

HAZID/HAZOP

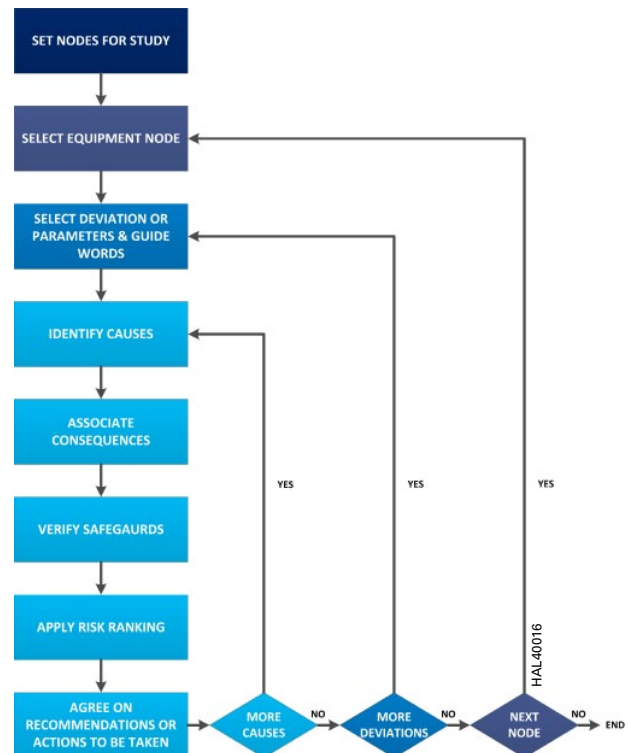
A hazard and operability (HAZOP) study is a design review technique used for hazard identification, and for the identification of design deficiencies which may give rise to operability problems. HAZOP is most commonly applied to systems which transfer or process hazardous substances or activities where the operations involved can be hazardous and the consequences of failure to control hazards may be significant in terms of damage to life, the environment or property. A HAZOP study is carried out using a structured approach by an experienced multi-discipline team, facilitated by a HAZOP leader.

HAZOP Objectives

- Identify hazards and operability issues associated with the design
- Identify deviations from design intent, deviation causes, consequences, and safeguards
- Provide an action list with due dates and identify appropriate person/discipline to progress the action to close out

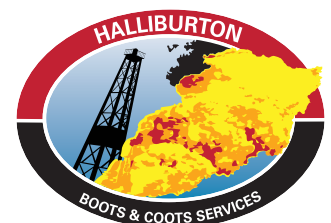
HAZOP Steps

HAZOP studies are conducted in a workshop format, bringing together a multi-disciplined team of operations personnel, experienced design engineers and HSE professionals. The workshop utilizes a clearly defined step-by-step methodology, and considers standardized deviations from normal process operations. The study includes a review of the design for compliance with API standards.



Findings from a workshop are recorded in a series of detailed HAZOP worksheets, including:

- A record of team discussions
- Description of identified potential accident events
- Consequences, relevant comments, safeguards, risk ranking, recommendations and responsibility assignment



The Hazard Identification (HAZID) study is a technique for early identification of hazards and threats and can be applied at the conceptual or detailed design stage. Early identification and assessment of hazards provides essential input to project development decisions at a time when a change of design has a minimal cost penalty. A HAZID study is carried out by an experienced multi-discipline team using a structured approach based on a checklist of potential hazards. Potential problems are highlighted for action outside the meeting. Typical process hazards are considered such as environmental, geographical, process, fire and explosion, health.

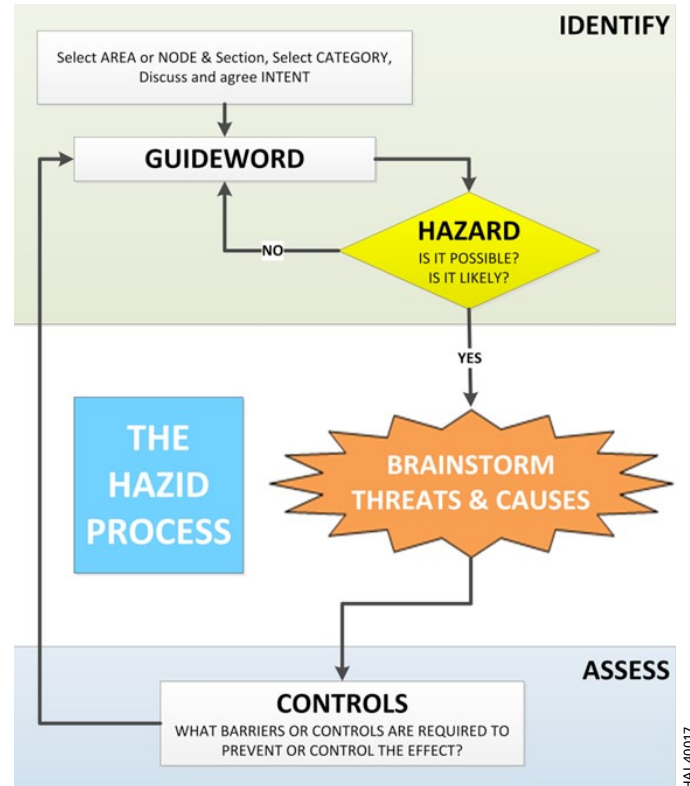
HAZID Objectives

- Identify hazards to the host facilities due to design, and evaluate potential consequences should the hazards be realized
- Establish safeguards to manage hazards; identify areas where further understanding of safeguard effectiveness is needed
- Make recommendations to reduce the likelihood of hazard occurrence or mitigate the potential consequences

HAZID Steps

The HAZID method, accepted as one of the best techniques for identifying potential hazards and operability problems, involves the following:

- Assembly of a team of experienced project personnel
- Presentations detailing the scope of the HAZID
- Identify hazards, causes, consequences and safeguards



**For more information, contact your Boots & Coots representative
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