

**PPL Industries
Metro Mattress Recycling Program**

Business Plan

April 2008

PPL Industries Metro Mattress Recycling Facility Business Plan

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1. Executive Summary:

The Twin Cities Metro Mattress Recycling Program will be created with the support and assistance of Hennepin County Environmental Services as a new internal self-sustaining operating department of PPL Industries. A dual need for creating this program exists, with the desire to divert unwanted mattresses from the waste stream while providing valuable business, education and life skills to trainees involved in the recycling process. Our goal will be to operate in a self sustaining business model. The program will be providing solid training job functions for up to eleven (11) direct & four (4) indirect support functions, while maintaining the mission that this organization has operated by for over 26 years.

PPL Industries Mission:

Provide a supportive training and work environment for adults who need employment, education and skill-set development opportunities to achieve self-sufficiency.

We are a quality driven light assembly and packaging business that is able to quickly respond to customers outsourcing needs with innovative, cost-effective solutions.

Start-up equipment costs will be funded through grant assistance from Hennepin County Environmental Services and PPL Industries reserve business funds. Expansion development will be tied to generated recycling revenue, proceeds from recovered materials and grants.

Program commencement is slated for June 2008. The intent would be to start with an established base from the Hennepin County Brooklyn Park Transfer Station and progress through other county facility drop off points, City of Minneapolis and then branch to adjoining counties and cities that have expressed interest in supporting this venture. Full metro area market is targeted to be in place within five years of operation.

The operation will start recycling in a process similar to the Goodwill Industries of Duluth, with a direct focus towards self-sustainment as a stand-alone business. The expectation will be to provide paid manufacturing, education and life-skills training for people engaged in the recycling process. This business model will be established with the goal of maintaining continual process improvements to sustain the operation with looking to raise tip fees for the consumer.

Operating revenue will be generated from a \$15 tipping fee and the sale of recovered materials from the recycling process. The development of effective recovery techniques will greatly influence the program efficiency and long-term viability. Revenue for the last seven months of 2008 is projected to be \$ 170,000, with an estimated \$171,000 operational cost.

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We find it reassuring to start up this project a virtual break-even level in light of the progressive minimum wage increases that were projected into the costs. The start-up process will provide seven (7) direct & four (4) indirect support functions.

Technical improvements and development by the PPL Industries operations team will be aided through the assistance of the PPL Industries Board of Directors, Project for Pride in Living management team, Hennepin County Environmental Services, Minnesota Pollution Control Agency, Goodwill Industries Mattress Program, International Sleep Products Association, University of Minnesota (Duluth & Twin Cities), Current mattress recycling operations and industry experts.

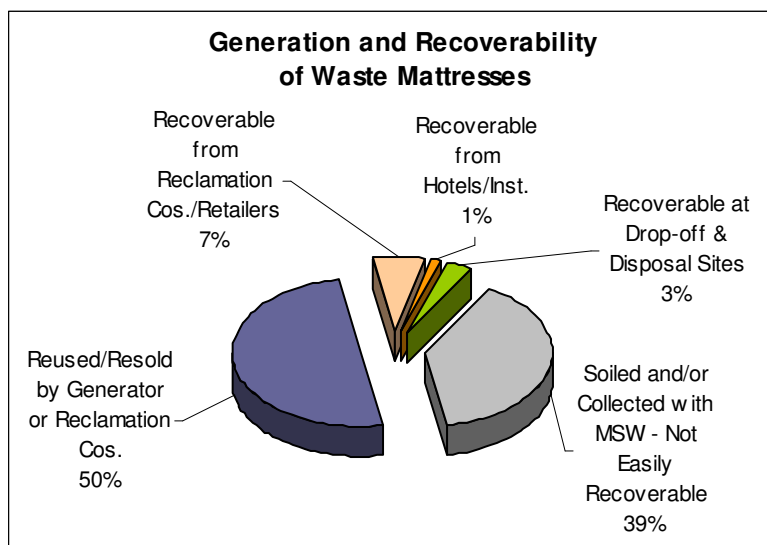
All trainee recycling workers will be provided paid manufacturing skill-set, education and social/life training through our Career Development learning center. The program will provide for 2/3 of the operating costs for this training, with the balance covered by a grant from the Greater Twin Cities United Way. Budgeted training hours for this crew is estimated to be over 3,100 hours per year when at capacity. On the job skill-set training development will also provide an additional 4,300 paid training hours through production advancement training and rate reductions.

Our challenge is to develop a new recycling program in the Metro area, locate markets for recoverable materials, while establishing a sustainable work training level with education & social training. We project a profitable financial outlook in for the mattress recycling operation in 2009.

