

PUBLIC REPORT

Energy Efficiency at Perilya

Recently, both federal and state governments have legislated formalised energy efficiency programs for large energy consuming businesses. As a part of the Federal Government's Energy Efficiency Opportunities program, Perilya is obligated to publically report the outcomes of these assessments.

In 2007-08 Perilya Broken Hill Limited undertook an energy efficiency assessment as per the Energy Efficiency Opportunity program requirements. For 2006-07 financial year, Perilya Broken Hill Limited had an energy consumption of 0.627 PJ whilst Perilya as a group has an energy consumption of 0.65 PJ. Therefore to date, 96% of the group's energy has been assessed. Perilya Broken Hill Limited has identified savings of 23.1 TJ (Terajoule) with an average payback of up to 4 years. To date, 1.6 TJ of energy saving projects have been implemented.

More information about Perilya's participation in the Energy Efficiency Opportunities program can be found at www.Perilya.com.au.

Energy Use (June 2007 to June 2008)

Perilya, with an annual energy consumption of a 0.65 PJ, has been a part of the Federal Government's Energy Efficiency Opportunity program since its inception.

0.627 PJ of Perilya's consumption is consumed at Perilya Broken Hill Limited. Consequently, Perilya Broken Hill Limited is required to conduct comprehensive energy assessments.

During the planning process of the assessment, Perilya Broken Hill Limited decided to undertake the assessment in two part process.

Part 1 included the engagement of a specialist consultant to undertake a comprehensive assessment of the Perilya Broken Hill Limited site. The aim of part 1 of the assessment was to:

- Obtain energy saving ideas from recognised international energy experts.
- Provide a mechanism for implementation through the consultant, if required.
- Provide background information, such as an energy and mass balance, as required by legislation.
- Identify assessment gaps in information required to complete all legislated requirements, to be completed in part 2.

Part 1 was completed.

Part 2, aims to complete the assessment by:

- Resolving assessment gaps identified in part 1 and
- Modify energy management processes within Perilya Broken Hill Limited to comply with legislative requirements.

The completion of part 1 and part 2 of the assessment process will meet the intent and key requirements of the Energy Efficiency Opportunities legislation.

Perilya Broken Hill Limited, Outcomes from part 1 of the Energy Efficiency Opportunities assessment. (First Report)

Perilya Broken Hill Assessment Outcomes, 2006-07						
Outcome of assessment	Status of Opportunities	Number of opportunities	Estimated energy savings per annum by payback period (GJ)		Total estimated energy savings per annum (GJ)	Accuracy Range (%)
			0 to < 2 years	2 to < or = 4 years		
Business Response	Identified	12	20060	2405	22465	Better than +/-30%
	Under investigation	8	13505	2192	15697	Better than +/-30%
	To be implemented	0	0	0	0	Better than +/-30%
	Implementation commenced	2	4960	213	5173	Better than +/-30%
	Implemented	2	1595	0	1595	Better than +/-30%
	Not to be implemented	0	0	0	0	Better than +/-30%

Top Opportunities Identified Through Energy Efficiency Opportunities Assessments – Perilya Broken Hill Limited

The top energy saving opportunities identified during the process include:

- **Upgrade of the underground Wirth Pumps**

The Wirth pumps are situated underground and are significant energy users. These pumps pump process and underground water collected underground to the surface. During the assessment it was estimated that by replacing the pumps with an energy efficiency pump, energy savings of about \$28,000 per annum could be saved. The investment was expected to be in excess of \$400,000, thereby providing a payback in excess of 10 years. The energy management process implemented identified that these Wirth pumps are 18 years old and due for significant repairs in excess of \$600,000. The energy management team is now investigating replacing these pumps with a more energy efficient pump, thereby avoiding possibly unnecessary capital expenditure and reducing energy costs.

- **Replacement of air compressors with suitably sized compressors**

Perilya Broken Hill Limited currently has installed large centrifugal compressors. Only one centrifugal compressor is currently required and is oversized for the application.

Upgrading this compressor with smaller compressors, combined with a compressed air leak reduction strategy, is claimed to provide energy savings of \$489,000 per annum with a payback of 2.4 years. These savings were very dependent on reducing compressed air leaks.

Management review of this project indicated that the elimination of compressed air in certain parts of the plant may be possible. Additionally, the repair of compressed air leaks in old infrastructure may not be possible due to its age and location.

This project is now under further investigation.

- **Improved utilisation of mobile fleet**

Mobile plant is expensive to operate and therefore opportunities to reduce the operating hours of mobile plant can yield good energy savings. Multiple ideas for savings have been identified, with the aim of decreasing annual operating hours of machinery. Ideas included using synthetic oils, use of a taxi system, to reduce truck idling time and introduce remote refuelling.

Savings of over \$2 million dollars have been claimed. Review by the energy and management team indicate that there are many issues to work through before these savings can be achieved.

Management has decided to implement a taxi system and the process of implementing this has been commenced. Orders for buses have been placed and the energy team is considering processes to measure the effectiveness of the taxi systems. Annual energy cost reductions of \$149,000 per annum are expected with a payback of less than one year.

Resizing of operations (post reporting period)

Subsequent to the end of the reporting period, Perilya announced on 21 August, 2008 that it had completed an extensive review of its Broken Hill zinc, lead and silver operation and implemented a plan to resize the operation in light of low metal prices. The resized operations would focus on a lower tonnage profile around mining remnant pillars and stopes with low development requirements in the Southern Operation. The North Mine and Potosi exploration decline was placed on care and maintenance.

Under the revised operating plan, total ore production was reduce from 1.8 to approximately 0.95 million tonnes per annum. As a consequence, Perilya anticipates that there will be a significant reduction in energy usage as a consequence of the re-sized operations, which may take Perilya's energy usage below the reporting threshold for future periods. Accordingly, Perilya is currently reviewing its likely energy usage for the coming years on the basis of its resized operations and anticipates, subject to the results of that review, seeking de-registration during the current Financial Year.

Declaration

The information included in this report has been reviewed and noted by the board of directors and is to the best of my knowledge, correct and in accordance with the *Energy Efficiency Opportunities Act 2006* and *Energy Efficiency Regulations 2006*.



Paul Arndt
Managing Director