Workplace Safety and Health Guidelines

Implementation of WSH Management System for the Metalworking Industry

WSHCOUNCIL

Tripartite Alliance for
Workplace Safety and Health

Contents

1. Introduction

In July 2001, a set of guidelines on the Implementation of Safety Management System (SMS) for the Metalworking Industry termed as 'Guidelines (2001)' was developed by Metalworking Industry Safety Promotion Committee and Ministry of Manpower's Occupational Safety Department and Occupational Safety & Health (Training & Promotion) Centre. This document was based on 15 elements (Additional element "Element-15 on Document Control and Review" was included as part of a SMS).

Under the Workplace Safety and Health (WSH) (Safety and Health Management System and Auditing) Regulations 2009, any factory engaged in the manufacturing of fabricated metal products, machinery or equipment in which 100 or more persons are employed is required to implement a SMS. The appointed WSH auditors have to meet the legislative requirements by conducting a SMS audit at least once in every 12 months.

1.1 Objective

This guide provides recommendations and guidance for companies in the metalworking industry to develop and implement a Workplace Safety and Health Management System (WSHMS).

1.2 Scope

With the release of the *International Organisation for Standardisation (ISO) 45001:2018 (Occupational health and safety management systems – Requirements with guidance for use)*, the Guidelines (2001) have been reviewed to integrate all 15 elements and contents of Guidelines (2001) in Annex A as relevant examples into this set of guidelines, with alignment to ISO 45001:2018. Reference to SS ISO 45001:2018 is required to align to the standards.

For instance, Section 2.2 (Managing Expectation of Workers) is aligned with Understanding the Needs and Expectation of Workers and Other Interested Parties (Clause 4.2 of ISO 45001:2018). This comprises mapped elements (Elements 3.2.1 and 3.2.3) of Guidelines (2001) on the need for an organisation to conduct training needs analysis for workers with the identification of relevant training, evaluation and review of training programme. It is necessary to verify the mandatory training requirements of stakeholders (e.g. contractors), where applicable. In addition to the enhancements to update the requirements of Guidelines (2001) and to promote good WSH practices, this guide also includes the identification of common hazards in the metalworking industry and the recommended risk control measures. Refer to Annex B (Summary of Sections with Elements from Guidelines (2001) and Annex C (Cross-Reference Matrix) of all mapped elements of Guidelines (2001) onto this set of guidelines.

1.3 Overview of ISO45001 Process*

The WSHMS in ISO 45001:2018 is based on the concept of Plan-Do-Check-Act (PDCA). Organisations are required to maintain and retain documented information of their efforts to align to the WSHMS requirements as evidence. The relevant contents based on the clauses are as follow:

- Context of the organisation (Clause 4)
- Leadership and worker participation (Clause 5)
- Planning (Clause 6)
- Support (Clause 7)
- Operation (Clause 8)
- Performance evaluation (Clause 9)
- Improvement (Clause 10)

Note

- This set of guidelines replaces Guidelines on Safety Management System for the Metalworking Industry developed by Metalworking Industry Safety Promotion Committee and Ministry of Manpower's Occupational Safety Department and Occupational Safety & Health (Training & Promotion) Centre, published in July 2001. For further details, refer to SS ISO 45001:2018 document.

- *Source: Online browsing platform: https://www.iso.org/obp/ui/#iso:std:iso:45001:ed-1:v1:en

2. Organisation – Context and Scope

An organisation is driven by people, processes and technology to execute work processes, such as maintaining life cycle of machines which comprise tasks and activities ranging from acquisition, installation, commissioning, operation, maintenance to disposal. In line with the changing working environment, the organisation needs to address internal and external issues that may arise from individual and/or organisational factors to achieve the desired outcomes of the WSHMS. These may include but not limited to social, cultural, structural, policy, competency, technology, legal and economical related issues. Organisations should be aware that workers and/or contractors and suppliers are important human capital resources where their needs and expectations should be considered.

> **Note**
>
> SS ISO 45001:2018 defines workers as comprising top management, managerial and non-managerial personnel. Refer to SS ISO 45001:2018 Annex A: A.4.2 for the detailed specification of the term 'interested parties' and issues that an organisation needs to consider in order to meet the desired outcomes of WSHMS.

2.1 Addressing Issues Faced by Organisation

The guide covers issues ranging from internal issues such as organisational structure, policies, knowledge, competencies and strategic objectives to external issues such as social, cultural, technological and economic aspects of organisation. Organisations should understand the issues faced by workers and/or interested parties and provide possible solutions or measures through: (a) group meetings discussion and (b) WSH promotional programmes/activities, where applicable.

Group meetings

- Motivate workers to participate in the discussion of WSH issues arising from the workplace to improve, promote and review WSH matters. [Element 4.1, 4.2.1]
- Design a clearly defined charter for the WSH committee with prescribed functions, composition of members as well as their roles and responsibilities. [Element 4.2.2]
- Communicate minutes containing key action plans of WSH/sub-group committee meetings to all department heads for information and/or necessary follow-up action. [Elements 4.2.3]
- Disseminate all relevant information in languages understood by workers and contractors through effective communication channels. [Element 4.2.4]
- Understand the WSH issues and follow-up with smaller group meetings e.g. tool-box, sub-committee, working group, innovation team to explore solutions and action plans to specific issues. [Element 4.2.5]

WSH promotional programmes/activities

- Encourage workers and contractors to participate in promotional activities and provide constructive suggestions to improve WSH. [Element 7.2.3]
- Foster a WSH culture based on mutual care and trust for organisations to build a positive working relationship with workforce to prevent ill health and injury at the workplace. [Element 7.1]

An organisation that has open communication will be able to communicate the main objectives of a WSHMS to their workers effectively. (Refer to Clause 4.1 of SS ISO 45001:2018 for more details on these issues faced by organisation).

2.2 Managing Expectations of Workers

Prior to the planning of the WSHMS for workers, an organisation should determine who are the relevant interested parties involved. Before understanding the needs and expectations of workers and interested parties, the organisation should assess whether these needs are mandatory and required by legislation. For instance, collective agreements by unions that are in line with workplace practices should be considered. Other non-mandatory needs and expectations e.g. voluntary initiative may be adopted in establishing the WSHMS.

The needs arising from workers and organisational may include the followings:

WSH training

Conduct a training needs analysis for workers and contractors (under the purview of contractors' employers) to identify mandatory and other suitable training where applicable. Training programmes should subsequently be evaluated and reviewed to ensure relevancy. [Elements 3.1, 3.2.1, 3.2.3]

In-house WSH rules and regulations

Following an industry consultation, ensure a collective agreement by union or workers' representative is reached in formulating WSH rules and regulations for the planning process, before an endorsement by top management as acceptable workplace practices. [Elements 6.1, 6.2.3]

2.3 Scope of Workplace Safety and Health Management System (WSHMS)

In setting the scope of the WSHMS, the organisation should consider the following:

- Circle of influence such as the limitations of equipment and process where the WSHMS is applicable for the wide array of activities, products and services that may have implications on an organisation's WSH performance which is in line with legal and other requirements.
- Individual business units or divisions in view of their specific nature, functions, risks and constraints of these units.
- Harnessing new or existing technology, where applicable, for the business units and/or safe work procedures while enhancing productivity for the organisation.

Management of hazardous substances

Organisation may need to establish a Management of Hazardous Chemicals Programme (refer to WSH guidelines in References) when using chemicals during machining where dust, fumes, mists, vapours and/or aerosol may be emitted.

The programme should include the following:

- Establish a set of procedures on the control e.g. receipt, issuance, procurement, storage, safe use such as the use of relevant PPE for workers, transportation, classification, labelling and disposal of hazardous substances. [Element 12.1]
- Provide designated storage with labelling according to Safety Data Sheets, and segregate hazardous chemicals from incompatible substances to prevent a possible chemical reaction e.g. chemical storage cabinets for small quantities of chemicals with physical barrier from incompatible materials. Bulk chemicals in drums or tanks should be equipped with secondary containment. Preventive or protective measures should include the identification of high-risk processes and the incompatible materials that may lead to potential hazardous combinations and/or conditions. [Elements 12.2.1, 12.2.2]
- Nominate a competent person responsible for the periodic audit based on the register or list of hazardous substances/chemicals in the workplace. [Element 12.2.1]
- Liaise with other agencies where necessary for compliance with the respective legislative requirements. These include spill prevention, containment and disposal procedures as well as related hazard communication training and documentation. [Elements 12.2.3, 12.2.4]
- Implement hierarchy of controls to eliminate or mitigate the risks in handling of machining fluids during machine operation.

Use of technology

Explore the use of technology e.g. virtual reality, augmented reality or other online simulation tools for an interactive and dynamic learning environment, as part of the new addition or periodic review of WSH training programme. [Elements 3.1, 3.2.6, 3.2.8]

2.4 Strategic WSHMS

The organisation should ensure that processes are planned, implemented and reviewed according to the strategic objectives to achieve desired outcomes:

- Adopt the PDCA methodology with the provision of continual improvement to the WSHMS.
- Allow the flexibility or portability of the implemented policies and developed processes across other business units or parts of organisation where applicable, for consistency and sharing of good practices.