2. Generation and Recovery Projections of Discarded Mattresses:

The following figure breaks down total generation of used mattresses and box springs according to their disposition when a new replacement bed is purchased. The break down is based on estimated developed by Hennepin County Environmental Services. As shown in the figure, half of all mattresses are reused either by the purchaser of a new bed or by one of a handful of reclamation companies. These mattresses and box springs are not available for recycling. Several mattresses and box springs are simply discarded and collected with regular trash pick-ups and therefore will be contaminated with other wastes and therefore not easily recovered. Initial efforts to recover mattresses for recycling will concentrate on mattresses and box springs from three primary sources:

- Dropped off by the generators at various waste disposal sites including recycling drop-offs, transfer stations and landfills;
- Change outs at various commercial and institutional facilities with large amounts of mattresses such as hotels, hospitals and colleges
- Mattresses and box springs collected by retailers when delivering new beds which current mattress recycling companies are not able to recover for various reasons.



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The following table then calculates mattresses and box springs available for recycling based accordingly.

Twin Cities Metro Area Mattress Generation & Potential Recovery Estimates					
County	2006 Population(1)	Units Sold Per Year (2)	Recoverable Per Year (4)	Box Springs Per Year (3)	Mattresses Per Year (3)
Anoka	328,614	46,006	5,061	2,328	2,733
Dakota	391,613	54,826	6,031	2,774	3,257
Hennepin	1,152,508	161,351	17,749	8,164	9,584
Ramsey	515,059	72,108	7,932	3,649	4,283
Washington	<u>228,103</u>	<u>31,934</u>	<u>3,513</u>	<u>1,616</u>	<u>1,897</u>
Totals:	2,615,897	366,225	40,285	18,531	21,754

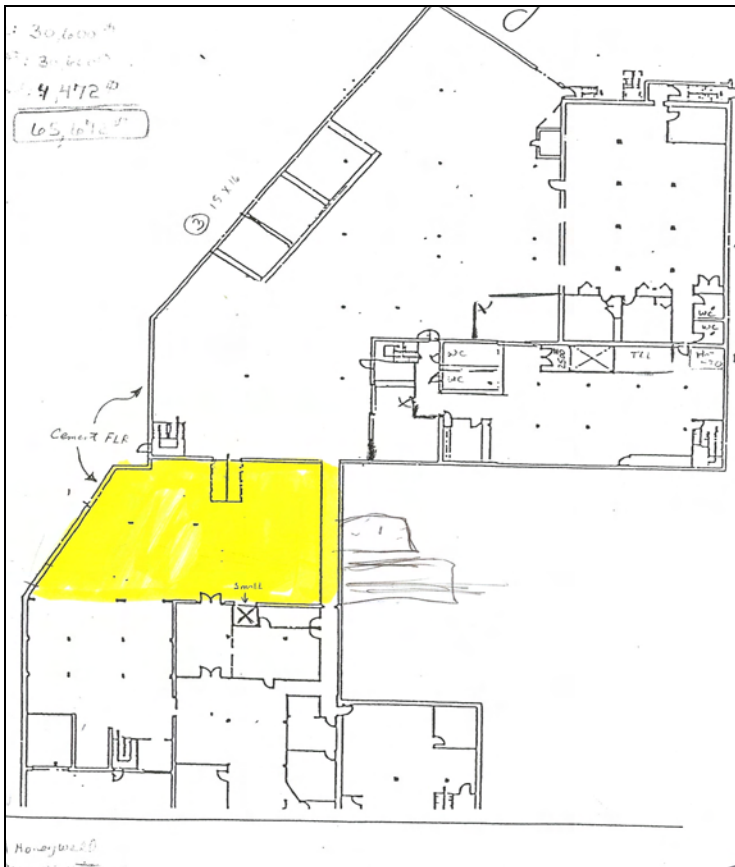
(1) 2006 Estimates from the State of Minnesota
(2) International Sleep Products Association estimates of units sold per person per year to residents, hospitality industry, and institutions.
(3) Estimates based on data generated from Goodwill Industries mattress recycling facility in Duluth, MN.
(4) Estimates based on 11% of units sold

3. Initial & Future Sources for Recovery of Discarded Mattresses:

The program will start with the existing recycling infrastructure established by Hennepin County. Collection will commence in June 2008 with the Brooklyn Park Transfer Station and progress through other potential county facility drop off points and the City of Minneapolis by the end of the 4th quarter. The counties of Ramsey, Anoka, Dakota, Carver and Washington have expressed interest in joining this venture. New sites will be added in each as the infrastructure can be established in 2009 - 2011. We will also be looking to create business ventures with some of the major mattress retail operations in the metro, as Select Comfort, Original Mattress Company, Sealy and Slumberland have stated interest in this program. Full metro area market is targeted to be in place within five years of operation.

4. Recycling Facility Location, Building Design and Improvements:

The recycling facility will be started in the PPL Industries plant, located at 1179 15th Avenue SE, Minneapolis, MN 55414. The recycling space will be located on the 1st floor, NW corner, with an area of 5,000 sq ft. An additional 1,500 to 4,000 sq ft will be available for storage of recovered goods. Two new dock doors have been added to this area to facilitate both roll-off and truck deliveries. Another dock is located on the west end of the area for additional material movement. The material will be set up in a U-Manufacturing flow, with production geared to input deliveries to minimize raw material warehousing. General improvements would require a dock leveler, space lighting and equipment installation.



