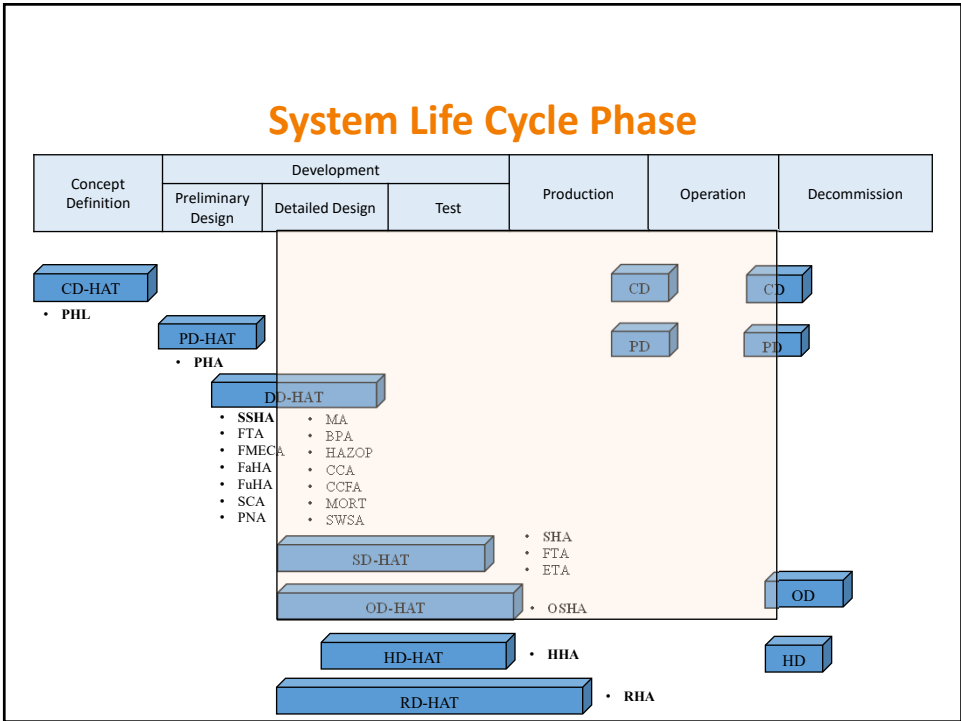


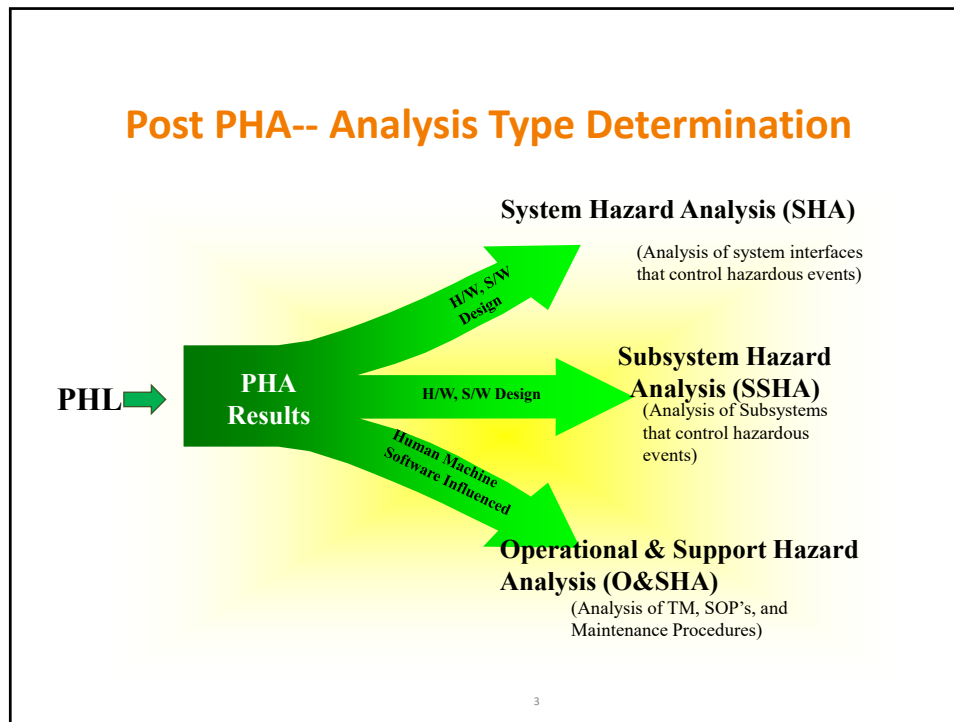
Ch 11  
Operating & Support Hazard Analysis (O&SHA)

