tremedal in Spain and parts of the former Soviet Union.

These are not reasonable comparisons or claims. Firstly, the Hoe Creek project was a flawed test carried out in the late 1970s. Details of this test were in fact presented by Cougar Energy to a community meeting held in May this year. The lessons from this project were well documented, in particular that the gasification test was conducted too close to the ground surface (30 metres). Cougar Energy plans projects where gasification is conducted between 150-400 metres below surface, thus preventing a similar occurrence.

There is no documented evidence to support claims of "contaminated water supplies" in Spain and the very broadly described "other parts of the former Soviet Union".

Equally, we are not aware of any material to support the broad claim that "proponents of UCG state that the process can and does contaminate water supplies".

No "serious water contamination issues"

The UCG process has not caused "serious water contamination issues" at Kingaroy, contrary to the claims of the KCCG. No benzene or phenols have entered "[community] water supplies" at Kingaroy.

The transitory detections of benzene referred to earlier were monitored only 200 metres from the site's production area.

Fact 3 - No water loss from UCG activity

Ground subsidence caused by the UCG process is managed and controlled by the design and the size of the underground coal panel to be gasified.

UCG poses no threat to water aquifers because the process is confined to the coal seam. The water pressure in surrounding layers is higher than in coal cavities so, over time, water will find its way **into** cavities from the coal seam – as is the case in any underground mining operation.

In the case of Kingaroy, the suggestions that Kingaroy farmers and the township rely on these aquifers for their drinking water requirements is untrue. This water in the aquifers is not drinkable due to its high salinity.

Fact 4 - No evidence that subsidence severs aquifers

There is no evidence that ground subsidence severs aquifers that feed bores and wells, especially as any potential subsidence is restricted to the mining lease area itself within which the Company operates. Therefore the land is not “ruined”, contrary to the claims of the KCCG.

Fact 5 - UCG is a cleaner and more cost effective energy source than traditional sources

UCG is a cleaner way to utilise energy from coal to generate cost competitive electricity compared to traditional methods.

The gas processing plant separates by-products, including hydrocarbons which are used later to generate electricity and waste-water is used in the cooling systems of the plants.

It is a far more efficient and cleaner method of energy generation than other conventional coal mining operations.

Fact 6 - UCG is the most efficient use of coal

UCG is the most efficient use of coal reserves for energy generation. Contrary to the KCCG suggestions, the UCG process captures 70-80% of the energy from coal. Data from the former Soviet Union and USA (Rocky Mountains Test in Wyoming in 1987/88) support this statement. Importantly:

- compared to black coal fired power stations, a UCG-fed, combined cycle power station generates approximately 25% less CO₂ emissions, and
- the UCG process requires 15 times less land area than the CSG process for the same energy capture (CSG captures only 5% of energy from the coal).

Fact 7 - Carbon capture is not a consideration at this time

While the KCCG letter raised matters regarding CO₂ capture, Cougar Energy is not presently promoting carbon capture as we are not yet convinced of the economics or its long term viability.

Fact 8 - UCG presents a cleaner source of energy for a growing State and Nation

UCG is not a “toxic” process as claimed by the KCCG. Indeed it is the most efficient use of coal reserves and a cleaner way to utilise energy from coal to generate cost competitive electricity compared to traditional methods.

Australia’s energy needs are rising rapidly and ABARE forecasts indicate Queensland will be the State with the highest consumption of electricity by 2017-18. Planned electricity generation capacity is not keeping up with forecast demand and no government is approving construction of new traditional coal-fired power stations.

While renewable energy will satisfy part of this increased demand, it will be insufficient to meet all of it and is a relatively expensive source of electricity generation. As a State and Nation we need to find a smarter way to use coal, upon which Australia will remain reliant. UCG provides such a solution.

Fact 9 – UCG has a small footprint on agricultural land

The surface infrastructure of UCG is light. All piping rests above the soil so as to limit impact on the land. There is no “sterilisation” of the surface soil and rehabilitation to restore the land to farming use is easily and quickly achieved.

As the gasification process proceeds along the coal seam, the associated piping infrastructure moves every 12-18 months, providing a far less invasive method than traditional open cut or underground coal mining.

The result is no net loss of valuable farming land with farmers able to access the land again.

Fact 10 - No new water supplies are needed for the UCG process

No new water supplies are needed for the UCG process, therefore the availability of local water is not impacted. Any water used in the process comes directly from the coal seam inflow.

***COUGAR ENERGY REMAINS COMMITTED TO CLEANER AND LOW COST ENERGY
FOR QUEENSLAND***

As a new industry to Australia, it is appropriate that there is thorough scrutiny and extensive testing and debate about our technology. We remain committed to working with the Kingaroy community and Government to develop this flagship UCG project in Australia to demonstrate its viability as an alternative energy source of the future. With this goal comes significant responsibility, which we take extremely seriously.

UCG is a viable alternative energy source to produce cost competitive electricity for an energy-hungry Australia.

At Cougar Energy we remain committed to best practice environmental management and to the contribution to a viable, cost effective, environmentally sound solution to our country's growing energy needs.

Thank you for allowing me to present you with the facts regarding Cougar Energy's operations and I hope you will take the opportunity to contact me to discuss any aspects of the UCG technology or the Kingaroy project. I would be very happy to provide you with a briefing on our project if appropriate.

Yours sincerely



Dr Len Walker
Cougar Energy Limited
Managing Director