



INTERNATIONAL CERTIFICATION SERVICES

HAZARD AND OPERABILITY (HAZOP) STUDIES.

What is HAZOP ?

(Chemical Process HAZOP)

HAZOP Study is a systematic evaluation of deviations of planned or existing process or operation outside the design envelope.

The HAZOP Methodology is based on assumption that The potential for hazard and operability problems do not exist when the process is operating within its design envelope. Everything is running well and then "SOMETHING" happens due to "SOME CAUSE".

HAZOP is performed to identify such unique causes that can result in undesirable situations.

HAZOP is Qualitative Technique based on "GUIDE WORDS" applied to different "PARAMETERS" to arrive at "DEVIATIONS"

When to Perform HAZOP?

HAZOP is usually carried out:

1. At conceptual stage when engineering design drawings are available.
2. As a final check when detailed engineering design has been completed.
3. When the final piping and instrumentation diagrams (P& ID) are available.
4. During construction and installation to ensure implementation of recommendations
5. During commissioning.
6. During operations to ensure that plant emergency and operating procedures are regularly reviewed and updated as required.

HAZOP study can also be conducted on existing facility to identify required modifications, that should be implemented to reduce the risk and operability problems to acceptable levels.

HAZOP Methodology

- 01 Select Section/ Node
- 02 Apply a relevant Deviation
- 03 Brainstorm all possible Causes
 - To originate from within the node
- 04 Develop ultimate potential Consequences
 - Consequences inside and outside the node to be considered



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05. List "existing Controls/ Safeguards" for each Cause-Consequence scenario
06. Develop a Risk Ranking (based on guidelines if available.)
07. Suggest Recommendation (s) Some aspects may need evaluation by expert from the concerned field.
08. Repeat for each Cause.
09. Repeat for each Deviation.
10. Repeat for each Node.
11. Start next Unit, and then continue until all Units completed.

National Safety Council of Australia. 2003.

| | | | | | Probability (probable recurrence rate) | | | | |
|-------------|---|------------------------------------|---|------------------------------|---|----------|-----------------|------------------|-----------|
| | | | | | E | D | C | B | A |
| | | | | | > 5 years | 1-5years | 6 months-1 year | 14 days-6 months | < 14 days |
| Consequence | 1 | Fatality | Serious off-site impact, significant remediation required | International media coverage | USD >1Mill | | | | Extreme |
| | 2 | Serious with permanent disablement | Significant off-site impact, some remediation required | National media coverage | USD 250k-1mill | | | gh | |
| | 3 | Serious injury/illness | Release significantly above reportable limit or some local impact | Regional media Coverage | USD 50k-250k | | | im | |
| | 4 | Medical treatment | Release above minor impact | Local media coverage | USD 10k-50 k | | | | |
| | 5 | First Aid | Small release contained onsite and noimpact | No media coverage | USD <10k | | Low | | |

Types of HAZOP

01. Chemical Process HAZOP
02. Human HAZOP
03. Procedure HAZOP
04. Software HAZOP

Standards and guidelines that may be followed

1. IEC 61882." Hazard and operability Studies (HAZOP Studies)- Application Guide" International Electrochemical Commission, Geneva.
2. Crawly, F.M. Preston and B. Tyler: "HAZOP Guide to best practices (For process and Chemical Industries) European Process Safety Centre and Institution of Chemical Engineers,2000.
3. Kyriakdis. I.:"HAZOP - Comprehensive Guide to HAZOP in CSIRO",CSIRO Minerals, Nati and Safety Council of Australia 2003

Are you looking for HAZOP S ?

Call for further information at:

International Certification Services Pvt. Ltd.

Corporate Office

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INTERNATIONAL CERTIFICATION SERVICES

ISO 25999-2:2007–BUSINESS CONTINUITY MANAGEMENT SYSTEM

IS NOW ISO 22301:2012 - SOCIETAL SECURITY – BUSINESS CONTINUITY MANAGEMENT SYSTEMS BCMS REQUIREMENTS.

WHAT IS ISO 22301:2012:

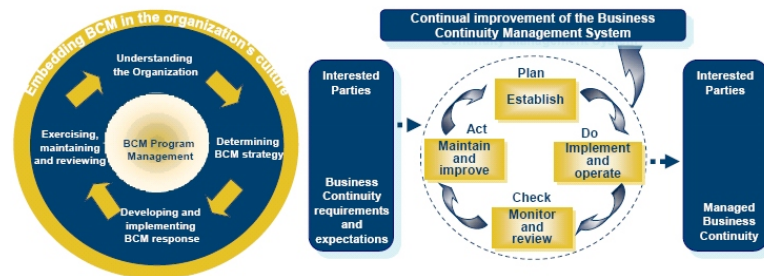
Overview

ISO 22301:2012 has adopted recently re styled wording and format for management system standards (Refer to Annex SL previously ISO Guide 83). This will encourage uniformity of management system terminology and assist organisations seeking to implement multiple management system programmes.