FPST 4333

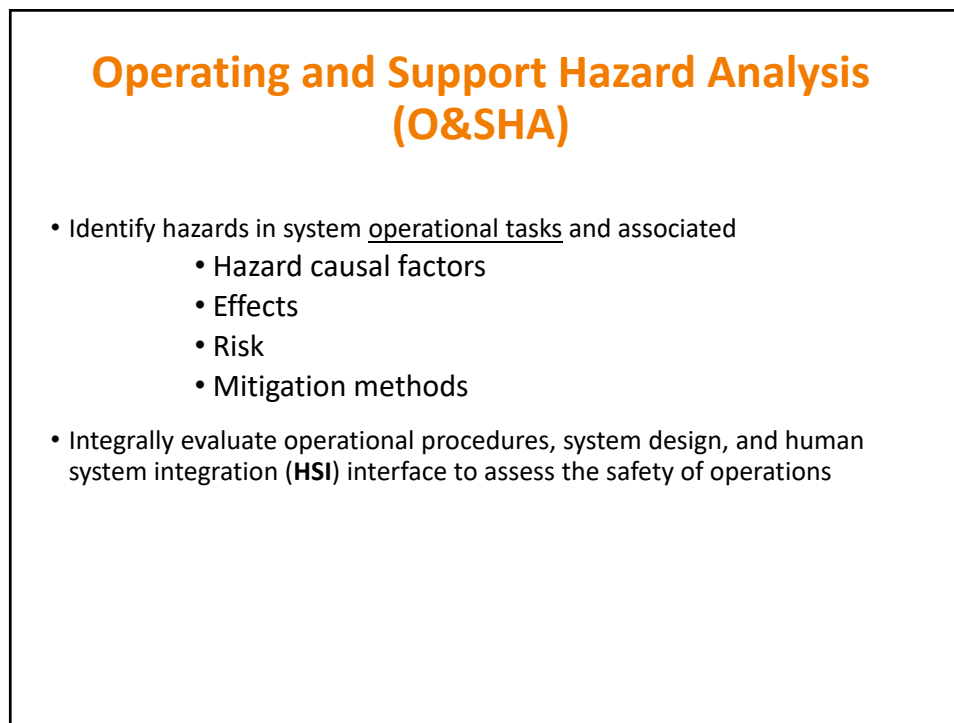
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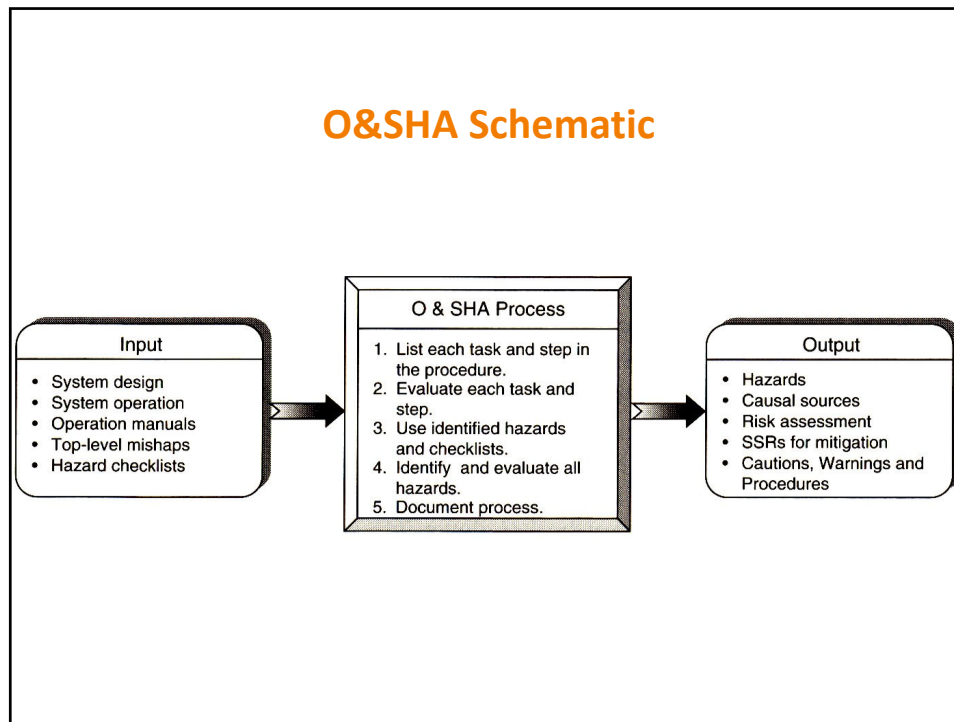
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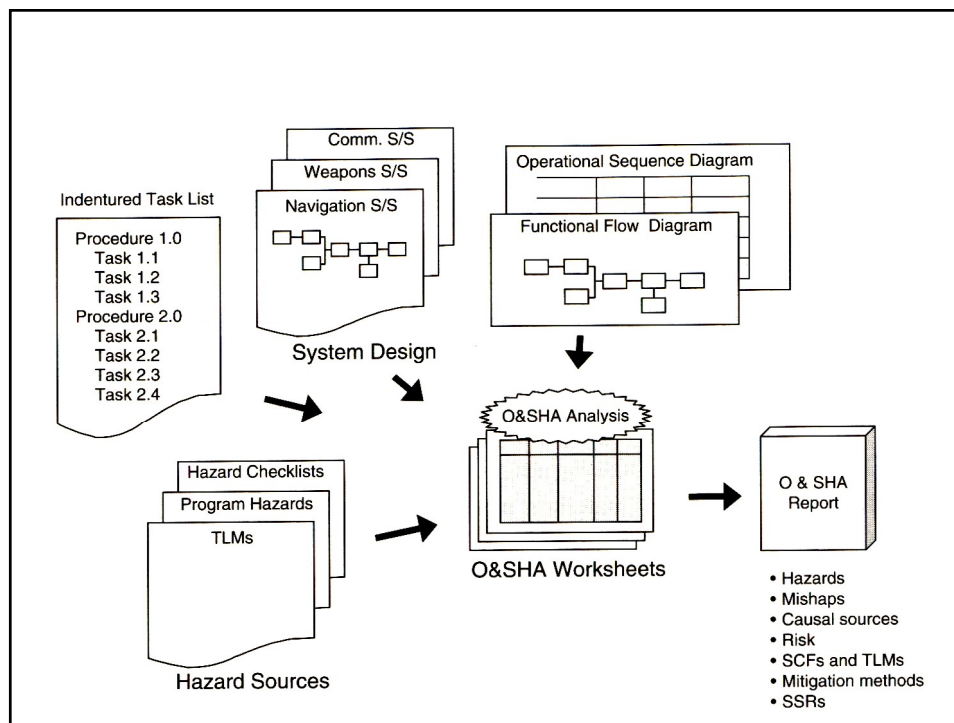
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## Definitions



