

MODULAR TRAINING: SAMPLE MATERIAL

The following is an example of the general content and style of xSeriCon's modular training courses. This extract is adapted from module 1 of the course "Introduction to HAZOP". It is part of a section introducing a range of PHA methods.

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Method 1: Checklist

The starting point is a list of standard design items to check. These needn't be only process- or equipment-related; the scope can be quite wide, covering facilities, location, transport, people-related issues, impact on neighbouring areas, and emergency situations, among others.



The list is sometimes focused on one particular aspect of the project, such as:

- Facility siting
- Human factors (how human performance can affect process safety)
- HMI (human-machine interface) design

The checklist approach is also good for "HAZID" (Hazard Identification), a wide-ranging safety review typically performed early in the design lifecycle of a project. HAZID is useful for making sure that issues that could disrupt production or affect safe, effective operations have been considered.

Examples of these issues include:

- Onsite and offsite transport needs
- Emergency preparedness
- Contingency plans in case of disruption outside the site boundary (e.g. loss of power supply, strike, landslide, unavailability of resources) if this can affect safe operation

Point to remember

The popular PHA method HAZID is best done as a Checklist-type workshop study.

A standard HAZID checklist can be used for most HAZID studies.

- Backup and spare parts policy
- Security (including cyber security)

This is just a selection of the large number of items to be considered during HAZID.

Point to consider

Checklists are meant as a starting point to stimulate team brainstorming over a range of potential issues. As such, they are not really meant to check compliance with a fixed, well-defined list of requirements such as a code of practice. Auditing instead of checklist-based workshop is probably a better approach for that.

How to build the checklist

The checklist needs to be built before the workshop starts. Some standard checklists are available [here](#). Contact xSeriCon if you need help with developing a checklist.

One good approach is to **formulate each checklist item as a yes/no question**. This helps the team to quickly understand the intent of the item. For example, suppose we are planning a checklist study on emergency evacuation of an offshore facility. Suitable checklist questions might include:

- Would evacuation be more difficult in bad weather?
- Can the evacuation alarm be heard everywhere on the platform?
- Is the refresher training on breathing apparatus effective?

Tip

Write each item in the checklist as a YES/NO question.

Each one of these questions would **naturally raise several issues** in the workshop. For example, what kind of bad weather is possible? In what ways could it hinder evacuation? Do people behave differently in an emergency if the weather is cold and rainy? The team will then go on to explore and address the issues raised. It's not enough just to answer "yes" or "no" and move on.

Writing yes/no questions, like the examples above, is probably **more effective** than simply writing short phrases such as:

- Weather
- Evacuation alarm
- Breathing apparatus training

Tip

To build the checklist, think through the situation step by step, or hour by hour.

Activity 1.4 (Small group)

Consider the 3 sample questions above about evacuation. Write down a list of issues potentially raised by each question (like the weather-related issues we just mentioned). If possible, brainstorm this with your study group, so that you stimulate ideas from each other. A suggested answer is on the next page.



Activity 1.5 (With tutor)

Think about one of the HSE challenges you are facing. Imagine you plan a checklist study workshop to identify the key issues and make recommendations. Draw up a short checklist that might be suitable for the workshop. Email it to your xSeriCon tutor for comment.

Tip

The exercise will work better if you choose a narrow, specific topic. Here are some suggestions, but feel free to pick another topic if you prefer:



- Use of PPE (personal protective equipment)
- Odour control
- HSE in relation to contractors