The Plan Do Check Act (PDCA) cycle is applied to BCMS processes and mapped to the BCMS Lifecycle, first seen in ISO 25999 Part 1 in 2006, has been discontinued for the purposes of this standard. The figure shown in ISO 22301:2012 is the PDCA model applied to BCMS processes along with a slightly revised Explanation Table. The BCMS Lifecycle does not feature in ISO 22301:2012.

Summary of the changes within ISO 22301:2012

1. Scope
2. Normative References
3. Terms and definitions
4. Context of the Organisation
5. Leadership
6. Planning
7. Support
8. Operation
9. Performance Evaluation
10. Improvement



Why does an organization need BCMS?

ISO 25999-2:2007
MINIMIZING DISRUPTION – MAXIMIZING RECOVERY
WITH PROOF OF MANAGER RISK : IN YOUR BUSINESS

BCMS is suitable for any organization, medium, small or large. It is important when you are in an environment such as manufacturing, service-industry, etc, where you will continue with your operations

in the event of a disruption keeping your customers and stakeholders in mind. BCMS can be used to raise the profile of business continuity.

To protect the business from risk by the threat of disruption

Ensure that solid plans are put in place to provide business continuity and assurance of supply even in the event of disaster

To demonstrate best practice to customers. such as ISO 9001, etc, can integrate to BCMS.

or organization already certified to any other standards

such as ISO 9001, etc, can integrate to BCMS.

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Defining Business Continuity Management

Holistic management process that identifies potential threats to an organization and the impacts to business operations that those threats, if Whish , might cause, and it provides a framework for building organizational resilience with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities.

Systematic Approach for effective implementation of BCMS:

- 1) The first step is to develop a better understanding of current business continuity practices and use it to develop a detailed project plan.
- 2) List every activity you undertake, the frequency, the processes supported by the activity and the perceived importance of the activity in terms of supplying products /Services.
- 3) Sequence the activities in order to demonstrate the interdependencies between activities, which can become the focus for the business impact analysis (BIA) process.
- 4) Prepare the risk assessment process for the impact it would have on the operations.
- 5) Prepare Business Continuity Plan (BCP)/Incident Management Plans (IMP) covering a wide range of disruptions detailing the procedures to be followed in specific circumstances.
- 5) Exercise the plan.
- 6) Complete the internal audit and management reviews and activate improvements.

The benefits of BCMS and certification

Resilience

Proactively improves an organization's resilience when faced with disruptions to your ability to achieve key objectives.

Delivery

Provides a rehearsed method of restoring an organization's ability to supply critical products and services to an agreed level with in timeframe, following a disruption.

Reputation

Protects and enhances reputation and brand while building confidence with all stakeholders.

Competitive advantage

Enables you to promote the resilience of your organization which can open new markets, both local and international, and help win new customers. Additionally, certification can be used as a differentiator when your organization applies for new business through a tender process.

Compliance to applicable Statutory & Regulatory Requirements

Can help you demonstrates that applicable laws and regulations are being observed, which can lead to an enhanced corporate governance regime.

Provides cost savings

Creates an opportunity to reduce cost through internal and external BCM audits while reducing the wider overhead of managing risk as well as streamlining business activities.

May reduce insurance costs

Through the ability to demonstrate best practices BCMS certification, help reduce business interruption insurance premiums.

Effective supply chain management

Helps to provide you with confidence in your supply chain, including outsourced services, since you can use the standard and particularly certification for it. Insisting on BS BCMS will help you to reduce the likelihood of your suppliers causing a disruption to your business.

Steps to Certification

- 1) Contact us and we can informally advise you of the options to suit your needs.
- 2) We will submit an estimate of your costs for training or certification to meet the requirements of certification to BCMS.
- 3) A formal application for certification is submitted with due acceptance.
- 4) Auditing team appointed.
- 5) Document Review conducted.
- 6) On site auditing conducted in 1st and 2nd stages.
- 7) On successful audit, a certificate of registration of verification/compliance is issued which identifies the management system scope.
- 8) Continual Improvement by way of Surveillance Audits on site audits to ensure you continue to meet the requirements of BCMS.

Reference Standard: ISO 25999-2:2007/ISO 22301:2012?

Are you looking for BCMS Certification?

FEEL FREE TO CONTACT

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