### Operation

Performance of procedures to meet an overall objective.



### Procedure

Set of tasks that are necessary to accomplish an operation.



### Task

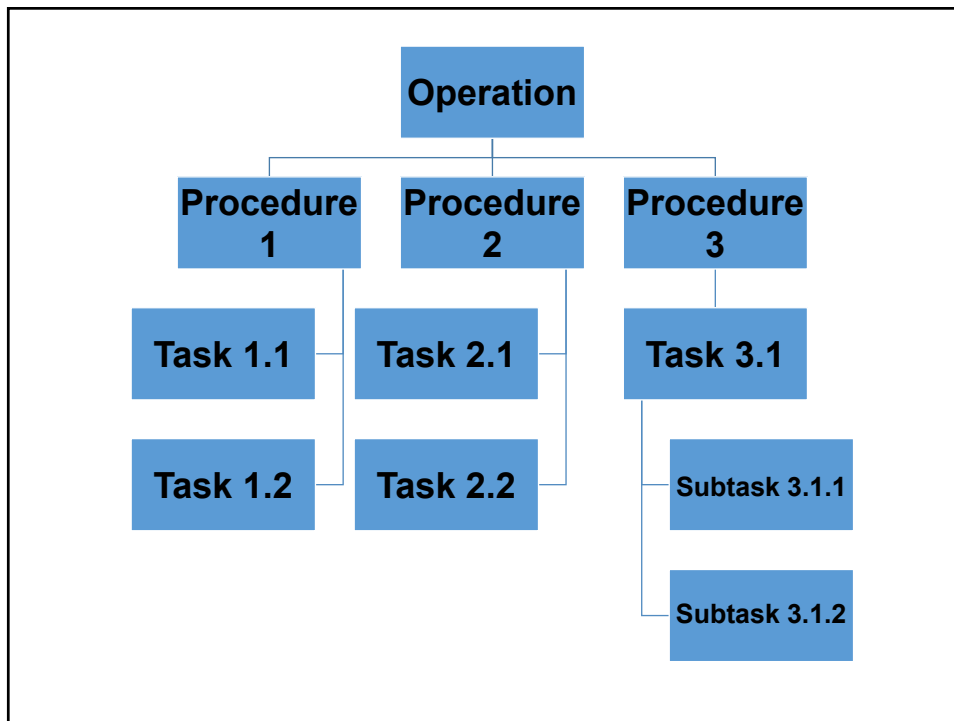
Element of work that together with other elements of work comprises a procedure.