For example, the PDCA approach can be applied to Contractor Safety Management [Element 8] in evaluating the effectiveness of the system with identification of the WSH gaps in the implementation of the action plans to achieve WSH objectives. PDCA is a control mechanism to be used for engagement of contractors for future work. [Element 8.2.8]

The PDCA approach is applicable as follows:

- Plan – Ensure the contractual agreement for contractor safety management comprises evaluation, selection and control of contractors comply with organisation rules, regulations and legal requirements. For instance, there should be a pre-approved list of contractors for major or specialised work. New contractors who are not in this list should be subjected to an evaluation and selection process. [Elements 8.1, 8.2.3, 8.2.4]
- Do – Conduct hazard analysis and risk management on work activities. This comprises a joint audit inspection with contractors and senior management, unannounced audits, or spot-checks on housekeeping, unsafe acts and unsafe conditions. [Elements 9.1, 11.1, 11.2.3, 9.2.4, 9.2.5]
- Check – Conduct checks to ensure only approved tools and equipment with certification marks are used at the workplace. [Elements 9.2.5, 8.2.9]
- Act – Follow up on audit findings [Element 9.2.6] to review documents and records for effectiveness. [Elements 15.1, 15.2.3]

Explore the use of measures such as a demerit point system for non-conformance of WSH rules and regulations, as well as a reward and recognition scheme e.g. incentives, rewards for exemplary WSH performance [Elements 6.1, 6.2.2]. These should be aligned to a consequence management process (this is a voluntary initiative, please refer to Annex F for more details), where applicable.

3. Leadership with Workers Involvement

The success of an organisation starts from top management leadership with the involvement of workers in the participation of WSHMS activities. The organisation demonstrates top management's leadership through management commitment, WSH policy, organisational structure as well as having a consultation with workers. The commitment to eliminate hazards and to reduce WSH risks is a total effort that involves everyone in the organisation.

3.1 Management Commitment

Management needs to be actively involved throughout the various stages of the WSHMS to ensure the safety and health of workers are considered, this includes but is not limited to the following (Refer to SS ISO 45001:2018 for details):

WSH culture and commitment

- Inculcate a "no-blame" culture that focus on desired outcomes.
- Adopt a zero-tolerance approach for unsafe acts and conditions based on WSH consequence management process, where applicable.
- Ensure WSHMS forms an integral part of the organisation's business, with the sharing of good WSH practices to enhance safety and productivity e.g. demerit point system, reward and recognition scheme. [Elements 8.1, 8.2.8, 6.1, 6.2.2]
- Encourage workers to report incidents, hazards, risks and opportunities without workers feeling threatened or reprimanded.
- Support of WSH promotional programmes and activities to drive the message that workers should take ownership of their safety and health and ensure all accidents are preventable. [Elements 7.1, 7.2.1]
- Develop reward system to encourage safety improvements and WSH ownership and be present to reward workers for good WSH performance. [Element 7.2.4]
- Set up of a process to review operating procedures and revision of documents prior to distribution to workers. [Elements 15.1, 15.2.5]

Top management leadership

- Conduct regular factory walkabout to address shop floor related WSH issues and concerns, if any, and to provide solutions, where applicable.
- Organise and lead town hall or dialogue sessions as part of an effective communication strategy.
- Chair apex (topmost level) WSH Committee Meetings for setting strategic direction on WSH and related matters.

3.2 WSH Policy

The WSH policy sets out the strategic objectives and directions to prevent work-related injury and ill-health to the workforce, comprising workers, supervisors, managers, contractors and other interested parties. Endorsement of the WSH policy by top management e.g. Chief Executive, Site Director, Principal with a commitment to set up a safe and healthy workplace. [Elements 1.1, 1.2.3]

Key features of the WSH policy to illustrate management commitment include:

- Formulation of the WSH policy must be in line with WSHMS strategy based on the context and scope of the organisation. This also involves setting out clear roles and responsibilities of the workplace in ensuring a safe workplace. [Element 1.2.1]
- Ensure contents of the policy are understood by workers and contractors before implementation. [Element 1.2.4]
- Display WSH policy, incident statistics/trends, WSH bulletins and related information as a form of communication or publicity tool, e.g. posters, signs, pictograms, case studies with learning points placed at various strategic workplace locations such as the reception, cafeteria, workers' rest area or department's bulletin board. [Elements 1.2.4, 7.1, 7.2.2a, 7.2.2b, 7.2.2c, 7.2.2i]
- Review regularly with updates on the review date followed by documentation of revised information. [Element 1.2.5]

3.3 Organisational Roles and Responsibilities

The organisational chart displays the reporting or relationship hierarchy and should consist of a clear structure with defined roles, responsibilities and authority, applicable to the business units' functions of the manufacturing value chain of activities. [Elements 1.1, 1.2.2]

Workers should be empowered with the responsibility and authority in their respective areas of work, with the overall accountability for the functioning of the WSHMS with the top management.

Department heads should report on the WSHMS performance based on (non-exhaustive):

- Relevancy e.g. WSH policy, Safe Work Procedures, WSH rules and regulations.
- Adequacy e.g. checklists, evacuation drills and training.
- Timeliness e.g. completion of WSH projects/programmes, follow-ups on audit findings/action items.
- Rigour and robustness e.g. contractor safety management, maintenance regime.

3.4 Consultation with Workers

To demonstrate leadership in management of the workforce, the organisation needs to seek workers' inputs for the development of work processes. The following are some ways which the organisation can adopt:

WSH rules and regulations

- Establish WSH rules and regulations for workers and contractors based on their roles and responsibilities, in line with relevant Singapore Standards, Code of Practices and WSH industry practice. [Elements 6.1, 6.2.1]
- Ensure organisational WSH rules and regulations are relevant and effective through periodic review and consultation with workers or workers' representatives, including employees' union, where applicable. [Element 6.2.3, 6.2.6]
- Ensure top management endorses WSH rules and regulations prior to implementation for compliance. [Elements 6.2.3, 6.2.5]
- Communicate effectively and ensure its availability to workers and contractors. [Elements 6.2.3, 6.2.4]
- Involve workers on safety observations to identify safe and unsafe acts in the work processes at the workplace. [Element 9.2.2]

Group meetings

- Align with WSH (WSH Committee) Regulations on the formation of WSH committee, where applicable, with clearly defined functions and duties comprising members and the team composition. [Element 4.2.2]
- Engage a small group of workers to share WSH information from the main WSH Committee. This forms the feedback gathering process to enhance communication and to promote worker participation in WSH activities. [Elements 4.1, 4.2.5.1, 4.2.5.2]
- Support the formation of WSH improvement/innovation teams (formerly known as Safety Improvement Teams) by management with incentives for exemplary team performance under a rewards and recognition scheme. [Elements 4.2.5.3, 7.2.2h]
- Conduct tool-box meetings or dialogue sessions in workers' native language with the assistance of a translator, where necessary.
- Identify barriers which may affect workers' participation and remove or minimise these barriers, where possible.

Other mechanisms may include:

- Involve relevant workers in the following:

    - Cycle of the Management of Change (MOC) to review changes or modifications e.g. manufacturing conditions, process equipment, introduction of new materials. For instance, introduce heat acclimatisation programme for workers moving into hot working environments as management of change. (Refer to Section 6.2 of WSH Guidelines on Managing Heat Stress in the Workplace). MOC may include but is not limited to Safe Work Procedures, Safety Rules and Regulations, Risk Assessment, Maintenance Regime and Management of Hazardous Substances and Emergency Preparedness and Response Plan.
    - Analysis of incident reports on the findings, trends and follow-up actions. The outcomes of such analysis can help determine the effectiveness of the control measures which can be used for planning of WSH promotional activities to reinforce the WSH mindset, e.g. WSH talks/seminars/campaign with issuance of WSH handbooks/guides and screening of relevant WSH videos. [Elements 5.1, 5.2.6, 7.1, 7.2.2d, 7.2.2e, 7.2.2g]

- Empower workers and supervisors to ensure that appointed competent persons are employed for the operation and preventive maintenance of equipment or machines, are conducted in accordance with manufacturers' guidelines. [Elements 10.1, 10.2.1, 10.2.3]
- Management to support continual improvement of the WSHMS through periodic reviews to evaluate relevancy and effectiveness e.g. risk control measures, WSH audits, document review and corrective actions. [Elements 10.2.2, 15.1,15.2.6]

4. Work Processes Planning

The organisation is required to plan the work processes and implement the planned actions safely to ensure the WSHMS achieves its desired outcomes. Based on the organisation's context and scope, risk management is done to address the WSH risks and opportunities in line with statutory and other requirements. Hierarchy of controls is one method to determine the appropriate risk control measures for the identified hazards in mitigating the risks. (Refer to Annex D: Common Hazards in the Metalworking Industry and Annex E: Hierarchy of Controls and Suggested Risk Control Examples).

Planned actions should also include the emergency preparedness and response plan, and the performance of organisation in the emergency evacuation drills and/or table-top scenario-planning exercise as a means to evaluate effectiveness of the risk control measures. (Refer to Para 6.2 Emergency Preparedness and Response Plan for more details).

4.1 Risk Management Plan

Hazard analysis is a proactive process to identify physical, chemical, mechanical, biological, psychosocial, electrical and ergonomic hazards that affect workers in a manufacturing environment. Manufacturing processes should include but not limited to production, assembly, product testing and warehousing. (Refer to SS ISO 45001:2018, Para A.6.1.2.1 for the activities, situations and conditions for risk assessment which includes hazard identification at the planning stage of the WSHMS).

