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Toro Energy
Lake Maitland Peer Review
Air Quality Impact Assessment
4 December 2014



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A handwritten signature in black ink that reads "Giacomo Collica".

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TORO ENERGY
LAKE MAITLAND
PEER REVIEW – AIR QUALITY IMPACT ASSESSMENT



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EXECUTIVE SUMMARY

The report should be considered as a fair and reasonable representation of the potential impact from the mining and processing activity, based on the measurements and assumptions used as inputs to the model.

No further recommendations are made with respect to the assumptions, modelling or outputs. It would be recommended to collect further field data during construction and commissioning periods in order to further verify model outputs. This newly acquired information will also assist operational personnel better understand and manage potential operational impact.

It is important to note that should the mine layout, extraction profile, processing technology or transportation methods change, this model should be revisited.

The reviewer acknowledges that the Peer Review undertaken is based on a single report provided, and there has been no opportunity to interrogate raw field data or modelling input files or values, in order to verify actual values used in the formulation of the final modelling outputs.



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1 INTRODUCTION

Toro Energy Limited (Toro) acquired the Lake Maitland uranium deposit from Mega Uranium in August 2013 and plans to seek environmental approval for the mining of this deposit as well as the Millipede deposit. Toro plans to process ore from Centipede and Lake Way along with ore from Millipede and Lake Maitland at one central processing plant located adjacent to the Centipede deposit. Toro intends to refer the Millipede and Lake Maitland deposits to the Environmental Protection Authority (EPA) for assessment, which will require detailed surveys and studies across all proposed disturbance areas.

Mega Uranium undertook and completed environmental assessments and surveys across the Lake Maitland project sufficient to allow the proposal to be assessed under an Environmental Review and Management Programme (ERMP) (equivalent to the current PER level) in 2009. Initial discussions between the OEPA and Toro indicate that the existing environmental assessments and surveys for Lake Maitland would be acceptable for submission in a PER following peer review for correctness of content and adequacy. Toro have sought the advice and recommendations of *Ecologia* Environment and appropriate sub-consultants who will undertake a peer review of the following reports:

- Regional and local flora
- Terrestrial fauna
- Short Range Endemic invertebrates (SREs)
- Stygofauna
- Troglifauna
- Aquatic Ecology
- Sediments and erosion
- Soils and waste rock characterization and geochemical assessment
- Human health and ecological risk assessment (human and non-human biota) and
- Air quality impact assessment and monitoring

This peer review report pertains to the Air Quality Impact Assessment report which was undertaken by Golder Associates and authored by; Jacinda Shen (Air Noise Group Hub Manager), Geoff White (Environmental Scientist) and Frank Fleer (Principal).

This peer review has been undertaken by Mr Giacomo Collica, Principal at Emission Assessments Pty Ltd.

1.1 LEGISLATION AND POLICY BACKGROUND OF PEER REVIEW

1.1.1 Compliance

This peer review will satisfy the requirements of all necessary statutory legislation, guidance and policy, including but not limited to the National Environment Protection (Ambient Air Quality) Measure 1998.

1.1.2 Approach

A review was undertaken of all environmental reports pertaining to the acquired Lake Maitland Project for breadth of scope, technical methodology, correctness of content and adequacy. The main findings of the peer review were to determine:

- a) Correctness of findings and conclusions of all reports;
 - b) Adequacy of scope, methodology and results of all reports;
 - c) Compliance of all reports with statutory legislation and policy; and
 - d) Recommendations to address knowledge gaps (if applicable).
-

2 REVIEW RESULTS

2.1 CORRECTNESS OF FINDINGS AND CONCLUSIONS

The Assessment of Effect and Recommendations provide by the report is satisfactory, and representative of the measurements and assumptions used to formulate the model output. The model inputs used are typically conservative and represent worst case scenario. The modelling criteria employed to measure the output is appropriate and in all cases also conservative. The report should be seen as moderately conservative overall.

The recommendations made (based on findings) are also in line with the findings, and typical mine management protocols. The reviewer agrees with all recommendations provided, and would place an emphasis on collection of further real time air quality data, throughout the construction and initial year operation.

It is important to note that should the mine layout, extraction profile, processing technology or transportation methods change, this model should be revisited.

Assumptions made regarding year one operations are sound and representative of the processes. Assumptions made for Year 7 (worst case scenario) operations were also sound and representative. Estimation protocols for fugitive source and equipment are appropriate (AP-42, NPI, USEPA), the reviewer notes that in most cases an over estimation, conservative estimation is being applied. Dust from mine preparation activities is in all cases well defined. Sediment surveys conducted provide representative data.

Control Mechanisms for dust control seem appropriate. The Emission Summary derived is, based on presented values representative of the typical sources; these include Point Source and Volume Source calculations.

2.1.1 Receiving Environment

Background particulate metal concentration of zero is used (extracted from air quality report). This may require further investigation based on sediment metal findings.

It is noted that background Radon concentrations at above 150 Bq/m³ are encountered, which constitute higher than normal background levels. The use of 1000 Bq/m³ is used for the assessment criteria.

Assessment methodology was well suited to the activity. Air Quality Modelling, assumptions and outputs all seem reasonable.

Assessment Affects; based on the conservative nature of the modelling and input assumption, the predictions and outputs seem reasonable and representative.

The set of base recommendations are also in line with the findings (input / output of the applied model).

2.2 ADEQUACY OF SURVEY

2.2.1 Scope of Works

Mega Lake Maitland engaged Golder Associates to conduct an air quality impact assessment for the development of a uranium mine at Lake Maitland, Western Australia.

The final report and technical outputs did meet the requested scope of work.

The level of the air quality assessment would be considered reasonable. The overall assessment would be considered conservative. The assumptions (inputs) based on Year 1 preparation activities, and ongoing impact assumptions based on year 7 (worst case) are reasonable.

2.2.2 Sampling/Survey adequacy

The Air quality impact assessment was adequately derived.

The application of the actual data based on previous background assessment, the input assumptions and final outputs are all reasonable for this project type.

2.2.3 Results

The results of the air quality impact assessment were adequately supported and reasonably interpreted.

The use of real time monitoring data, to support model validation / predictions reinforced the assumptions being made.

2.3 CURRENCY OF RESULTS

The results are still current as the reviewer is not aware of any significant changes to the development area, which may influence a change in the model outputs.

All data modelled and assumptions made are considered conservative and reasonable.

The reviewer would suggest that further investigation be made into Dust Deposition. The limited real time data provided for background information is a limiting factor. Dust deposition would also be considered extremely sensitive in terms of background information, and ongoing future measurements.

Further consideration to elevated Radon level and the potential change during Year 1 and Year 7 may also require investigation.

2.4 COMPLIANCE

The assessment met the requirements of statutory legislation.

2.5 RECOMMENDATIONS AND GAP ASSESSMENT

There is no knowledge gaps present in the air quality data generated.

Further investigation of Deposited Dust / Air-Dust background and during mine site development would be considered important with respect to impact.

3 CONCLUSIONS

The report should be considered as a fair and reasonable representation of the potential impact from the mining and processing activity, based on the measurements and assumptions used as inputs to the model.

No further recommendations are made with respect to the assumptions, modelling or outputs. It would be recommended to collect further field data during construction and commissioning periods in order to further verify model outputs. This newly acquired information will also assist operational personnel better understand and manage potential impact.

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4 REFERENCES

National Environment Protection (Ambient Air Quality) Measure 1998.