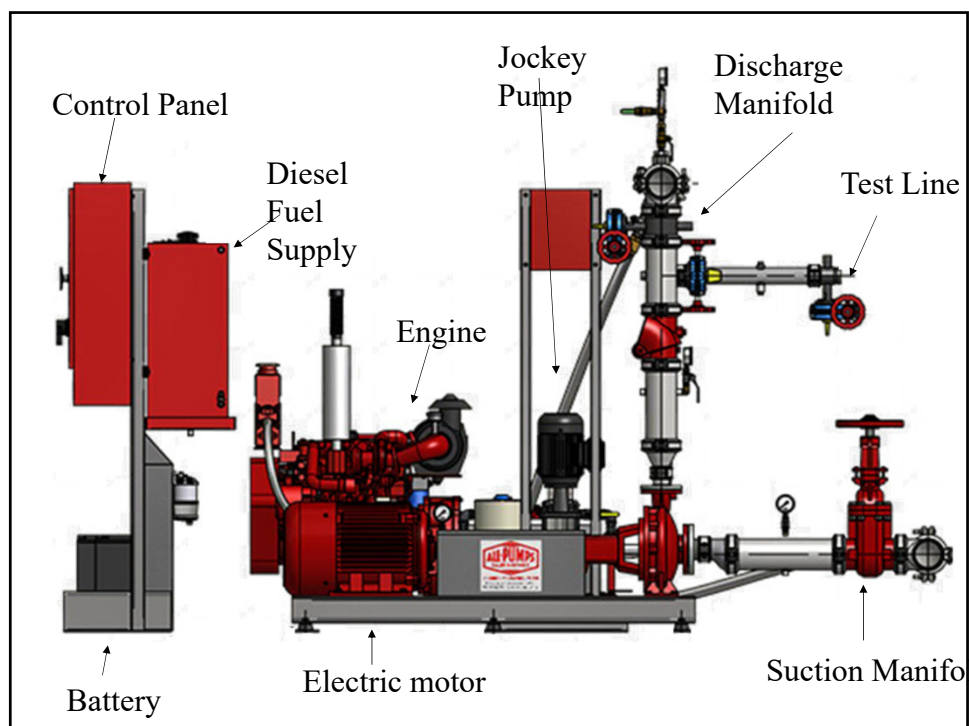
### Subtasks

An act that must be completed as an element of completing a larger and more complex task.

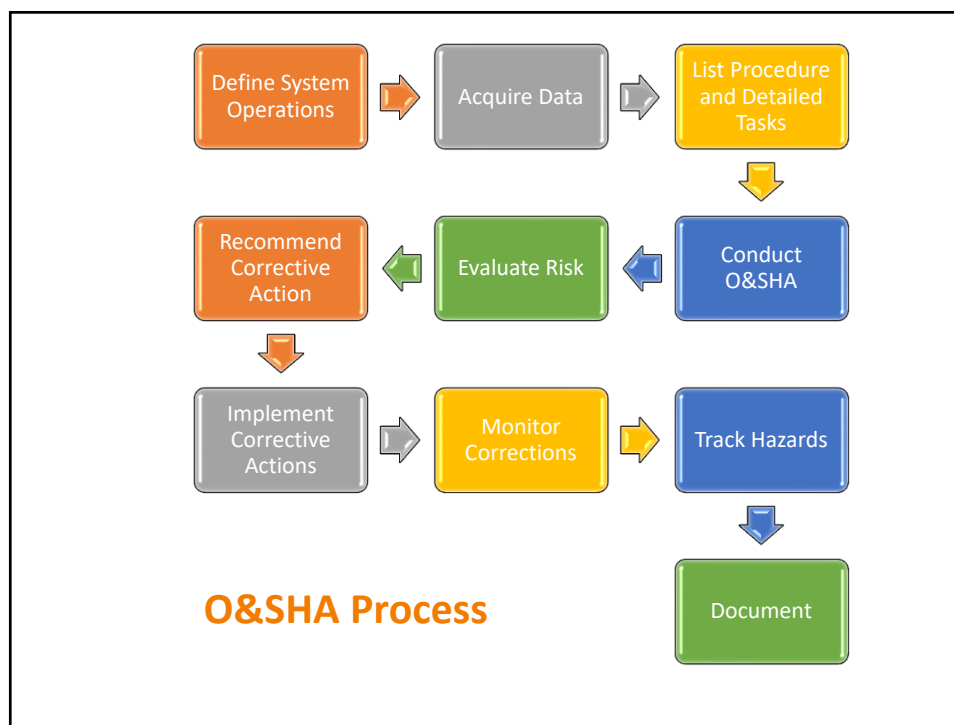
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## O&SHA Worksheet