Assessment of WSH risks and opportunities is an ongoing process. The risk management plan should cover day-to-day operations which may include but not limited to Safe Work Procedures, WSH inspection, incident reporting, emergency preparedness and response. The evaluation of the effectiveness of risk controls in mitigating or eliminating the risk is based on the control mechanisms in place. In the event of any identifiable gaps, these should serve as opportunities for organisation to adapt and refine the work processes and/or work environment to enhance the WSHMS. [Elements 2.1, 2.2.1, 9.1, 9.2.5, 9.2.7, 9.2.8, 11.1, 11.2.2, 11.2.3, 14.1, 14.2.5,14.2.6]

Refer to Code of Practice on WSH Risk Management for more details.

For instance, a risk management plan should:

- Establish a formal programme for regular WSH inspections to be carried out by competent workers from the shop floor to conduct hazard analysis for routine and non-routine work activities involving the facilities and equipment in their work areas. This includes the identification of work activities with high-risk levels or risk prioritisation numbers (RPN = Severity x Likelihood) based on the risk matrix. Implement risk control measures and safe work procedures to eliminate and mitigate the risks at the workplace. This will ensure the workers have WSH ownership. [Elements 9.2.1, 9.2.3, 11.2.1]

- Include a well-established maintenance regime programme to ensure operational compliance of plant, equipment and machinery, property, relevancy and adequacy of risk control measures e.g. safe work procedures, checklists, inspection, inspection schedule, maintenance and report. [Elements 10.1, 10.2.1, 10.2.2, 10.2.3, 8.1 and 8.2.10]

The organisation should incorporate relevant Occupational Health (OH) programmes [Elements 13.1, 13.2.1, 13.2.5, 13.2.6] with the appointment of responsible persons to improve the work environment and the well-being of workers. The use of hierarchy of controls protects all workers through mitigation of risk with the implementation of risk control measures. These include:

- Work processes e.g. exposure to hazardous substances: eliminate the use of hazardous substances or substitute with less hazardous substances, where applicable.
- Work environment e.g. noisy machines: modify the work process or equipment using engineering controls such as enclosure and mounting to reduce the noise level.
- Organisational factors e.g. psychosocial due to changes: introduce job rotations or other administrative controls for affected workers to adjust to change(s).
- Personnel factors e.g. WSH competency for the job or task: provide workers with suitable PPE and/or appropriate medical examination, training and education.

OH programmes should include relevant initiatives such as hearing conservation, management of hazardous chemicals, ergonomics, respiratory protection and other good industrial hygiene programmes, where applicable. For instance, in line with Global Harmonised System, the organisation should introduce precautionary measures as Safe Work Procedures (SWP) on the safe use, handling, transport, storage, classification, labelling and disposal of related chemicals or hazardous substances. All Safety Data Sheets should be available for the chemicals used, handled or stored. Responsible and competent persons, including trained first-aiders, should also be appointed to improve the work environment and the well-being of workers. The roles and responsibilities of all workers, including management should be clearly defined to ensure that the OH programmes will be effectively implemented. [Elements 13.2.2, 13.2.3, 13.2.4]

Planning of work processes should include the possibility of the integration of WSHMS into other business units' functions such as human resource and finance for sharing of good practices to address other WSH risks, where applicable. It also applies to in-house WSH promotional activities with participation by workers and/or contractors and activities outside of the organisation e.g. outdoor events or offsite meetings. [Elements 7.1, 7.2.1]

As part of hiring, workers should be asked to declare any pre-existing illnesses which may affect their work e.g. allergic reactions from contact with specific chemicals or air/dust particles. Risk assessments should include administrative risk controls such as scheduling of duty roster with job rotation to reduce or eliminate exposure to the identified hazards or time spent on the specific task that may lead to the hazard.

Communication of plan involves the sharing of follow-up actions, findings and recommendations in relation to relevant legislative and other requirements, including emergency preparedness and response plan in order to prepare workers and stakeholders on the awareness and compliance. [Elements 5.1, 5.2.4, 9.2.6, 14.2.4]

4.2 WSH Objectives with Achievable Plans

In line with the organisation's WSH policy, WSH objectives used in the planning of work processes should be specific and relevant to the work or issue(s). Prior to defining the WSH objectives, outcomes on the assessment of the risks and opportunities as well as the consultation with workers/workers' representatives and stakeholders e.g. contractors should be incorporated to ensure an achievement of common goals for WSHMS with a provision for continual improvement of WSH performance.

The WSH objectives set the direction of organisation for alignment to WSH policy through monitoring of the work processes. The objectives should be linked to WSH performance with accountability within department heads of business units, and may include the following features:

* Implement strategic, measurable and achievable goals with a time frame within organisational constraints e.g. manpower, time, budget, equipment and infrastructure.
* Ensure a WSH review mechanism is integrated into the organisation's business for refinement of measurement indicators. This can be quantitative and/or qualitative via surveys or observation. Worker's mental well-being should also be considered.
* Maintain and retain documented information e.g. strategic plan and actions.
* Implement a communication plan to include relevant information e.g. findings, corrective actions, changes and deviations which should be available and accessible to workers and relevant interested parties.

[All 15 elements]

5. Management Support

One of the success factors of the WSHMS requires the top management, including contractors to provide the necessary support in leading the organisation and promoting a WSH culture towards the strategic objectives of the WSH policy.

5.1 Resource Allocation

In line with the context and scope of the organisation, resources are required for the operation of the business units or work processes. Adequate resources need to be allocated. This includes human resource, finance, technology and infrastructure such as building, facilities, equipment, inter-related systems and processes. Support of the organisation is also required in additional areas such as workers' mental well-being, reporting of near misses and harnessing of technology in work processes. [Element 4.1]

For instance, organisation involves worker participation in the following as follows:

• Evaluate the effectiveness of the WSHMS, audit findings and disseminate outcome of review to respective departments to ensure corrective actions are implemented promptly. [Elements 15.1, 15.2.6]

5.2 Skills and Knowledge of Workers

The skills and knowledge of workers and contractors attained from the training and qualifications can have implications on the WSH performance of an organisation. The skillsets attained and experience gained will impact hazard analysis, evaluation of risks and implementation of the risk control measures for tasks and/or WSH related issues.

WSH training

• Ensure workers (including supervisors/managers) are adequately trained with required skills and knowledge. They should attend mandatory training courses required under WSH Act and its subsidiary legislations, including the Factories (Safety Training Courses) Order, to perform the work safely and competently. [Elements 3.1, 3.2.3, 3.2.4]
• Establish a comprehensive training program with learning outcomes to address identified training needs of workers and contractors in Section 2.2, as follows [Elements 3.2.1, 3.2.2]:

  - Organise induction, orientation, familiarisation training and on-the-job training for new workers including contractors entering workplace to work for the first time. [Elements 3.2.5, 8.2.5]
  - Conduct specific trainings such as auditing, incident reporting, equipment, contractor briefing/training and behavioural safety. [Element 3.2.2]

- Provide refresher/retraining where required in line with statutory requirements e.g. occupational first-aid and mobile elevated work platforms (MEWPs). [Element 3.2.3]
- Ensure training is conducted in a language understood by workers. [Element 3.2.6]
- Document all training records e.g. date, type of training, training provider and results achieved. [Element 3.2.7]
- Review all WSH training programmes periodically. [Element 3.2.8]

5.3 Informed Workforce

Management should ensure all workers are informed and aware on WSH matters for common alignment to WSH objectives of WSHMS. These include:

- Workers are aware of their individual roles and responsibilities as defined in the WSH policy and reporting structure in the organisation chart. [Elements 1.1, 1.2.2]
- Workers to understand individual contributions to WSH performance of WSHMS e.g. outcomes and/or actions from incident investigations, risk assessments, WSH audits, tangible and intangible benefits of total efforts as well as the effects and consequences for non-conformance.
- Workers to abstain from situations with imminent danger to their health and safety with understanding that there should be support from management for such action.
- Workers' participation in WSH promotional activities to be aware of issues faced by organisation and what are the solutions and/or suggestions adopted to resolve these issues. [Elements 7.1, 7.2.3]

5.4 WSH Communication

Communication is a key process in the dissemination of WSH matters relating to WSHMS for continual improvement. The organisation needs to consider the situations involving worker participation on the diversity of views. Other stakeholders such as contractors, workers' representatives, and visitors should be part of the two-way communication process. The following details internal and external communications:

Internal:

- Provide suitable communication platforms which may include:

  - Meetings on WSH issues to brainstorm on solutions or risk control measures with a review mechanism. [Elements 4.1, 4.2.1]
  - Site feedback sessions for suggestions to eliminate hazards and to improve WSH. [Elements 7.1, 7.2.3]

- Record all minutes in the WSH/sub-group committee meetings and communicate to all department heads for information and/or necessary action. [Element 4.2.3]

