

September 27, 2013

976 Sulfur Row  
Emblem, LA

Applied Solutions  
156 Gildemeister Hall  
Winona, MN

To Whom It May Concern,

I represent the match manufacturing company Burnination. Recently we lost our chief production analyst. So while we have a large amount of data, we currently have no one to help us answer our questions. My colleagues and I are interested in your temporary services.

Specifically, we have the following data on production costs and the revenue we receive at those production levels:

Production Level (in billions of matches)	Cost (in millions of \$)	Revenue (in millions of \$)
0.819	4.23	3.48
1.227	11.30	13.93
1.521	15.68	20.22
2.708	22.11	22.34
4.270	32.51	28.66
4.814	37.59	32.00
5.569	44.86	42.39
7.067	54.54	55.11
7.931	58.95	60.35
8.488	63.70	66.95
10.310	73.09	74.17

Here are some of our pressing questions:

- We are trying to determine the average marginal cost of producing a box of matches (usually a box contains 100 matches). Specifically, how much does it cost us per box between the revenue levels of \$22.34mil and \$55.11mil?
- Approximately where is the breakeven point between production levels of 2.708 and 4.270 billion? Would we still be making a profit at a production level of 3 billion?
- We are currently at the highest production level on the chart above and we know that it is costing us about 0.727 cents per match. Our marginal revenue is at 0.682 cents per match. What will be the approximate cost and revenue if we increase our production level to 11 billion matches? Should we continue our efforts to maximize production?
- What level of production is best for our company? Should we produce at a previous level or somewhere in between two previous levels?

Thank you in advance for your help.

Sincerely,

  
Maria Purkagia

CFO, Burnination