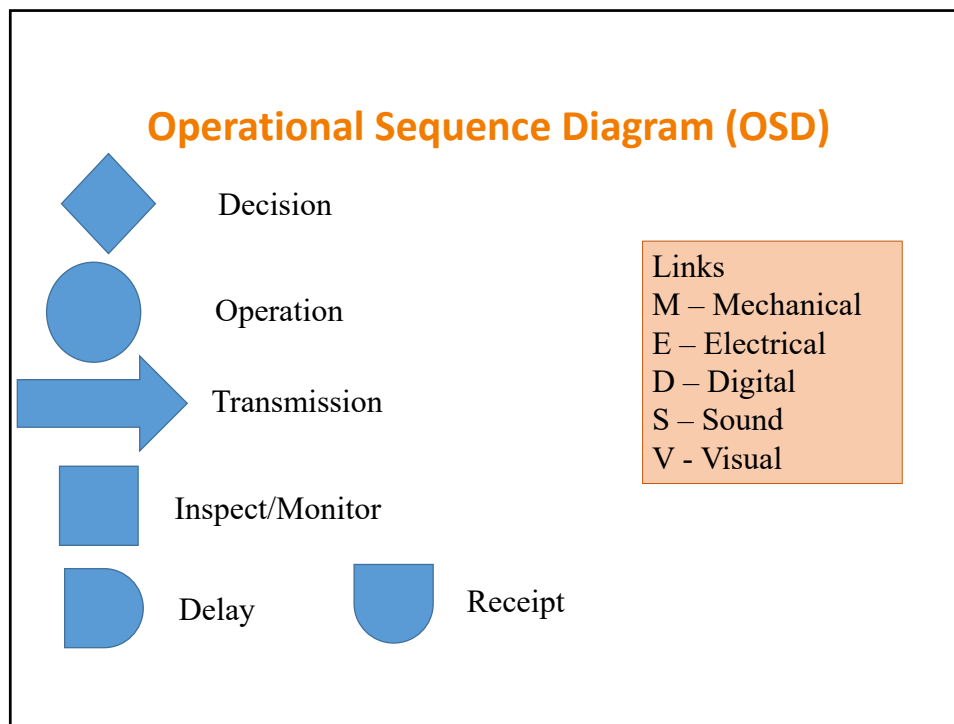
System: 1		<b>Operating and Support Hazard Analysis</b>					Analyst: 3												
Operation: 2							Date: 4												
Task	Hazard No.	Hazard	Causes	Effects	IMRI	Recommended Action	FMRI	Comments	Status										
<div style="display: flex; justify-content: space-between; padding: 10px;"> <div style="width: 30%;"> <p><b>Hazard element</b> —●—</p> <p><b>Initiating mechanism</b> —●—</p> <p><b>Hazard outcome</b> —●—</p> </div> <div style="width: 70%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 10%;">5</td> <td style="text-align: center; width: 10%;">6</td> <td style="text-align: center; width: 10%;">7</td> <td style="text-align: center; width: 10%;">8</td> <td style="text-align: center; width: 10%;">9</td> <td style="text-align: center; width: 10%;">10</td> <td style="text-align: center; width: 10%;">11</td> <td style="text-align: center; width: 10%;">12</td> <td style="text-align: center; width: 10%;">13</td> <td style="text-align: center; width: 10%;">14</td> </tr> </table> </div> </div>										5	6	7	8	9	10	11	12	13	14
5	6	7	8	9	10	11	12	13	14										

