

Closing this series of articles on Blind spots in HAZOP studies with the last one on Project and Plant data and how erroneous data and uncontrolled changes can have detrimental effects on the HAZOP conclusions.

The HAZOP study completely relies on the plant documents and drawings provided to the team. Let us look at some common mistakes in this critical aspect

1. A different reality

This is a recurring concern especially in Revalidation HAZOPs. Plant documents are not rigorously updated and quite often the as-built mismatches with the documents presented for HAZOP. If lucky, it will come up with a participant suddenly butting in “ Hey we have an additional flushing connection there.” If not

2. Issued for change

Project documents are dynamic and there are a lot of changes that happen post HAZOP. Pump heads get increased, valves get added and deleted, vendor information streams in. In an ideal world each change should be assessed for its safety impact. Also residual changes if any should be caught in the Prestart review. But practically changes get overlooked and if there are too many revisions between HAZOP and startup, the slip up is even more probable.

3. Assumptions galore

Many a times data is not available during the actual HAZOP discussions and need to be revisited or assessed at a later date. The glitch comes in if the assumption and the associated action is not documented properly. Take for example the requirement to check the package vendor scheme for internal interlocks. Unless the precise check to be done is not written, the vendor document check will not be done properly and the risk might stay.

4. We have got it covered

Many a times in a HAZOP, relevant project documents need to be cross verified. A simple case is verifying the piping design pressure in piping specification for maximum operating case. Participants in the HAZOP confidently state that it is normal engineering practice and hence covered. But there is nothing like checking the actual document and verifying. Even the simplest of engineering rules are forgotten. Seeing is believing.

With this I am concluding my series of 4 key blindspots in HAZOPs. I am sure there are more aspects to be addressed. Till my next article, be safe and be ALARP.