5. Processing Equipment Required:

The facility is set to replicate the Goodwill Duluth program, with the intent of resourcing and establishing methods to increase our efficiency and process times. Future improvements are unknown at this time, but budgeted to total \$250,000 over the next 5 year period. These funds will be derived from surplus revenue and grants from Hennepin County and others.

Required Equipment:		Unit Cost:	Total Cost:
Forklift & Pallet Jack (1 ea)	1	\$15,000	\$15,000
Baler - 60"	1	\$18,000	\$18,000
Pallet Shear & Safety Retainers	1	\$24,000	\$24,000
Racks & Floor Rollers	1	\$14,000	\$14,000
Hydraulic Lift table	3	\$750	\$2,250
Disassembly - Spin Tables	4	\$550	\$2,200
Disassembly - Stationary Tables	4	\$450	\$1,800
Cut Saw	1	\$3,000	\$3,000
Hand & Pneumatic Tools	1	\$3,500	\$3,500
Carts & Totes	8	\$450	\$3,600
Enclosed Collection Containers	10	\$7,500	\$75,000
<u>Expansion Equipment & Facility</u>			
Total Estimated Equipment =			\$162,350
Facility Improvements:			
Electrical			\$15,000
Dock Leveler			\$18,500
Installation Labor			\$5,000
<u>Estimated Improvements =</u>			\$38,500
Estimated Plant Start Costs:			\$200,850

6. Projections & Marketing of Recovered Disassembly Materials:

Projected estimates of recoverable materials are listed in the following table. The marketing plan will be to utilize local vendors for standard materials of steel & foam. Currently used \$.045/lb for recovered materials, based on conservative increase over Goodwill's program revenue at this time. Future sale of cotton & poly-pad will be established when market is developed with the assistance of the University of Minnesota – Duluth & Twin Cities programs.

Material Quantities from Mattress Disassembly

County	Recoverable per Year	Tons	Metal	Wood	Cotton	Foam	Poly-pad	Waste
Anoka	5,061	147	44	34	22	15	6	26
Dakota	6,031	175	52	40	26	17	7	31
Hennepin	17,749	515	154	118	77	51	21	93
Ramsey	7,932	230	69	53	35	23	9	41
Washington	<u>3,513</u>	<u>102</u>	<u>31</u>	<u>23</u>	<u>15</u>	<u>10</u>	<u>4</u>	<u>18</u>
Totals:	40,286	1,168	350	269	175	117	47	210

7. Five Year Financial Projections:

The five year financial projections are budgeted as follows, with a projected \$15 Tip Fee & \$0.45/lb recovered material revenue:

Units:	11,000	22,000	29,000	35,000	40,000
	2008 - 7 m	2009	2010	2011	2012
	Revenue:	Revenue:	Revenue:	Revenue:	Revenue:
Tip Fee:	\$165,000	\$345,000	\$435,000	\$525,000	\$600,000
FG Sale:	\$4,950	\$10,350	\$13,050	\$15,750	\$18,000
	\$169,950	\$355,350	\$448,050	\$540,750	\$618,000
Utilities:	\$13,385	\$24,093	24,667	\$25,241	\$26,388
Labor:	\$136,318	\$278,720	318,240	\$358,800	\$400,400
OH Cost:	\$21,233	\$41,600	46,800	\$52,000	\$57,200
	\$170,936	\$344,413	\$389,707	\$436,041	\$483,988
Rev/Unit:	\$15.45	\$15.45	\$15.45	\$15.45	\$15.45
Cost/Unit:	\$15.54	\$14.97	\$13.44	\$12.46	\$12.10
Net/Unit:	(\$0.09)	\$0.48	\$2.01	\$2.99	\$3.35
Net Profit:	(\$986)	\$10,937	\$58,343	\$104,709	\$134,012

8. Business Risk Assessment & Contingency Plan:

PPL Industries faces a low to moderate level of risk for revenue generation in 2008 – 2010. A potential 5 – 12% of revenue projections are vulnerable to manufacturing environment developments.

- Customers rejecting tipping fee & little enforcement. Risk assessment: 12%
- Recovered material market does not develop – or shrinks. Risk assessment: 5%
- New business development in for-profit recycling moves in to control developed recovered materials. Risk assessment: 10%

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Contingency Planning:

The projected revenue will start with 2008 at a slight loss & turn profitable in 2009 through 2012. Considering the risk assessments listed above for our business sectors, profitable production operations would be maintained by:

- Increasing collection customers at a faster than planned rate.
- Adjusting management and support levels to break-even level.
- Reduction of operation costs through process efficiency & innovation.
- Reduction of job skill-set training and classes to 5% (4 – 5 hours) of trainee week.
- Seeking increased tipping fees.
- Pursue additional grants to offset shortfalls.