11

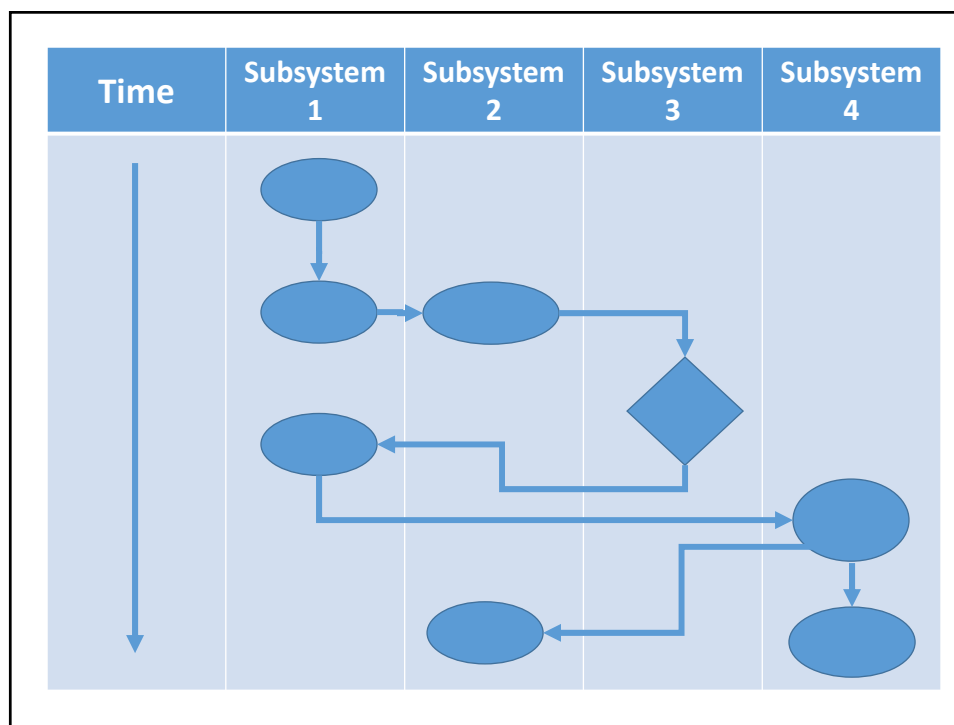
## O&SHA Hazard Checklists

<ol style="list-style-type: none"> <li>1. Work Area <ul style="list-style-type: none"> <li>Tripping, slipping, corners</li> <li>Illumination</li> <li>Floor load, piling</li> <li>Ventilation</li> <li>Moving objects</li> <li>Exposed surfaces—hot, electric</li> <li>Cramped quarters</li> <li>Emergency exits</li> </ul> </li> <li>2. Materials Handling <ul style="list-style-type: none"> <li>Heavy, rough, sharp</li> <li>Explosives</li> <li>Flammable</li> <li>Awkward, fragile</li> </ul> </li> <li>3. Clothing <ul style="list-style-type: none"> <li>Loose, ragged, soiled</li> <li>Necktie, jewelry</li> <li>Shoes, high heels</li> <li>Protective</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>4. Machines <ul style="list-style-type: none"> <li>Cutting, punching, forming</li> <li>Rotating shafts</li> <li>Pinch points</li> <li>Flying pieces</li> <li>Projections</li> <li>Protective equipment</li> </ul> </li> <li>5. Tools <ul style="list-style-type: none"> <li>No tools</li> <li>Incorrect tools</li> <li>Damaged tools</li> <li>Out of tolerance tools</li> </ul> </li> <li>6. Emergency <ul style="list-style-type: none"> <li>Plans, procedures, numbers</li> <li>Equipment</li> <li>Personnel</li> <li>Training</li> </ul> </li> <li>7. Safety Devices <ul style="list-style-type: none"> <li>Fails to function</li> <li>Inadequate</li> </ul> </li> </ol>
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### Common Mistakes in O&SHA

- Some procedural tasks have not been identified, are incomplete, or have been omitted.
- The hazard description is incomplete, ambiguous, or too detailed.
- Causal factors are not adequately identified, investigated, or described.
- The mishap risk index (MRI) is not stated, is incomplete, or is not supported by the hazard information provided.
- The hazard mitigation does not support the final MRI.

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