

REPORT TO: POLICY AND RESOURCES COMMITTEE – 26 NOVEMBER 2012

REPORT ON: DUNDEE ENERGY RECYCLING LTD (DERL) - BALDOVIE WASTE TO ENERGY PLANT

REPORT BY: CHIEF EXECUTIVE

REPORT NUMBER: 483-2012

1. PURPOSE OF REPORT

The purpose of this report is to update Committee on the current situation with the plant following the fire in May 2012 and to seek approval for the medium term investment required in the plant to ensure operating availability is maintained at an acceptable level.

2. RECOMMENDATIONS

- 2.1 Committee is asked to note the contents of this report and agree to authorise the investment of £7.94m in the DERL Plant to undertake improvement works outlined in Option 3.

3. FINANCIAL IMPLICATIONS

- 3.1 The Director of Corporate Services advises that the capital expenditure of £7.94m will be financed by Prudential Borrowing. This will require an additional 5 year lease with an annual payment of £1.809m to be made by DERL to the City Council.
- 3.2 A cash forecast has been prepared by DERL covering the period August 2013 to December 2018 which shows that DERL will be able to finance the additional annual lease costs of £1.809m and remain in a positive cash position throughout this period.

4. BACKGROUND

4.1 Insurance and Reinstatement of Fire Damage

- 4.1.1 Reference is made to agenda note AN152-2012 to the Policy and Resources Committee of 10 September 2012, which confirmed the council's agreement to the continued financial support to DERL in the aftermath of the fire at the plant, as noted in Option 1 of the report to the Waste to Energy Working Group on 21 August 2012. In September, DERL was advised that the insurers had agreed to meet the full costs of reinstating the fire damage to the plant and the associated business interruption costs subject to the limits of cover in the policy.
- 4.1.2 Initial cleaning works have commenced to remove the contaminated smoke deposits from the structural steelwork following the fire and to prevent corrosion. A project management company (Fichtner) has been appointed by DERL to plan and manage the reinstatement works. Fichtner now have a team resident on-site.
- 4.1.3 It has been agreed in principle with the loss adjusters that the specialist contractor Metso Power AB be appointed by DERL to undertake a major part of the reinstatement works, subject to acceptable quotations being received. Metso hold a significant knowledge of the plant and have access to all original documentation and drawings.
- 4.1.4 Metso have been contacted and have visited the site with a view to providing quotes for two options. The first option is to replace the damaged equipment on a like for like basis and the second option is to provide a modified fuel feeding system, which will negate the requirement for a return conveyor. This second option was identified within the Parsons Brinkerhoff report as an improvement which would help improve the operational availability of the plant.

- 4.1.5 Indicative budget quotes and timescales have been received from Metso for the two options. These have been compared with the initial plan and option 1 is showing a delay in returning the facility back to operation which is beyond the liability period of the business interruption (BI) insurance. Option 2 is showing that the plant can be returned to operation prior to the BI period finishing but is a more expensive option by approximately £500k. Meetings continue to be held with the loss adjusters to keep them abreast of progress.
- 4.1.6 The current estimated restart of the Waste to Energy Plant is July/August 2013 if a modified fuel feed system is chosen. If the original system configuration is chosen then current estimations are late September/early October. This is primarily due to the lead time for manufacture and delivery of the main conveying equipment including the return conveyor and distribution conveyor.
- 4.1.7 DERL has concluded the statutory discussions with the trade unions in respect of potential redundancies. Due to the natural wastage of staff who have left voluntarily following the fire it is not envisaged at this stage that any further staff reductions are required. Agreement was reached at a recent meeting with the trade unions to halt the redundancy process. All the staff have received a letter informing them of that decision.

4.2 Plant Improvement Works

- 4.2.1 Prior to the fire in May 2012, the WtE plant had been suffering from a reduction in "On Waste Availability" (OWA) as a consequence of the declining condition of the plant and a series of recurring breakdowns. Immediately before the fire OWA had reduced to below 65% and was declining.
- 4.2.2 A technical appraisal of the plant was undertaken in 2011 by the specialist company Parsons Brinckerhoff (PB) which recommended a number of improvements to restore the plant to its target level of 85% OWA. The PB report noted that in order to undertake many of these improvements, it would be necessary to either close the plant or to restrict its operation.
- 4.2.3 Whilst the plant is currently out of commission, there is therefore a window of opportunity to undertake the most critical improvement works without impacting upon plant operation. The loss adjusters acting on behalf of the insurers stated that in principle they saw no reason to object to these works being undertaken in parallel with the reinstatement works, providing they do not interfere with or delay the reinstatement of the plant following the fire.
- 4.2.4 DERL has recently undertaken a review of the recommendations of the PB report to identify the most critical improvements which would have the greatest impact on improving OWA. In addition, work has been undertaken by DERL to update the cost estimates previously provided by PB for the various elements of work. A cost benefit analysis has been undertaken in considering whether these works should be undertaken at this stage. Three options have been considered:
- Option 1 – Do minimum essential works;
 - Option 2 – Improvement works to one boiler; and
 - Option 3 – Improvement works to both boilers.
- 4.2.5 Option 1 – The do minimum option does not include any improvements to the boilers but simply allows for undertaking works that are necessary to satisfy legislative requirements or are considered prudent to be undertaken during the closure. These works are essential and would require to be undertaken within the very near future and would result in closure of the plant if undertaken at a later date. Table 1 lists the works proposed at a total value of £1.075m. The OWA for the plant would be at the pre-fire level of 64.5% and based upon the PB report, it is likely that OWA would be reduced by 2.5% per annum due to on-going deterioration of the plant.

