

Hazop study find the core of Process Safety Management. Though now it is taken quite seriously by most chemical plants there are certain blind spots which either make the Hazop study ineffective or inefficient. Being a Hazop participant and a Hazop chair I thought I would try to list down these unassuming pitfalls.

I would differentiate these into 4 categories depending on the cause of the blind spot. This article tries to list down the blind spots from the most innocent of them – the Hazop participants.

So these would typically be the Process Engineer, technology expert, plant Manager/ operator, instrument engineer and maintenance engineer. So let's start

1. *We have been operating this process for umpteen years. Nothing has happened till date. So nothing can happen now.*

How many times have you heard this in a Hazop. Well, the harsh truth is major accidents are not an everyday occurrence. Just because you have had a good safety record with your process is no guarantee that tomorrow will not bring a fatal accident. Approach every Hazop with a blank slate.

2. *We have DCS.*

This misconception is most prevalent with new entrants to the DCS world especially batch operated plants. Well, bad news people. DCS is not Superman. It does fail and surprisingly has a high failure rate as any self respecting instrument engineer will tell you. The next argument is I have two independent control loops safeguarding my process. Put both on the same card and boom the card fails and your process is shot to hell. They did not introduce SIS for nothing.

3. *This HAZOP is taking too much time. Complete it faster.*

Recurrent phrase especially from Project Managers. There are no short cuts in a HAZOP study. All possible scenarios need to be critically evaluated and risks need to be properly mitigated. In all projects, it is always imperative to allow for adequate time for the HAZOP and also account that the relevant engineers will be completely busy in the study. Haste in HAZOP will only lead to serious gaps in design and increase the risks of operation.

4. *Let us stretch our working hours little bit longer and complete the HAZOP sooner.*

Doing a HAZOP for 10-12 hours a day is impractical. It is a brainstorming session which can get mentally exhausting for most participants. Ideal time period per day for a HAZOP would be in my opinion 6 hours. Anything beyond that is unproductive as participants get tired and lose interest in serious discussions.

5. *My HAZOP study is done and my plant is completely safe.*

Well, bad news is that HAZOP is just the first step towards a safe plant. Proper and diligent implementation of the recommendations is paramount. Pre start up review is a mandatory step and post start up operator training and maintenance of safety devices recommended by HAZOP should be rigorously taken up. And not to forget Revalidation HAZOPs at regularly defined intervals.

The next three areas for blind spots which I will be addressing in further articles would be

- a. HAZOP Leaders
- b. Safety Data
- c. Project and Plant data