- Ensure the emergency preparedness and response plan include documentation and effective communication of emergency matters e.g. procedures, drills and performances, training to all workers at the workplace. [Elements 14.1, 14.2.4, 14.2.5]
- Ensure Safe Work Procedures are written in an easy-to-understand format, are accessible and effectively communicated to all workers and contractors through briefings e.g. tool-box meetings and training. Briefings are necessary prior to the commencement of any new area/ item of work at the workplace. This is important especially if there are new hazards due to the changes or new additions. [Elements 2.1, 2.2.3, 4.2.4, 4.2.5.2, 8.1, 8.2.6]

External:

- Provide suitable communication platforms which may include:

  - Ensure the emergency preparedness and response plan includes a means of communication with the relevant agencies, as part of the external communication to align with statutory and legal requirements. [Element 14.2.3f]
  - Establish effective communication channels to update contractors of relevant WSH information and/or changes e.g. WSH rules and regulations, issues from WSH meetings related to existing WSHMS. [Elements 4.2.4, 6.1, 6.2.4, 8.2.7]

5.5 Documentation of WSH Information

WSH documents include but are not limited to checklists, procedures, rules and regulations, work processes, notes of meetings, incident and inspection report, records of training and certification, promotional activities, WSH performance, audits and results and risk assessment forms. These information are the evidence of work and actions carried out as planned which are required for WSHMS. [All elements]

These documented information should be properly stored and easily retrievable. Organisations should note the following:

Document features and control

- Ensure all relevant documents are maintained and updated with controlled referenced numbers, the date of issue, descriptive titles and authorised signatories. [Elements 15.1, 15.2.1, 15.2.5]
- Ensure a master list is established for the record of controlled documents and their distribution, where applicable. [Element 15.2.2]
- Ensure documents are available for use and protected from misuse especially for information with confidentiality matters. [Element 15.2.3]
- Ensure revision to documents are properly recorded and authorised by management prior to distribution. As part of control, it should come with the date of review, version number and the change details. Remove promptly all obsolete, invalid and cancelled documents from its point of use. [Element 15.2.4]

A minimum retention period must be set as stipulated by the WSH Act and its subsidiary legislations. In addition, all obsolete, invalid or cancelled documents should be retained for specified periods, in line with legislative requirements where applicable.

6. Operational Implementation

The organisation needs to ensure the planned actions for the work processes in Section 4 with the criteria and control mechanism are implemented in accordance with WSHMS requirements. The key objective is to enhance WSH by eliminating all the hazards at the workplace. In cases where this is not practicable, it is the organisation's prerogative to reduce WSH risks to levels as low as reasonably practicable with workers' participation.

Refer to A.8.1.1 SS ISO 45001:2018 on the examples of the operational control of the processes.

6.1 Planning and Controlling

The organisation is required to ensure that workers and contractors including contract and outsourced personnel as well as other interested parties, perform work activities on site, according to plan and the control mechanism as follows:

- Incorporate specifications in the evaluation, selection and control criteria of contractors/ sub-contractors:

  - The tools and equipment to be used by contractors need to be type-approved and/or certified for use, prior to awarding any work. Contractors' work preparation and experience in the work or tasks allocated need to comply with WSH rules and regulations at the workplace. [Elements 8.1, 8.2.1, 8.2.2, 8.2.9, 6.2.2, 6.2.5]
  - Allow safe and credible contractors with credentials (e.g. WSH performance indicators, bizSAFE certification, credibility and other WSH records) at the workplace. [Elements 8.2.2, 8.2.3]

- Conduct preventive and predictive maintenance for all tools, equipment (including statutory), machines/machinery and electrical installations used in the workplace to ensure its reliability in accordance with the risk management plan. This prevents incident occurrences due to possible failure or malfunction of these tools, equipment, machines/machinery and electrical installations. [Element 10.1]

Appoint a competent and qualified person to implement the effective maintenance regime programme based on the following components [Elements 10.2.1, 10.2.2, 10.2.3]:

- Have a master checklist of all hand tools, plant, machines/machinery, equipment and electrical installations.
- Ensure that the inspection and maintenance schedule include the responsibilities of inspection team members and relevant follow-up inspections.
- Ensure inspection checklists include instructions, where applicable, for specific items to be inspected.
- Forward inspection reports to relevant supervisors and/or managers for immediate corrective actions.
- Review and evaluate the operational compliance and adequacy of the checklists at least once yearly by management.

Elimination of hazards and reducing WSH risks

This may include but not limited to the following:

- Establish a set of systematic risk management procedures on the identification, evaluation and control of hazards at the workplace. Refer to Annex D: Common Hazards in the Metalworking Industry. [Element 11.1]
- Formalise the outcomes of job hazard analysis or risk assessment, where applicable, into specific SWPs related to work processes, facilities, electrical installations, tools, equipment and machinery for routine and non-routine activities performed by workers and contractors. [Elements 2.2.5, 11.2.1]
- Ensure the SWP address all potential energies that may be stored or released during work and/or present in the work process. Ensure these hazardous energy sources cannot be restored unexpectedly or accidentally during repair and maintenance work. [Element 2.2.6]
- Review and evaluate all safe work procedures regularly to ensure its relevance and effectiveness. [Element 2.2.4]
- Establish that lock-out tag-out procedures for implementation during inspection, cleaning, repair and maintenance of machine/equipment/electrical installations, are in line with statutory requirements. This ensures all hazardous energy sources cannot be restored unexpectedly or accidentally during repair and maintenance work. [Element 2.2.7]
- Evaluate the possible risks and the effectiveness of risk control measures for various probable workplace scenarios are aligned with Code of Practice on WSH Risk Management. [Element 11.2.2]
- Determine if additional risk control measures or safe work procedures e.g. permit-to-work system are to be established for hazardous work and/or work processes which may include works at height or working in confined spaces involving hot work. [Elements 2.2.2, 2.2.8]

Refer to Section 4.1 on the risk management plan as well as Annex E on the hierarchy of controls and suggested risk control examples.

Management of change

The organisation should include control mechanism to cater for organisational changes (both temporary and permanent) which may include but not limited to:

- Workflow, processes, equipment, workforce e.g. training, staff/new staff, technology, new product/service and work environment.

Management of change procedures should include a review of hazard analysis, safe work procedures, maintenance regime as well as WSH rules and regulations to ensure minimal implication to the WSHMS desired outcomes. [Elements 2.2.9, 11.2.3]

6.2 Emergency Preparedness and Response Plan

The organisation should plan for events occur by natural causes as well as man-made causes. This can be in the form of exercises and drills as part of gauging readiness of the workforce for emergency needs.

- Establish a written response plan to mitigate consequences arising from potential emergency situations. This is to allow workers to be familiarised and prepared with the response procedures in the event of an emergency. The response plan should be constantly reviewed and updated. [Elements 14.1, 14.2.1, 7.1, 7.2.2f]
- Identify the potential emergency situations to plan for the response with the inputs of workers and interested parties e.g. contractors to cater to their needs at each level of the organisation. [Element 14.2.1]
- Incorporate in the emergency response plan the following emergency situations (non-exhaustive) [Element 14.2.2], [Element 12.2.4 - indicated incorrectly as 12.2.3 in Guidelines (2001)]:

  - Fire and explosion
  - Toxic gas leakage
  - Chemical spill
  - Failure and collapse of structure

- Include emergency response equipment e.g. first-aid, Automated External Defibrillator, emergency shower, eyewash, firefighting and rescue.
- Ensure the emergency response plan includes [Element 14.2.3] (i) formation of Company Emergency Response Team (CERT) comprising of the required number of members with the composition and the roles to perform evacuation procedures, including rescue and first-aid; (ii) procedures for notification and raising of alarms; (iii) communication with other relevant government agencies. Refer to SCDF's Evacuation Planning Guidelines (2018) for details.
- Ensure proper documentation of the emergency response plan information. The information should be communicated to all workers. [Elements 12.1, 12.2.3, 14.2.4]
- Establish a training programme with the evacuation drills and exercises for workers and CERT to prepare for prompt response in an emergency in line with Fire Safety (Emergency Response Plan) Regulations. [Elements 12.2.3, 14.2.5]
- Evaluate the planned response after occurrence of each emergency situation. [Element 14.2.6]

7. Evaluation of Organisational Performance

The organisation is required to ensure various work processes are inter-related and integral to the business in line with the desired outcomes of the WSHMS. These include fulfilling the statutory requirements and other requirements (e.g. Fire Safety Act, Environmental Public Health Act) as well as addressing the needs and expectations of workers and other interested parties.

7.1 WSH Performance and Indicators

Assessment of the WSH performance indicators can be done through behavioural observation, monitoring, measurement and analysis of documented information e.g. data, trends, findings, corrective actions and other records to ensure conformance to WSHMS objectives.

An organisation is required to:

- Ensure the reliability of the monitoring and measuring equipment through testing, inspection, calibration and certification as required by the manufacturer and/or maintenance schedule as well as statutory requirements, where applicable. [Element 10.1]
- Introduce relevant training e.g. risk management, behavioural observation and intervention workshop as part of training programme for supervisors and/or managers to fulfil the need for assessment of WSH performance. [Elements 3.1, 3.2.4]
- Determine a set of assessment criteria e.g. relevancy, adequacy, timeliness, rigour and robustness on the processes under WSHMS, to ensure compliance with corrective actions for non-conformities. This is to facilitate the reporting of the organisation's WSH performance. [All 15 elements]
- Communicate the results of WSH performance and/or indicators to workers and stakeholders. [All 15 elements]

7.2 Audit

Audits are processes, both conducted internally and externally, to ensure organisations conform to the WSH policy and objectives. The audit programme ascertains a fair and effective implementation and maintenance of the action plans. The selection of the internal auditors/competent persons should be objective and impartial without any biasness.