Table 1 – Essential Works

Option Number (PB Report)	Option Description	Area of Plant	Capital Expenditure £k	Capital Expenditure £k
	Essential Works			
22	Control System refurbishment	General	200	
	Continuous Emissions Monitoring Equipment	Both boilers	400	
	Tipping Hall Floor Upgrade	Waste reception	125	
	Sub-Total Essential Works			725
	Provisional Sums (various works)			250
	Professional Fees (5%)			50
	Contingencies (5%)			50
	Total			1,075

The £1.075m capital expenditure will require to be funded by prudential borrowing which will be supported by an annual lease payment of £245,000 from DERL.

- 4.2.6 Option 2 – This option allows for undertaking the same level of essential works as above and the recommended boiler tube improvements to Boiler 1 only. Table 2 identifies the improvement works which have been targeted amounting to some £4.689m. It is estimated that these works will result in an increase in OWA of around 5% taking OWA back up to around 70%. As only one boiler has been improved OWA would be expected to reduce in future years by 1.9% per annum.

Table 2 – Refurbishment of Boiler 1 Plus Essential Works

Option Number (PB Report)	Option Description	Area of Plant	Capital Expenditure £k	Capital Expenditure £k
	Boiler Tube Improvements			
14	Tube bank wall replacements 2013	Boiler 1	2,813	
19	Furnace wall and roof tube replacements	Boiler 1	375	
35	Acid cleaning of boilers	Boiler 1	100	
	Sub- Total Boilers			3,288
	Essential Works			
22	Control System refurbishment	General	200	
	Continuous Emissions Monitoring Equipment	Both boilers	400	
	Tipping Hall Floor Upgrade	Waste reception	125	
	Sub-Total Essential Works			725
	Provisional Sums (250
	Professional Fees (5%)			213
	Contingencies (5%)			213
	Total			4,689

The £4.689m capital expenditure will require to be funded by prudential borrowing which will be supported by an annual lease payment of £1,068,000 from DERL.

- 4.2.7 Option 3 – allows for undertaking the same works as option 2 but including the boiler tube improvements to both Boiler 1 and Boiler 2. Table 3 identifies the improvement works which have been targeted amounting to some £7.94m. It is estimated that these works will result in an increase in OWA of around 10% taking OWA back up to around 75%. With both boilers improved, OWA would be expected to reduce in future by 1.25% per annum.

Table 3 – Refurbishment of Boilers 1 & 2 Plus Essential Works

Option Number (PB Report)	Option Description	Area of Plant	Capital Expenditure £k	Capital Expenditure £k
	Boiler Tube Improvements			
14	Tube bank wall replacements 2013	Boiler 1 & 2	5,293	
19	Furnace wall and roof tube replacements	Boiler 1 & 2	750	
35	Acid cleaning of boilers	Boiler 1 & 2	200	
	Sub- Total Boilers			6,243
	Essential Works			
22	Control System refurbishment	General	200	
	Continuous Emissions Monitoring Equipment	Both boilers	400	
	Tipping Hall Floor Upgrade	Waste reception	125	
	Sub-Total Essential Works			725
	Provisional Sums (250
	Professional Fees (5%)			361
	Contingencies (5%)			361
	Total			7,940

The £7.940m capital expenditure will require to be funded by prudential borrowing which will be supported by an annual lease payment of £1,809,000 from DERL.

