A Guide to the

Construction Safety Audit Scoring System (ConSASS)

Version 4.0

REVISION HISTORY

VERSIONS	EFFECTIVE DATE	SUMMARY OF CHANGES	REMARKS
1.0	28 July 2006	Not applicable	Initial release
2.0	2013	Changes made were: i) Questions refined and broken down to specific parts ii) Questions grouped into individual bands evaluates differently: • Band 1: OSHMS has particular provision; • Band 2: OSHMS content is sufficiently comprehensive; • Band 3: Provision is well implemented on site; and • Band 4: Best practices. iii) Added the Annex 1A for the expanded clarification for some ConSASS questions. iv) Audit methodology and instruction remain unchanged. Declaration of all required audit documentation submitted.	First review and update by industry-led workgroup.
3.0	1 Oct 2021	Major changes made to: i) Alignment to ISO 45001 high level structure; ii) 20-Element structure; iii) New 3-Band framework; iv) Sampling strategy and requirement	Second review and update by industry-led workgroup.
4.0	18 May 2022	Renaming CP79 to SS679	-

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1.   Acknowledgement

In 2006, an industrial workgroup led by the Ministry of Manpower (MOM) developed the Construction Safety Audit Scoring System (ConSASS) as a unified Safety and Health Management System (SHMS) assessment protocol for construction company and worksites.

First Revision of ConSASS (2013)

In 2013, the Workplace Safety and Health (WSH) Council (Construction & Landscaping) Committee formed an industry-led workgroup to review and update the ConSASS protocol after it was used for mandatory SHMS audits for worksites of contract sum of S$30 million or more.

Second Revision of ConSASS (2020)

With the establishment of the *SS ISO 45001: 2018 Occupational health and safety management system – Requirements with guidance for use*, the WSH Council (Construction & Landscape) Committee formed an industry-led workgroup to align the ConSASS protocol to the international standard on SHMS.

We would like to thank the following individuals and organisations of the ConSASS Review Workgroup for their contributions:

• Dr Ho Nyok Yong [Chair], Samwoh	• Mr Lee Nam Wah, ASAF
• Mr Loh Yeow Leng, SCAL	• Ms Linda Teo, HDB
• Mr Mahaboob KHAN, BCA	• Mr Reggie Lim, ST Telemedia
• Mr Fung Chan Hua, MOM	• Mr Allan Low, Teambuild
• Mr Teo Boon Kwang, MOM	• Mr Timothy Yen, SISO
• Mr Alvin Thng, MOM	• Mr Han Kin Sew, WSHC

Organisations which participated in the review:

• Housing & Development Board	• SC2 Pte Ltd
• Teambuild Engineering & Construction	• SAS Pte Ltd
• China Construction	• CCIS Singapore Pte Ltd
• Lum Chang Building Contractors Pte Ltd	• ACE EHS Singapore Pte Ltd
• Chiu Teng Construction Co. Pte Ltd	• Team-6 Safety Training & Consultancy PL
• Kajima Overseas Asia (Singapore) Pte Ltd	• Concord Associates Pte Ltd
• Woh Hup Pte Ltd	• Quesh Consultants
• Boskalia International/Penta Ocean JV	• Expand Construction/Landscape Engineering JV

2.   Introduction

2.1   A worksite with a contract sum of S$30 million or more is required to appoint an approved independent external auditing organisation to audit the SHMS implemented at the worksite at least once every six months. The former *Singapore Standard CP 79* has been the reference for construction worksites for the implementation and the mandatory audit of SHMS.

2.2   Besides standardisation, ConSASS can also profile the maturity levels of each element of the SHMS in a worksite. This will enable the Management of the worksite to focus on specific elements to improve the overall maturity of their SHMS for managing WSH risks. It also allows developers/clients to assess and compare the capabilities of contractors in managing WSH risks before awarding contracts.

2.3   Since August 2011, all construction worksites with a contract sum of S$30 million or more are required to have their mandatory SHMS audits conducted based on the ConSASS audit checklist. Upon completion of the ConSASS audit, the audit scores and the supporting audit documents are required to be submitted to MOM through its online WSH eServices portal.

2.4   In 2019, MOM stipulated that only Singapore Accreditation Council (SAC) accredited WSH Auditing Organisations are authorised to carry out ConSASS audit.

3.   Objectives

The ConSASS aims to provide:

(a) A unified assessment method in terms of standardisation of audit checklist and adoption of a common audit scoring system. This will enhance the consistency in the auditing process and allow cross comparison of worksites in terms of the capabilities in managing WSH risks.

(b) A mechanism to profile the maturity level for each element of the SHMS in a worksite. This will enable the Management of the worksite to systematically focus on specific elements to improve the overall maturity of their SHMS to manage WSH risks.