Refer to para 9.2.2, SS ISO 45001:2018 for details on the components of the internal audit programme.

- Ensure there is a system of document control for proper storage and retrieval of documented information or records for review during the internal audit process. [Element 15.1]
- Conduct internal audits at scheduled intervals based on audit criteria in line with all action plans to be implemented and maintained with a review process in place. A third party or external auditor is engaged in line with statutory requirements WSH (Safety and Health Management System and Auditing) Regulations. [Element 15.2.6]

7.3 Review of WSHMS

A review of organisational WSHMS should be done at scheduled intervals or on a need basis to ensure it fulfils the assessment criteria in Section 7.1 on WSH performance and indicators. Unless otherwise specified, the scheduled intervals for review of organisational WSHMS should not exceed 12 months.

The review should address the overall direction of an organisation in line with the strategic WSH objectives where all work processes are inter-related and integral to the organisation's business. This ensures the adequacy of resources to support WSHMS, the effectiveness of risk control measures and the communication plan on the outcomes of review. [Elements 2.1, 2.2.4, 15.1,15.2.6]

Top management should lead the review which may include but not limited to the following considerations:

- Follow through from the previous reports or management reviews on the effectiveness of the recommendations and corrective actions. [Elements 11.1, 11.2.3, 15.1,15.2.3]
- Examine response to the organisation's needs and expectations which may arise from external influences such as changes to statutory and legal requirements or presence of new WSH risks and opportunities. [Elements 13.1, 13.2.6]
- Incorporate relevant information on WSH performance and/or trends, such as incidents, non-conformities, corrective actions, monitoring, measurement indicators, audit results, feedback or inputs from worker participation, new technology and knowledge on hazards and risk assessment. This information provides continual improvement and is useful in the evaluation of the effectiveness of WSHMS. [Element 15.2.1]
- Identify risks and opportunities for continual improvement and address identified WSH gaps e.g. derived from outcomes of MOC cycle, incident investigation, WSH inspections/audits in the WSHMS.
- Communicate effectively the outcomes and recommendations of the review to all workers and workers' representatives.

[All 15 elements]

8. Work Processes Improvement

The organisation determines the WSH opportunities for continual improvement to the work processes and procedures and to implement necessary actions to achieve desired outcomes of the WSHMS.

8.1 Corrective Actions for Non-conformities

Ensure the procedures in reporting and investigating all workplace incidents, including near-misses with corrective actions on nonconformities are carried out promptly and effectively to prevent recurrence. [Element 5.1]

This may include but not limited to the following procedures:

- Ensure reporting of incidents are done in accordance with the updated WSH (Incident Reporting Regulations. [Element 5.2.1]
- Form an investigation team that comprises workers and other interested parties with different expertise to determine the root cause of the incident and provide recommended corrective actions. [Element 5.2.3]
- Analyse all the investigation statistics e.g. data and trends, to establish a preventive or predictive maintenance programme on identified problematic areas or equipment for prompt action. Integrate the outcomes of the analysis with the follow-up recommendations into other processes such as a WSH promotional planning programme to instil positive WSH mindset for the workforce. [Elements 5.2.6, 7.1, 7.2.2]
- Ensure that the investigative procedures e.g. step-by-step process, checklist and investigation form, are aligned with industry practice to facilitate further investigations by relevant authorities. Refer to WSH Guidelines on Investigating Workplaces Incidents for SMEs. [Element 5.2.2]
- Ensure all recommendations and corrective actions from the investigation are implemented according to the hierarchy of controls and management of change procedure. [Element 5.2.4]
- Review the WSH risk management protocol and effectiveness of risk control measures and corrective actions. [Element 11.2.3]
- Communicate the documented information from the investigation e.g. root causes, corrective actions and lessons learnt, to all workers, contractors and other interested parties. [Element 5.2.5]
- Assess the need to refine the WSHMS, if necessary.

8.2 Continual Improvement Process

A continuous and ongoing process must be in placed to sustain the WSHMS and desired outcomes. This is to ensure that the WSH performance of all business units are constantly improving. The process may include but not limited to the following:

- Review the WSH policy endorsed with leadership and management commitment to meet the strategic WSHMS goals.
- Foster an open WSH culture with active worker participation, including management e.g. supervisors, managers and heads of departments in the implementation of planned actions for work processes.
- Share information e.g. results, audit findings, corrective actions, changes, hazards and risk control measures with workers, workers' representatives where applicable.
- Gather input and feedback from workers through effective communication on areas for improvement and/or areas of concern. This may include addressing workers' errors e.g. slips, lapses and mistakes as well as at-risks behaviours to reinforce safe practices and positive behaviour at the workplace. Organisations may refer to Annex F for a sample of a Consequence Management Process where management conducts inspections to focus on appropriate behaviour and work practices. [Elements 9.1, 9.2.2, 9.2.4]
- Maintain and retain all documented information and relevant records as evidence of continual improvement efforts. [All 15 elements]

9. References

Workplace Safety and Health (WSH) Act and Subsidiary Legislations

- WSH (Safety and Health Management System and Auditing) Regulations
- WSH (Risk Management) Regulations
- WSH (General Provisions) Regulations
- WSH (Incident Reporting) Regulations
- WSH (Noise) Regulations
- Factories (Safety Training Courses) Order

Fire Safety Act

- Fire Safety (Company Emergency Response Team) Regulations
- Fire Safety (Petroleum and Flammable Materials) Regulations

Environmental Public Health Act

- Environmental Public Health (Toxic Industrial Waste) Regulations

Code of Practice /Singapore Standards and International Practice

- Code of Practice on WSH Risk Management
- SS 537: Part 1: 2008 Code of Practice for the Safe Use of Machinery – General Requirements
- SS 571: 2011 Code of Practice for Energy Lockout and Tagout
- SS 603: 2014 Code of Practice for Hazardous Waste Management
- SS 532: 2016 Code of Practice for The Storage of Flammable Liquids
- SS 586: 2014 – Specifications for Hazards Communication for Hazardous Chemicals and Dangerous Goods (Part 1, 2 and 3)
- SS 514: 2016 Code of Practice for office ergonomics
- SS 569: 2011 Code of Practice for manual handling
- SS ISO 10218-1:2016 Robots and robotic devices - Safety requirements for industrial robots, Part 1: Robots
- SS ISO 10218-2:2016 Robots and robotic devices - Safety requirements for industrial robots, Part 2: Robot systems and integration

WSH Guidance Documents

- WSH Guidelines Managing Safety and Health for SMEs in the Metalworking Industry
- WSH Guidelines on Management of Hazardous Chemical Programme
- WSH Guidelines for Hearing Conservation Programme
- WSH Guidelines on Improving Ergonomics in the Workplace
- WSH Guidelines on Safe Use of Machinery
- WSH Guidelines to Behavioural Observation and Intervention
- WSH Guidelines on Investigating Workplace Incidents for SMEs
- WSH Guidelines on Flammable Materials
- WSH Guidelines on Workplace Housekeeping
- WSH Guidelines on Fatigue Management
- WSH Guidelines on Managing Heat Stress in the Workplace
- Guide to Near Miss Reporting
- Guide to Effective Tool-Box Meeting
- ABC Checklist – Safe Electrical Maintenance Work
- ABC Checklist – Working Safely with Non-powered Hand Tools
- ABC Checklist – Working Safely with Machines
- ABC Checklist – Safe Loading of Materials
- ABC Checklist – Safe Storage in Warehouse
- ABC Checklist – Effective Tool-box Meetings
- ABC Checklist – Slips, Trips and Falls
- ABC Checklists – Working Safely At Heights

Others

- SCDF Guidelines for Emergency Response Plan
- SCDF Guidelines for Company Emergency Response Team
- SCDF Guidelines on Evacuation Planning
- SCDF Guidelines on Table-Top Exercise
- Globally Harmonised System (GHS) of Classification and Labelling of Chemicals Singapore – GHS booklet

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Cameron (Singapore) Pte Ltd, A Schlumberger Company	Er Lim Sui Soon (Chairman)
Bedok Safety Group	Mr Vincent Lim
NatSteel Holdings Pte Ltd	Mr Indira Kumar Gunasekaran
Metal Industries Workers' Union	Mr Wee Kia Hiong
Singapore Manufacturing Federation	Mr Chan Hai Kiang
Singapore Precision Engineering and Technology Association	Mr Tony Tan
Ministry of Manpower	Mr Melvin Low
Workplace Safety and Health Council	Mr Geofrey Siaw
	Ms Josephine Loo (Secretariat)

11. Annexes

Annex A: Guidelines on the Implementation of Safety Management System for the Metalworking Industry (July 2001) - Content page

01.   Safety policy & organisation *(WSH Policy)
02.   Safe work procedures
03.   Safety training *(WSH Training)
04.   Group meetings
05.   Accident & incident investigation and analysis
06.   In-house safety rules & regulations *(WSH Rules and Regulations)
07.   Safety promotion *(WSH Promotional Programmes/Activities)
08.   Evaluation, selection and control of contractors *(Contractor Safety Management)
09.   Safety inspection *(WSH Inspection)
10.   Maintenance regime
11.   Hazard analysis *(Risk Management)
12.   Use of hazardous materials *(Management of Hazardous Substances)
13.   Occupational health programme
14.   Emergency preparedness *(Emergency Preparedness and Response Plan)
15.   Document control and review

Note
*(   ): Reference names of elements used in this set of guidelines.

