Figure 57. Sample Cost-Effectiveness Analysis Worksheet

<table>
<thead>
<tr>
<th>Evaluation No.:</th>
<th>Project No.:</th>
<th>Date:</th>
</tr>
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<tbody>
<tr>
<td>Evaluator:</td>
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</tbody>
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1. Initial implementation cost, I: $ 100,000
2. Annual operating and maintenance costs before project implementation: $ 100
3. Annual operating and maintenance costs after project implementation: $ 1,000
4. Net annual operating and maintenance costs, K = #3–#2: $ 900
5. Annual safety benefits in number of injury accidents prevented, B, from below: 2

<table>
<thead>
<tr>
<th>Accident Type</th>
<th>Actual</th>
<th>-</th>
<th>Expected</th>
<th>= Annual Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury</td>
<td>4</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
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6. Service life, n: 20 years
7. Salvage value, T: $ 5,000 (Annual compounding interest)
8. Interest rate: 10% = 0.10

9. EUAC Calculation:
   Capital recovery factor, CR = 0.1175
   Sinking fund factor, SF = 0.0175

   EUAC = I (CR) + K - T (SF)
   = 100,000 (0.1175) + 900 - 5,000 (0.0175) = 12,562

10. Annual benefit: B (from #5) = 2 injury accidents

11. C/E = EUAC/B = 12,562 / 2 = $6,281 / injury accidents prevented

12. PWOC Calculation:
    Present worth factor, PW = 8.5136
    Single payment present worth factor, SPW = 0.1486

    PWOC = I + K (PW) - T (SPW)
    = 100,000 + 900 (8.5136) - 5,000 (0.1486) = 106,919

13. Annual benefit
    n (from #6) = 20 years
    B (from #5) = 2 accidents prevented per year

14. C/E = PWOC (CR)/B
    = (106,919)(0.1175) / 2 = $6,281 / injury accidents prevented