- 4.2.8 Boiler tube failures have been by far the single biggest cause of the plant breakdowns and the rate of deterioration of the tubes has been increasing significantly. The boiler tube improvement works proposed in options 2 and 3 involve the replacement of the sections of boiler tubes where the highest level of failures are occurring. The new tubes will be treated using a specialist coating material (Inconel) to protect against future erosion and damage.
- 4.2.9 The tube improvement works identified within option 3 will require the replacement of approximately 14km of tubing. Due to the scale of this project, there is a significant lead-in time in the order of the tubing of approximately 28 weeks due to a combination of demand for such tubing and the process of applying the Inconel coating. This length of lead-in means that early decisions are required.
- 4.2.10 DERL have worked closely with Metso to review the programme and have confirmed that if an immediate order is placed it would be possible to have one boiler complete and operational by the time the plant is ready for commissioning in August 2013. This would enable all of Dundee City Council's waste to be treated before the BI insurance period expires in mid-August. The second boiler would be completed a few weeks later at which stage DERL would recommence taking Angus Council's waste and selling spare capacity to the market.
- 4.2.11 A cost benefit analysis has been undertaken on the three options identified above

£000s	<u>Capital Outlay</u>	<u>Lease Payment p.a.</u>	<u>DERL Cash (shortfall) /Surplus in 2018</u>
Option 1	1,075	245	(4,153)
Option 2	4,689	1,068	(1,999)
Option 3	7,940	1,809	891

- 4.2.12 The above cost benefit analysis shows that Option 3 – Refurbishment of both boiler 1 and boiler 2 plus essential works results in a positive cash balance of £891,000 at December 2018.

Options 1 and 2 result in negative cash balances of £4.153m and £1.999m respectively and are therefore not considered to be viable options.

4.3 **Waste Mitigation Measures**

- 4.3.1 Domestic refuse collection routes continue to be serviced as normal with all collected material being delivered to DERL. DERL in turn continue to arrange for the transfer & diversion of this material to landfill at Binn Farm, Glenfarg. All non-domestic RCV material (civic amenity, special collection etc) continues to be processed at the Councils recycling facility at Baldovie. This process has been modified to increase the amount of materials extracted for recycling resulting in a 90% increase in recyclate collected at this facility.
- 4.3.2 It is proposed to introduce an additional ten Neighbourhood Recycling Points to collect glass and paper to complement the existing facilities in place across the city. In addition it is proposed to install a number of communal glass and possibly paper recycling facilities at a number of multi-storey and multi occupancy blocks. This would involve the siting of additional large euro-type containers and work is currently on-going to identify suitable locations with Housing and City Development.
- 4.3.3 Zero Waste Scotland have agreed to provide additional funding for a small number of temporary staff, to assist with further promotion of all recycling initiatives and improved sorting of recyclate at the civic amenity sites. It is likely that the funding will enable the temporary employment of 4-6 full time posts until March 2013.

4.4 **Procurement of Future Waste Contract**

- 4.4.1 The current residual waste contract with DERL expires in 2020. At that point in time the plant would be returned to Dundee City Council and decisions would require to be made on the letting of the required follow-on waste contracts in compliance with relevant European procurement legislation.
- 4.4.2 The Parsons Brinkerhoff (PB) report confirmed the need for further significant investment over a twenty year period, in addition to the improvements outlined in 3.2 above. This investment is required to achieve a profitable and sustainable long term level of OWA and to comply with future legislative requirements. There is no prospect of DERL being able to raise the funding to undertake this level of investment and nor is it considered appropriate or feasible for DCC to seek to make such a significant investment.
- 4.4.3 It is therefore proposed to commence a procurement exercise for the long term contract to circa 2035, for the treatment of DCC's residual waste utilising the WtE facility at Baldovie.
- 4.4.4 The future waste contract will provide a mechanism for DCC to recover its current debt with DERL and its investment in the existing plant, whilst seeking to secure an attractive and sustainable long term gate fee. The procurement exercise will also give DCC the opportunity to reduce its exposure to future risk associated with the operation of a WtE facility.
- 4.4.5 In order to optimise the potential benefit of any such long term contract, it is recommended that a partnership approach be adopted with other local authorities through the procurement of a regional residual waste contract. Angus Council have confirmed in principle that they would support such an approach and would wish to be considered a strategic partner in the project. The larger the scale of the project, the greater the potential benefit for partner authorities.
- 4.4.6 Given the scale of the new 20 year regional waste contract it will be necessary to fully comply with OJEU procurement legislation and it is intended to follow the "Competitive Dialogue" process. Experience on other similar procurement projects within the UK would suggest that this process will likely take something in excess of two years before letting of the contract. Every effort will be made to accelerate this process.

5. **POLICY IMPLICATIONS**

This report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-Poverty, Equality and Impact Assessment and Risk Management. There are no issues in this regard to report on.

6. **CONSULTATIONS**

The Director of Corporate Services, Director of Environment and Head of Democratic and Legal Services have been consulted with regard to this report.

7. **BACKGROUND PAPERS**

None.

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Chief Executive

23 November 2012