## HAZOP Template

Zoraya Chemical Mixing Plant / Serrah Engel / 26 Apr 2023

<table>
<thead>
<tr>
<th>Score</th>
<th>0%</th>
<th>Flagged items</th>
<th>0</th>
<th>Actions</th>
<th>0</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Client / Site</strong></th>
<th>Zoraya Chemical Mixing Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Atlanta, GA</td>
</tr>
<tr>
<td><strong>Conducted on</strong></td>
<td>26.04.2023 12:30 PST</td>
</tr>
<tr>
<td><strong>Prepared by</strong></td>
<td>Serrah Engel</td>
</tr>
</tbody>
</table>
### Hazard & Operability Analysis (HAZOP)

#### Node 1

<table>
<thead>
<tr>
<th>Element</th>
<th>RO water</th>
</tr>
</thead>
</table>

**Guide Word**
No or not

**Deviations**
No RO water flow

**Possible Causes**
Centrifugal pump loses priming or valve closed totally

**Consequences**
Resulting in highly concentrated solution

**Safeguards**
Proper monitoring of the centrifugal pump (hydraulic pressure)

**Comments**
Hydraulic pressure gauge should be reviewed and maintained on a regular basis.

**Photo of identified hazard or opportunity for improvement**

Photo 1

#### Node 2

<table>
<thead>
<tr>
<th>Node</th>
<th>Batch mixer</th>
</tr>
</thead>
</table>

**Guide Word**
No or not

**Deviations**
No RO water flow

**Possible Causes**
Centrifugal pump loses priming or valve closed totally

**Consequences**
Resulting in highly concentrated solution

**Safeguards**
Proper monitoring of the centrifugal pump (hydraulic pressure)

**Comments**
Hydraulic pressure gauge should be reviewed and maintained on a regular basis.

**Photo of identified hazard or opportunity for improvement**

Photo 1
Batch mixer

**Guide Word**

More

**Element**

RO Water

**Deviation**

More RO water flow than intended

**Possible Causes**

Water passes through the valve even if it's closed

**Consequences**

Overflow of the batch mixer

**Safeguards**

Person assigned to monitor batch mixer content

**Comments**

A level indicator needs to be installed for an automatic, accurate reading of the levels.

**Photo of identified hazard or opportunity for improvement**

Photo 2

**Name and Signature of HAZOP Team Lead**

Serrah Engel  
26.04.2023 12:45 PST
Media summary

Photo 1

Photo 2