Annex B: Summary of Sections with Elements from Guidelines (2001)

S/No	Sections of this set of guidelines	Elements from Guidelines (2001)
2	**Organisation – Scope and Context**	
2.1	Addressing issues faced by organisation	4.1, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.5.1, 4.2.5.2, 4.2.5.3, 7.1, 7.2.3
2.2	Managing expectations of workers	3.1, 3.2.1, 3.2.3, 6.1, 6.2.3
2.3	Scope of WSHMS	3.1, 3.2.6, 3.2.8, 12.1, 12.2.1, 12.2.1(a), 12.2.1(b), 12.2.1(c), 12.2.1(d), 12.2.1(e), 12.2.2, 12.2.3, #12.2.4
2.4	Strategic WSHMS	6.1, 6.2.2, 8.1, 8.2.3, 8.2.4, 8.2.8, 8.2.9, 9.1, 9.2.4, 9.2.5, 9.2.6, 11.1, 11.2.3, 15.1, 15.2.3
3	**Leadership**	
3.1	Management Commitment	6.1, 6.2.2, 7.1, 7.2.1, 7.2.4, 8.1, 8.2.8, 15.1,15.2.5, 15.2.5(a), 15.2.5(b), 15.2.5(c)
3.2	WSH Policy	1.1, 1.2.1, 1.2.1(a), 1.2.1(b), 1.2.1(c), 1.2.3, 1.2.4, 1.2.5, 7.1, 7.2.2(a),7.2.2(b),7.2.2(c),7.2.2(i)
3.3	Organisational Roles and Responsibilities	1.1, 1.2.2
3.4	Consultation with workers	4.1, 4.2.2, 4.2.5, 4.2.5.1, 4.2.5.2, 4.2.5.3, 5.1, 5.2.6, 6.1, 6.2.1, 6.2.3, 6.2.4, 6.2.5, 6.2.6, 7.1, 7.2.2(d), 7.2.2(e), 7.2.2(g), 7.2.2(h), 9.2.2, 10.1, 10.2.1, 10.2.1(a), 10.2.1(b), 10.2.1(c), 10.2.1(d), 10.2.2, 10.2.3, 15.1, 15.2.6, 15.2.6(a), 15.2.6(b), 15.2.6(c), 15.2.6(d), 15.2.6(e)
4	**Work Processes Planning**	
4.1	Risk Management Plan	2.1, 2.2.1, 5.1, 5.2.4, 7.1, 7.2.1, 8.1, 8.2.10, 9.1, 9.2.1, 9.2.3, 9.2.5, 9.2.6, 9.2.7, 9.2.8,10.1, 10.2.1, 10.2.1(a), 10.2.1(b), 10.2.1(c), 10.2.1(d), 10.2.2, 10.2.3, 11.1, 11.2.1, 11.2.2, 11.2.2(a), 11.2.2(b), 11.2.2(c), 11.2.2(d), 11.2.2(e),11.2.3, 13.1.13.2.1, 13.2.2, 13.2.3, 13.2.4, 13.2.5, 13.2.6, 14.1, 14.2.4, 14.2.5, 14.2.6

S/No	Sections of this set of guidelines	Elements from Guidelines (2001)
*4.2	WSH Objectives with Achievable Plans	All 15 elements
5	**Management Support**	
5.1	Resource Allocation	4.1,15.1, 15.2.6, 15.2.6(a), 15.2.6(b), 15.2.6(c), 15.2.6 (d), 15.2.6(e)
5.2	Skills and Knowledge of Workers	3.1, 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3,2,5, 3,2,6, 3.2.7, 3.2.8, 8.1, 8.2.5
5.3	Informed Workforce	1.1, 1.2.2, 7.1, 7.2.3
5.4	WSH Communication	2.1, 2.2.3, 4.1, 4.2.1, 4.2.3, 4.2.4, 4.2.5.2, 6.1, 6.2.4, 7.1, 7.2.3, 8.1, 8.2.6, 8.2.7, 14.1, 14.2.3(f), 14.2.4, 14.2.5
*5.5	Documentation of WSH Information	All 15 elements including 15.1, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5, 15.2.5(a), 15.2.5(b), 15.2.5(c), 15.2.5(d), 15.2.5(e)
6	**Operational Implementation**	
6.1	Planning and Controlling	2.1 ,2.2.2, 2.2.4, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 2.2.9, 6.1, 6.2.2, 6.2.5, 8.1, 8.2.1, 8.2.2, 8.2.3, 8.2.9, 10.1, 10.2.1, 10.2.1(a), 10.2.1(b), 10.2.1(c), 10.2.1(d), 10.2.2, 10.2.3, 11.1, 11.2.1, 11.2.2, 11.2.2(a), 11.2.2(b), 11.2.2(c), 11.2.2(d), 11.2.2(e), 11.2.3
6.2	Emergency Preparedness And Response Plan	7.1, 7.2.2(f), 12.1, 12.2.3, #12.2.4, 14.1, 14.2.1, 14.2.1(a), 14.2.1(b), 14.2.1(c), 14.2.2, 14.2.2(a), 14.2.2(b), 14.2.2(c), 14.2.2(d), 14.2.3, 14.2.3(a), 14.2.3(b), 14.2.3(c), 14.2.3(d), 14.2.3(e), 14.2.3(f), 14.2.4, 14.2.5, 14.2.6
7	**Evaluation of Organisational Performance**	
*7.1	WSH Performance and Indicators	All 15 elements including 3.1, 3.2.4, 10.1
7.2	Audit	15.1, 15.2.6, 15.2.6(a), 15.2.6(b), 15.2.6(c), 15.2.6(d), 15.2.6(e)

S/No	Sections of this set of guidelines	Elements from Guidelines (2001)
*7.3	Review of WSHMS	All 15 elements including 2.1, 2.2.4, 11.1, 11.2.3, 13.1, 13.2.6, 15.1, 15.2.1, 15.2.3, 15.2.6, 15.2.6(a), 15.2.6(b), 15.2.6(c), 15.2.6(d), 15.2.6(e)
8	**Work Processes Improvement**	
8.1	Corrective Actions for Nonconformities	5.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 7.1, 7.2.2, 7.2.2(a), 7.2.2(b), 7.2.2(c), 7.2.2(d), 7.2.2(e), 7.2.2(f), 7.2.2(g), 7.2.2(h), 7.2.2(i), 11.2.3
*8.2	Continual Improvement Process	All 15 elements including 9.1, 9.2.2, 9.2.4

Note

*Relevant Sections involve All 15 Elements of Guidelines (2001).
#Typo error in Guidelines (2001) printed as 12.2.3.

Annex C: Cross-Reference Matrix

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
Sections of this set of guidelines with reference to SS ISO 45001:2018 framework	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
1																						
1.1						X	X			X			X		X			X		X		X
1.2.1						X																
(a)						X																
(b)						X																
(c)						X																
1.2.2							X						X									
1.2.3						X																
1.2.4						X																
1.2.5						X																
2																						
2.1									X	X				X	X	X		X		X		X
2.2.1									X													
2.2.2																X						

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
2.2.3														X								
2.2.4																X				X		
2.2.5																X						
2.2.6																X						
2.2.7																X						
2.2.8																X						
2.2.9																X						X
3			X																			
3.1		X								X		X			X			X		X		X
3.2.1		X										X										
3.2.2												X										
3.2.3		X										X										
3.2.4												X						X				
3.2.5												X										

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
3.2.6			X									X										
3.2.7												X										
3.2.8			X									X										
4																						
4.1	X							X		X	X			X	X			X		X		X
4.2.1	X													X								
4.2.2	X							X														
4.2.3	X													X								
4.2.4	X													X								X
4.2.5	X							X														
4.2.5.1	X							X														
4.2.5.2	X							X						X								
4.2.5.3	X							X														

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
5	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
5.1										X					X			X		X	X	X
5.2.1																					X	
5.2.2																					X	
5.2.3																					X	
5.2.4									X												X	
5.2.5																					X	
5.2.6								X													X	
6	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
6.1		X		X	X			X		X				X	X	X		X		X		X
6.2.1								X														
6.2.2					X											X						
6.2.3		X						X														
6.2.4								X						X								

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
6.2.5								X								X						
6.2.6								X														
7																						
7.1	X				X	X		X	X	X			X	X	X		X	X		X	X	X
7.2.1					X				X													
7.2.2																					X	
(a)						X															X	
(b)						X															X	
(c)						X															X	
(d)								X													X	
(e)								X													X	
(f)																	X				X	
(g)								X													X	
(h)								X													X	

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implement-ation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
(i)						X															X	
7.2.3	X												X	X								
7.2.4					X																	
8																						
8.1				X	X				X	X		X	X	X	X	X		X		X		X
8.2.1																X						
8.2.2																X						
8.2.3				X												X						
8.2.4				X																		
8.2.5												X										
8.2.6														X								
8.2.7														X								
8.2.8				X	X																	
8.2.9				X												X						

