Severity, Exposure & Probability (SEP) Risk Assessment Model

The SEP model is a ‘quick and dirty’ Risk Assessment process that can be easily used in the field:

Risk (R) = Severity x Probability x Exposure  or  R = S x P x E

Identify specific hazards and assign them a value for each element below. The higher the number, the greater the Severity, Probability or Exposure.

**Severity**: Scored 1 to 5. Describes the potential loss or consequence or a mishap. Protective devices or procedures, engineering controls, and PPE are used to mitigate Severity.

Should something go wrong, the results are likely to be found in the following areas:
- Injury, occupational illness or death,
- Property damage or loss,
- Mission degradation,
- Reduced morale,
- Adverse publicity,
- Administrative and/or disciplinary actions

1=none or slight  2=Minimal  3=Significant  4=Major  5=Catastrophic

**Probability**: Scored 1 to 5. The likelihood that given the Exposure, the projected consequences will occur. Training, situational awareness, morale and attitude change are used to mitigate Probability.

1=Impossible or remote under normal conditions  2=Unlikely under normal conditions
3=50/50 chance  4=Greater than 50% chance  5=Very likely

**Exposure**: Scored 1 to 4. The amount of time, number of cycles, number of people and resources (equipment) involved.

1=None or below average  2=Average  3=Above average  4=Great

Compute the value of Risk (R = S x E x P) to evaluate the effectiveness of mission and risk of execution. *Values in the Substantial to Very High range need to be controlled.*

<table>
<thead>
<tr>
<th>Values</th>
<th>Risk Level</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-100</td>
<td>Very High</td>
<td>Discontinue/STOP</td>
</tr>
<tr>
<td>60-79</td>
<td>High</td>
<td>Immediate Correction</td>
</tr>
<tr>
<td>40-59</td>
<td>Substantial</td>
<td>Correction Required</td>
</tr>
<tr>
<td>20-39</td>
<td>Possible</td>
<td>Attention Needed</td>
</tr>
<tr>
<td>1-19</td>
<td>Slight</td>
<td>Possibly Acceptible</td>
</tr>
</tbody>
</table>

Compute the Risk Value for each hazard identified. Focus attention from highest values down.