



Facility Risk Assessment

Identify potential risks in your facility and the measures needed to control them

Risk assessments have an enormous potential to improve the safety of a facility by recognising and eliminating potential problems at the design stage. An acceptable risk profile can only be achieved by identifying hazards, assessing the associated risks and control measures, together with any actions required to reduce the residual risk to tolerable levels. Obtaining an acceptable risk profile will be achieved by defining controls and taking associated actions.

Our approach

The design of any biological containment facility is complex, given the potential risks associated with constructing and operating these facilities. Addressing these risks and ensuring that the facility has been designed in accordance with internationally recognised good practice is greatly supported by conducting a facility risk assessment.

Risk assessments can be carried out at different times in a facility's life, from the early concept and design stage to key change points in its operating life, or even prior to decommissioning. DNV has developed facility risk assessment tools by considering the biorisks in a high containment environment and are recognised as industry leaders in this field.

The objectives of a risk assessment are to:

- Review the design around a structured methodology
- Identify the failure modes and associated risks
- Check if the proposed control measures are adequate
- Identify recommendations to obtain a more acceptable risk level if required.

Risk assessments are normally planned around a series of workshops where a range of expertise is brought together to identify and assess the risks. A number of recognised approaches can be used (e.g. SWIFT or HAZOP).

The detailed HAZOP technique will consider process deviations (no flow, more flow, contamination, cleaning, etc.) for different nodes (kill tank, filter, etc.). During a SWIFT the study examines potential failure scenarios based around a series of *What If* questions, and this can be more readily applied at an earlier stage in the design or where protocols also need to be considered.

DNV provides a leader and recorder for the workshops, together with the associated software tools, checklists, risk criteria and other supporting information. The resulting report identifies potential undesired events and the agreed controls and further actions required for a successful outcome. Actions can also be followed up by a DNV risk manager to ensure they are closed out in line with the project schedule.

Value delivered

- A structured and comprehensive review of facility design
- Identification of the risks associated with the facility and how best to address them
- Follow up to ensure all identified risks are addressed with appropriate actions
- Less rework and extra costs during construction
- An independent, open and transparent process demonstrating a responsible and structured approach to risk management.

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MANAGING RISK