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
8.2.10									X													
9				X					X	X					X			X		X		X
9.1									X													X
9.2.1									X													
9.2.2								X														X
9.2.3									X													
9.2.4				X																		X
9.2.5				X					X													
9.2.6				X					X													
9.2.7									X													
9.2.8									X													
10								X	X	X					X			X		X		X
10.1									X							X						X
10.2.1								X	X							X						

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
(a)								X	X							X						
(b)								X	X							X						
(c)								X	X							X						
(d)								X	X							X						
10.2.2								X	X							X						
10.2.3								X	X							X						
11																						
11.1				X					X	X					X	X		X		X		X
11.2.1									X							X						
11.2.2									X							X						
(a)									X							X						
(b)									X							X						
(c)									X							X						
(d)									X							X						

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
(e)									X							X						
11.2.3				X					X							X				X		
12																						
12.1			X							X					X		X	X		X		X
12.2.1			X																			
(a)			X																			
(b)			X																			
(c)			X																			
(d)			X																			
(e)			X																			
12.2.2			X																			
12.2.3			X														X					
#12.2.4			X														X					

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implement-ation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
13																						
13.1									X	X					X			X		X		X
13.2.1									X													
13.2.2									X													
13.2.3									X													
13.2.4									X													
13.2.5									X													
13.2.6									X											X		
14									X													
14.1									X	X				X	X		X	X		X		X
14.2.1																	X					
(a)																	X					
(b)																	X					
(c)																	X					

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
14																						
14.2.2																	X					
(a)																	X					
(b)																	X					
(c)																	X					
(d)																	X					
14.2.3																	X					
(a)																	X					
(b)																	X					
(c)																	X					
(d)																	X					
(e)																	X					
(f)														X			X					
14.2.4									X					X			X					

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implementation		Evaluation of Organisational Performance			Work Processes Improvement	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
14.2.5									X					X			X					
14.2.6									X								X					
15																						
15.1				X	X			X		X	X				X			X	X	X		X
15.2.1															X					X		
15.2.2															X							
15.2.3				X											X					X		
15.2.4															X							
15.2.5					X										X							
(a)					X										X							
(b)					X										X							
(c)					X										X							
(d)					X										X							
(e)															X							

Sections of this set of guidelines with reference to SS ISO 45001:2018 framework

Elements in ^Guidelines (2001)	Organisation - Context and Scope				Leadership with workers involvement				Work Processes Planning		Management Support					Operational Implement-ation		Evaluation of Organisational Performance			Work Processes Improve-ment	
	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	*4.2	5.1	5.2	5.3	5.4	*5.5	6.1	6.2	*7.1	7.2	*7.3	8.1	*8.2
15																						
15.2.6								X			X								X	X		
(a)								X			X								X	X		
(b)								X			X								X	X		
(c)								X			X								X	X		
(d)								X			X								X	X		
(e)								X			X								X	X		

Note

'x' - Elements of Guidelines (2001) mapped onto SS ISO 45001:2018 framework.

^ Guidelines on Safe Management System for the Metalworking Industry (2001).

#Typo error in Guidelines (2001) printed as 12.2.3.

* Relevant Sections involving All 15 Elements of Guidelines (2001).

Annex D: Common Hazards in the Metalworking Industry

Hazards	Possible Risks	Suggested Risk Controls
Mechanical (e.g. moving parts, rotating parts)	• Crushing, cutting, severing, draw-in, punching, shearing, bending, entanglement, struck by ejected part, projectile, trapped between machine and material	• Install machinery guards or enclosures to prevent unauthorised access which includes robotic operation. • Install shield to contain flying particle or projectile. • Install inter-locking system with limit switch and sensor to stop operation or prevent access to moving/rotating parts during operation. • Display signage for machinery/equipment under maintenance. • Follow lock-out tag-out (LOTO) procedures for repair and maintenance of machinery/equipment. • Ensure only competent workers are allowed to operate machinery, equipment or tools. • Provide PPE e.g. gloves, safety footwear and appropriate tools for the work activity.
Electrical (e.g. voltage, current, static charge, magnetic fields)	• Shock, burns, electrocution	• Provide intermediate barrier to fully enclose all live conductors within distribution board (DB) enclosures. • Implement LOTO procedure before carrying out maintenance work such as locking out the electric power source and de-energising the equipment and/or system. • Use proper socket outlet assembly with appropriate over-current and earth leakage protection. • Use cords with proper grounding. • Ensure installation, alteration, maintenance, repair or dismantling by licensed electric worker and in accordance with manufacturer's recommendation/operation manual.

		• Ensure no improper cable joint (taped/twisted joint or tapped universal connectors) is used in flexible electrical cables. • Do not use equipment with damaged insulation or exposed electric wires. • Do not overload circuits e.g. use of multi-type adaptor, plugs or extension cords which may be a fire hazard. • Ensure equipment are only operated by competent workers. • Ensure hands are dry before touching equipment.
Chemical (e.g. flammables, toxics, corrosives, reactive materials)	• Inhalation of vapour, fumes, mist, dust • Exposure to chemical	• Substitute process or raw material with reduced residual hazard. • Adopt use of technology e.g. automated guided vehicles to eliminate the risk of contact with chemicals. • Establish a Management of Hazardous Chemical Programme. • Reduce operation limits e.g. temperature, pressure and flow. • Ensure Safety Data Sheets are available at the workplace. • Provide workers with PPE e.g. chemical-resistant gloves, apron and eye protectors.
Noise and vibration	• Noise-induced hearing loss, deafness	• Identify root cause of equipment/machinery with extreme noise and vibration. • Substitute noisy machine parts e.g. replace reciprocating machine parts with rotating parts instead. • Re-design work processes with less noisy options. • Install noise enclosure, barrier, personal enclosure. • Conduct noise monitoring. • Introduce a Noise-Induced Deafness Prevention Programme. • Use vibration-dampening gloves. • Erect noise barriers.

		• Isolate machine operator or introduce rotation of operators working in noisy environment.
Slips, trips and falls	• Fracture, bruise, head injuries	• Ensure good housekeeping practice of work areas/walkways to keep areas clean and dry. • Check no leakage of oils or coolants from machine setup. • Ensure work areas and staircases are sufficiently illuminated. • Inspect regular floors and steps for irregularities e.g. damaged/raised tiles. • Install non-slip flooring or anti-slip mats/ tape at strategic locations. • Place hazard signs to warn of slippery surfaces or tripping hazards. • Ensure appropriate edge marking e.g. reflective paint on designated walkways which may include steps, kerbs, slopes and humps. • Keep walkways free of obstacles. • Instil good practice to hold onto handrails when using the stairs or ramps/slopes. • Advise workers to use the lift or trolley when carrying heavy loads. • Provide non-slip work shoes.
Extreme temperature	• Burns, scalds, heat stress	• Ensure hot pipes and surfaces are properly insulated. • Provide appropriate signage to warn worker of heat-related hazard. • Ensure workers keep hydrated when working in hot environment. • Provide well-ventilated rest area with drinking water.
Work At Heights (WAH)	• Falling from height • Falling through an opening • Falling due to tripping over debris	• Re-design work/workflow to ground level, to avoid working at height, where possible.

		• Install guardrails at elevated work platforms or use MEWPs such as scissor lifts and boom lifts to eliminate the hazard of falling over the edge.
		• Implement a permit-to-work system for hazardous works at height.
		• Assign workers trained on WAH (e.g. align with the fall prevention plan, follow safe routes of access and egress) for tasks.
		• Appoint a competent supervisor to oversee workers working at height (e.g. inspection of anchor points and lifelines).
		• Ensure proper housekeeping while working at height to prevent tripping over debris.
		• Provide workers with appropriate PPE e.g. Personal Fall Arrest System, or travel restraint for works at height.
Ergonomics risks	• Work-related musculoskeletal disorders	• Store heavy loads at waist level, between shoulder and knee height.
		• Adopt proper posture at workstation and/or work area.
		• Use trolleys or request co-workers for help for heavy loads (<25 kg).
		• Use anti-slip gloves for good grip of loads.
		• Adopt appropriate squatting down methods to lift loads.
		• Avoid awkward postures e.g. bending sideway or over-stretched arm in handling of load.
Psychosocial e.g. fatigue, stress	• Muscle strains • High absenteeism, high turnover rate • Low productivity at work	• Use appropriate tools e.g. trolley, forklift for handling heavy load, to make the work easier.
		• Do not work excessive hours without rest breaks, especially for work with physical exertion.
		• Provide shelters or rest areas for work in hot environments.
		• Ensure work area is conducive e.g. sufficient illumination and ventilation.

		• Schedule complex tasks to be performed only during the day. • Restrict or limit nightshift work to a minimum, where applicable. • Introduce employee engagement programmes e.g. feedback or suggestion programme, counselling assistance.

Note

Hazards may result in injuries such as cuts, burns which may require first-aid. Appointed first-aiders should be aware of the location of the first-aid equipment (e.g. first-aid box) in the event of an emergency.

