HAZard and OPerability (HAZOP) analysis is a structured technique for performing a systematic study of a process that utilises guide words to discover how deviations from the design intent may occur and if they will result in a hazard. Identifying hazards is important because it allows a potential problem to be assessed, managed and mitigated. It can also provide important input for management, written procedures and incident investigation.

THE Applus+ SOLUTION

The unique Applus+ VELOSI solution conducts this analysis using a number of tried-and-tested techniques supported by software tools. Hazards are ranked on a 5x5 risk matrix where the hazard level is indicated by one number and one letter. The letter represents the frequency of occurrence and the number represents the level of severity.

VAIL-HAZOP is a piece of software developed in-house for HAZOP studies. It was developed using API 750, API 14J and API 1150 as reference documents. Among the features of VAIL-HAZOP are:

- Windows-based application, easy-to-use with attractive Graphical User Interface
- Project team and session recording, and dynamic reporting with respect to project and facility
- Nodes data and scenario recording
- Dynamic action sheets and worksheet generation
- Strong security policy, password-enabled to avoid unauthorised access
- Analysis summary
- Action and task allocation with status and priority ranking
- HAZOP is of greatest benefit during the design or installation of any new plant or process, or during major modifications to an existing one; when there are operational hazards such as environmental, quality or cost issues; following a
major incident involving a fire, explosion, toxic release, etc.; or to justify why a particular code of practice, guidance note or industry code does not need to be followed.