

“Project Management Using Earned Value”  
Case Study Solution 21.2

21.2

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Estimate

Modification

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## SOLUTION

1 & 2 The categories are classified as follows:

	<b>Fixed Costs</b>	<b>Variable Costs</b>	<b>Semi-Variable Costs</b>
<b>ONGOING SUPPORT</b>			
Support Services	695K	0	0
Waste Acceptance	0	645K	0
Transportation	0	365K	0
Facilities Management	1,847K	0	0
<b>ADMINISTRATIVE MANGEMENT</b>	0	0	391K
<b>TRAINING</b>	23K	0	0
<b>AUDITS</b>	25K	0	0
<b>NON-CONFORMANCE ACTION</b>	5K	0	0
<b>PIT AND SHAFT EXCAVATION</b>	0	2,336K	0
<b>WASTE RECEIPT</b>	0	19K	0
<b>WASTE REPLACEMENT</b>	0	9K	0
<b>WASTE BURIAL</b>	0	8K	0
<b>INSPECTIONS</b>	2K	0	0
<b>CAPITAL EQUIP./WORK ORDERS</b>	112K	0	0
<b>CERTIFICATION ASSESSMENT</b>	1K	0	0
<b>MATERIALS AND SUPPLIES</b>	0	0	168K
	_____	_____	_____
<b>TOTALS</b>	2,710K	3,382K	559K

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2. By definition, all fixed costs will not be affected by the change in waste load. So the first conclusion is that \$3,101K cannot be reduced at all. The variable costs should be directly related to the throughput of the process, so a reduction of 50% in waste handling should result in 50% less cost. That would be the maximum possible reduction there. In the category of semi variable costs, a portion would not be affected by the change in waste load handling while the remaining portion would be. There is not enough information to make an exact determination, but a good starting estimate would be that no more than 50% of the semi variable cost is affected by the changed workload. Furthermore, the reduction of 50% would be applied against that. So, in effect, there is a 25% (50% of 50%) reduction in that category of costs.

Calculating the totals the following maximum possible cut associated with the 50% reduction in waste handling activities are:

Fixed Costs:	Reduce 0% of	\$2,710K	= \$	0K
Variable Costs:	Reduce 50% of	\$3,382K	= \$1,691K	
Semi Variable Costs:	Reduce 25% of	\$ 559K	= \$	140K

Total Reduction = \$1,831K or 27.5%

Of course, in another example the percentage of fixed costs might be much higher, resulting in an even lower percentage reduction for the 50% cutback in waste handling activities.