Annex E: Hierarchy of Controls and Suggested Risk Control Examples

Hierarchy of Controls	Suggested Risk Control Examples
Elimination	• Movement of materials – leverage technology such as automated guided vehicle to eliminate the risk of collisions and crashes compared to manually done by workers. • Maintenance work e.g. roofs/rooftops, lights: – Explore use of drones for inspection work at roofs/rooftops without the need to work at height. – Implement lighting system with flexibility to lower to ground level for ease of maintenance of lights. This eliminates the use of work platforms e.g. MEWPs at elevated level.
Substitution	• Replace riveting hammers with pressing tools to reduce vibration and noise. • Use pendant control to operate Electric Overhead Travelling cranes, where possible, instead of cabin operation at elevated heights. • Select or replace noisy equipment/machine to ensure a noise level below 85 decibels (dB).
Engineering Controls	• Use "glove boxes" or isolator in a ventilated and enclosed space to avoid direct contact of workers with chemical or hazardous substances. • Install guards or fencing on moving machinery e.g. lathe chucks, milling/drilling parts, circular saw-blades, shearing jaws, belts, pulleys and flywheels. • Install interlocks on – Machine guard/fencing to stop operation when guard/fencing is opened or removed. – Gate of moving machinery for safe access and egress. • Provide intermediate barriers to enclose live conductors within the distribution board to prevent contact with live conductors when using the circuit breakers. • Install guardrails or barriers for open side or opening with fall distance of more than two metres. • Provide MEWPs such as scissor lifts, boom lifts and order pickers for works at height. • Secure free-standing compressed gas cylinders with chain inside cage or enclosure to prevent toppling over. • Install crane safety features e.g. limit switch to cut off crane operations that exceed the Safe Working Load (SWL), or anti-collision sensor. • Erect perimeter noise barrier and noise enclosure for noisy equipment/machinery.

Administrative Controls	• Implement safe work procedures for maintenance of tools and equipment using checklists.
	• Implement a Traffic Management Plan to avoid any collision incidents through control of the movement of workers, vehicles and material handling equipment e.g. forklifts.
	• Obtain approval from original forklift manufacturer for any add-on attachments or modification to forklift.
	• Determine the SWL of storage racks and platforms with prominent display of SWL information to avoid overloading of racks and platforms.
	• Ensure workers and supervisors attend the respective metalworking accredited training courses e.g. Apply Workplace Safety and Health in Metal Work, Basic Industrial Safety and Health Course for Supervisor.
	• Manage the use of forklifts and reach trucks to ensure only authorised and trained operators have access to the ignition keys/number keypad/proximity card.
	• Appoint a competent person to manage and control all hazardous substances in the workplace.
	• Ensure inspection and maintenance of electrical hand tools by a licenced electrical worker.
	• Display WSH pictograms/posters on safe work procedures/WSH rules at strategic locations e.g. rest area, cafeteria, workstation to remind workers of the importance of workplace safety and health.
	• Display warning signs e.g. "No Entry", "Hot Surface", "Lifting Zone" to keep workers aware of hazards.
Personal Protective Equipment (PPE)	• Ensure PPE is provided and is fitted for a purpose. For instance, provide workers with chemical-resistant gloves for handling oils, solvents or corrosive substances, and cut/impact-resistant gloves for protection against physical hazards such as cuts, crushing and other hand injuries.
	• Provide appropriate PPE such as Travel Restraint System or Personal Fall Arrest System for works at height.
	• Provide hearing protectors e.g. ear plug, earmuff for workers working in a noisy environment.

Annex F: Consequence Management Process (Sample)

Objective

With the institutionalisation of a Workplace Safety and Health management system (WSHMS) in line with our WSH excellence journey, all employees of ABC Pte Ltd are required to understand the importance of accountability and compliance to WSH rules and procedures.

In view of repeated violations of our WSH norms, we have not achieved our aspirations to become a zero-incident company. WSH-related incidents continue to occur despite having an established WSH management system built into our work processes. As such, we have developed a robust consequence management process to address individual responsibility and accountability in taking ownership of WSH at all times. This is done by instilling and reinforcing safe behaviour at the workplace for our workforce.

Scope

The scope of the consequence management process covers all employees, including top management, managers, supervisors as well as contractors who are performing work activities at the workplace.

The following types of WSH violations (non-exhaustive) will fall under the purview of the consequence management process:

01.   Personal Protective Equipment (PPE) Violations
02.   Permit-to-Work Violations
03.   Equipment Maintenance/Inspection Violations
04.   Work at Heights
05.   Risk Management Violations
06.   Vehicular/Road Safety
07.   Legal non-compliances
08.   Other/General Violations

WSH Violations

Table 1 shows the categories of WSH Violations (non-exhaustive) with relevant examples which shall be taken into account in the consequence management process.

WSH Violations Categories	Examples of WSH Violations
Personal Protective Equipment (PPE)	01. Failure to wear basic and job-specific PPE. 02. Improper use of PPE. 03. Use of damaged or expired PPE.
Permit to work	01. Work at height without required permit. 02. Lifting operation without required permit. 03. Work in confined spaces without required permit. 04. Welding and gas cutting without required permit. 05. High-voltage installation without required permit.
Equipment Maintenance/ Inspection	01. Operate heavy machinery e.g. forklift, MEWP without required licence and/or training certificate. 02. Allow machinery to operate without guards and/or barricading. 03. Bypass safety interlock without written approval from authorised person. 04. Work without positive isolation for jobs which require energy isolation. 05. Failure to apply or allowance to work without lock-out tag-out. 06. Failure to barricade work area with signages when carrying out lifting works with crane.
Work at Heights	01. Work at height without a proper Fall Prevention Plan in place. 02. Failure to provide effective guard-rails or barriers for open sides or openings where a person is liable to fall more than two metres. 03. Failure to provide appropriate PPE e.g. Personal Fall Arrest System or travel restraint for work at height. 04. Improper and unsafe use of MEWPs or ladders.
Risk Management	01. Working without proper Risk Assessments (RA) done or Safe Work Procedures (SWP) in place. 02. Failure to complete required training on RA or SWP, for regular or new/short-term workers or contractors. 03. Failure to conform to risk control measures as stated in RA or SWP. 04. Use of machinery or equipment with defective or compromised safety features, e.g. inter-lock, sensors, machine guards and fire protection.

WSH Violations Categories	Examples of WSH Violations
Vehicular/Road Safety	01. Driving without wearing a seat belt. 02. Driving vehicle exceeding designated speed limit. 03. Driving vehicle recklessly, e.g. against traffic flow, not using turning indicator. 04. Operating vehicle beyond safe working load limit. 05. Operating vehicle without adequately securing the load. 06. Leaving vehicle unattended with engine running. 07. Failing to apply wheel chokes for unattended vehicles. 08. Failing to complete vehicle inspection checklist. 09. Parking vehicles at non-designated locations. 10. Using vehicles with damaged safety devices e.g. headlights, indicators, horn, brake and seat belt. 11. Misuse of vehicle, e.g. for sleeping, using forklift to ferry workers. 12. Leaving key in unattended or not-in-use industrial trucks such as forklift or stacker.
Legal non-compliances	01. Use of lifting machine, equipment, gears and/or appliances without required valid certificate. 02. Use of pressure vessels and statutory equipment without required valid certification, e.g. air receiver. 03. Perform high-risk work activities without the presence and supervision of a competent person e.g. working at height, scaffolding, lifting, rigging and signal, confined space.
Other/General Violations	01. Enter a danger zone/area without permit. 02. Did not stay clear of suspended load. 03. Fail to use safety tools/equipment provided, e.g. push-pull rod, tagline, platform ladder. 04. Horseplay while at work. 05. Smoke at non-designated location. 06. Failure to maintain good housekeeping. 07. Failure to conduct or attend routine tool-box meeting. 08. Tempering of safety critical equipment, e.g. inter-lock, sensors, machine guard and fire protection. 09. Non-reporting or under-reporting of WSH incidents, dangerous occurrences and near-misses.

Consequence Management for WSH Violations

Table 2 lists the disciplinary actions to be taken based on the frequency of WSH Violation(s) in the current year, as follows:

Frequency of WSH Violation(s) in the current year	Consequence Management for WSH Violations
1	01. Warning/Caution Letter followed by counselling with direct reporting Supervisor/Manager. 02. Undertaking/Letter of Commitment by the concerned individual of not repeating similar violations in future. 03. Attend WSH Induction by WSH Professional. 04. Complete at least one WSH Observation per month for the next six months.
2	01. Warning/Caution Letter from Department Manager. 02. One day suspension of duty/work without pay. 03. Complete at least one WSH Observation per fortnight for the next six months. 04. Implication on Performance Appraisal Rating in the current year.
3 or more	01. Warning/Caution Letter from CEO/President /Managing Director. 02. Three days suspension of duty /work without pay. 03. Complete at least one WSH Observation per week for the next six months. 04. Serious implication on Performance Appraisal Rating and will not entitle for promotion in the next one year from the date of third violation.

Note

- Investigation is mandatory for fatalities, major injuries, minor injuries, dangerous occurrences.
- All employees need to sign an undertaking on compliance to WSH norms. This would be facilitated/ensured by Human Resource/Administration Department.
- All appeal cases will be reviewed according to established organisational grievance/appeal procedures, if any.
- Organisation may consider supervisor and/or manager to be in the accountability process for direct report(s) with two or more WSH violations in the current year.