Homeland Security – Innovation
Collaboration, Standardization

Security Equipment Certified Performance Data
a Government Private Industry Partnership

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MISSION

Self Sustaining Certified Performance Data Program for Security Equipment
Risk Evaluation and Mitigation

1. Climb fence (0.1, 5)
2. Run to building (0.1,15)
3. Open door (0.3, 20)
4. Move to asset (0.5, 30)
5. Remove asset (0.4, 300)
6. Exit building (0.1, 5)
7. Run to fence (0.3, 15)
8. Climb fence (0.3, 5)
9. Leave area (0.1, 7)
Risk Evaluation Engine

Analysis Data Summary

<table>
<thead>
<tr>
<th>Response</th>
<th>Probability of Communication = 0.90</th>
</tr>
</thead>
<tbody>
<tr>
<td>On site guard</td>
<td></td>
</tr>
</tbody>
</table>

Response Force Time = 240.00

Standard Deviation = 0.20

<table>
<thead>
<tr>
<th>PI</th>
<th>Detection</th>
<th>Delay</th>
<th>Deviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.10</td>
<td>5.00</td>
<td>0.20</td>
<td>Outer fence</td>
</tr>
<tr>
<td>2</td>
<td>0.17</td>
<td>15.00</td>
<td>0.20</td>
<td>Open area</td>
</tr>
<tr>
<td>3</td>
<td>0.40</td>
<td>20.00</td>
<td>0.20</td>
<td>Outer door</td>
</tr>
<tr>
<td>4</td>
<td>0.67</td>
<td>30.00</td>
<td>0.20</td>
<td>Inside area</td>
</tr>
<tr>
<td>5</td>
<td>0.67</td>
<td>300.00</td>
<td>0.20</td>
<td>Asset area</td>
</tr>
<tr>
<td>6</td>
<td>0.67</td>
<td>5.00</td>
<td>0.20</td>
<td>Outer door</td>
</tr>
<tr>
<td>7</td>
<td>0.67</td>
<td>10.00</td>
<td>0.20</td>
<td>Open area</td>
</tr>
<tr>
<td>8</td>
<td>0.67</td>
<td>7.00</td>
<td>0.20</td>
<td>Fast car</td>
</tr>
</tbody>
</table>

Probability of Interruption: 0.67
Modified Analysis

1. Climb fence (0.9, 5)
2. Run to building (0.1, 15)
3. Open door (0.3, 20)
4. Move to asset (0.5, 30)
5. Remove asset (0.4, 300)
6. Exit building (0.1, 5)
7. Run to fence (0.1, 15)
8. Climb fence (0.3, 5)
9. Leave area (0.1, 7)
Recomputed Risk

Analysis Data Summary

<table>
<thead>
<tr>
<th>PI</th>
<th>Detection</th>
<th>Delay</th>
<th>Deviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.90</td>
<td>5.00</td>
<td>0.20</td>
<td>Outer Fence</td>
</tr>
<tr>
<td>2</td>
<td>0.83</td>
<td>15.00</td>
<td>0.20</td>
<td>Open Area</td>
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<tr>
<td>3</td>
<td>0.87</td>
<td>20.00</td>
<td>0.20</td>
<td>Outer door</td>
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<tr>
<td>4</td>
<td>0.93</td>
<td>30.00</td>
<td>0.20</td>
<td>Inside area</td>
</tr>
<tr>
<td>5</td>
<td>0.93</td>
<td>300.00</td>
<td>0.20</td>
<td>Asset area</td>
</tr>
<tr>
<td>6</td>
<td>0.93</td>
<td>5.00</td>
<td>0.20</td>
<td>Outer door</td>
</tr>
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<td>7</td>
<td>0.93</td>
<td>10.00</td>
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<tr>
<td>8</td>
<td>0.93</td>
<td>7.00</td>
<td>0.20</td>
<td>Fast car</td>
</tr>
</tbody>
</table>

Response: On site guard
Response Force Time = 240.00
Probability of Communication = 0.90
Standard Deviation = 0.20

Probability of Interruption: 0.93
Program Mission

Self sustaining Certified Performance Data Program program that:

• Develops consistent performance data for assessment/analysis engine. No pass/fail criteria

• Based on traditional UL process type testing and follow-up.

• Certification based on National Norms.

• Manufacturers involved in standards development
The Partners

Government

Private Sector
The Process

Technology Need Identified

Identify previous Laboratory research

UL conducts Test Validation Research & Publishes Report

Standards that serve Homeland Security

Government Agencies include Certification in Purchase Speciation

UL Offers Certification Based on ANSI Standard

UL & Sandia Partner with Industry to Develop ANSI Standard
The Product

<table>
<thead>
<tr>
<th>Performance Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Installation</strong></td>
</tr>
<tr>
<td>Height</td>
</tr>
<tr>
<td>Angle</td>
</tr>
<tr>
<td><strong>Detection Parameters</strong></td>
</tr>
<tr>
<td>Lens Type</td>
</tr>
<tr>
<td>Maximum Range</td>
</tr>
<tr>
<td>Horizontal Coverage</td>
</tr>
<tr>
<td>Vertical Coverage</td>
</tr>
<tr>
<td><strong>Probability of Detection</strong></td>
</tr>
<tr>
<td>Across Field</td>
</tr>
<tr>
<td>Far Field (@ 28°)</td>
</tr>
<tr>
<td>Mid Range (@ 15°)</td>
</tr>
<tr>
<td>Towards Sensor</td>
</tr>
<tr>
<td><strong>Nuisance Alarms</strong></td>
</tr>
<tr>
<td>External Lighting</td>
</tr>
<tr>
<td>Small Animals</td>
</tr>
<tr>
<td>Localized Heating</td>
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<tr>
<td><strong>Environmental</strong></td>
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<tr>
<td>Max. Operating Temp.</td>
</tr>
<tr>
<td>Min. Operating Temp.</td>
</tr>
<tr>
<td>Relative Humidity</td>
</tr>
</tbody>
</table>

INgredients: Water, High Fructose Corn Syrup, Citric Acid, Sodium Hexametaphosphate, Caramel Color, Brewed Tea with Other Natural Flavors, Potassium Citrate, Preservatives, Bicarbonate and Potassium Sulfate (Preservatives), and Red 40.

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The Standards

ANSI/SIA PIR-01