4.   Scope

The ConSASS is developed primarily for the auditing of the SHMS system implemented at construction worksites.

5.   Basic Features of the ConSASS

5.1   The ConSASS consists of an audit checklist, interview sheet and score card to evaluate the effectiveness and maturity level of the company's SHMS.

The Audit Checklist

5.2   The ConSASS audit checklist is derived from:

  •   SS ISO 45001: 2018 Occupational health and safety management system – Requirements with guidance for use;

- SS 679: 2021 Code of practice for workplace safety and health management systems for construction worksites; and
- Relevant Approval Code of Practices (ACOP) published by Workplace Safety and Health Council, Singapore.

5.3   The consolidation provides WSH auditors the convenience of using one checklist to fulfil its primary function of assessing the company's SHMS, for readiness of SS ISO 45001 certification or worksite regulatory compliance.

5.4   The Deming's Plan-Do-Check-Act (PDCA) cycle has been used as a model for management system standards in various areas such as quality, environment protection, and occupational health and safety. The ConSASS checklist is structured along the PDCA cycle and its framework as follows:

- WSH Policy   (Plan)
- Planning   (Plan)
- Support and operation   (Do)
- Performance evaluation   (Check)
- Improvement   (Act)

5.5   Leadership and worker participation, including consultations are included into the PDCA cycle with specific questions to facilitate implementation and assessment objectively.

5.6   The questions in the checklist are grouped from Band I to III, with each Band evaluating an increasing level of maturity of the elements being audited:

Band I: How comprehensive is the SHMS content of provision and if it is sufficiently documented
Band II: Whether the particular provision is well-implemented on-site
Band III: Best practices

5.7   Expectations and the scoring criteria for the checklist questions have been defined to local Singapore context in terms of the level of SHMS documentation and implementation. Auditors shall conform to the scoring criteria when assessing the SHMS at the workplace. No score shall be given if the intents of the ConSASS questions are not met.

<u>The Score Card</u>

5.8   The score card tabulates the results obtained from the different SHMS elements audited. Its purpose is to give a quick and easy visualisation of the maturity of the different elements in the SHMS and thus provides an idea of resource allocation to the company's Management or responsible personnel to improve on weak areas or targeted elements in the system.

6.   Instructions on the Use of ConSASS

The Audit Checklist

6.1   The ConSASS audit checklist can be found in Annex A. There are 204 questions in the checklist containing the following:

- • Band reference

- • Question Serial Number and link to applicable standards

- • Guidance notes and requirements

- • The audit question with audit instructions

- • DR/IP/PI – Audit methods that the auditor may adopt in verifying the question (DR - Document Review, IP - Interview of personnel, PI - Physical Inspection)

- • "Yes", "No" or "N/A" checkboxes for recording the audit outcome

- • Auditor's Remarks – Auditors shall input the evidence gathered and use this column to take down notes or further comments they might have

6.2   The audit questions cover all the auditable clauses of ISO 45001 except for Clause 4.1 - Understanding the organisation and its context.

A Banding System

6.3   The questions for each element of the SHMS are grouped from Band I to III to reflect the increasing level of maturity of the element. The contractor's SHMS element being audited needs to satisfy at least 70% of the questions in Band I and Band II. The purpose of using a banding system to reflect the audit results rather than a quantitative score is to keep the 'calculation' simple. The banding approach will also not give the misinterpretation that the assessment is an exact science. Another advantage of these simple step levels is that they allow the contractors to assess the maturity levels of the different SHMS elements audited and areas for improvement.

6.4   Auditors are required to audit each element of the SHMS up to all Band II questions. Thereafter, auditors may not audit Band III, best practices questions, should that element fail to satisfy at least 70% of the questions within any of the first two bands. Please refer to Example 1.

Example 1

An auditor was auditing the 'Element 4 – WSH Objectives and Planning to achieve them' of the SHMS established by ABC Construction Pte Ltd.

He started by asking questions in Band I and verified that the SHMS was able to satisfy 2 questions in the band. (There are altogether 4 questions in the band). The percentage attained would be:

$$\frac{No.\ of\ questions\ satisfies}{No.\ of\ questions\ in\ the\ band} \text{ X } 100\% = \frac{2}{4} \text{ X } 100\% = 50\%$$

Although it was below 70%, he proceeded to check the questions in Band II on the implementation of this element. This time, the SHMS was able to satisfy 4 out of the 5 questions in Band II. The percentage attained would be:

$$\frac{No.\ of\ questions\ satisfies}{No.\ of\ questions\ in\ the\ band} \text{ X } 100\% = \frac{4}{5} \text{ X } 100\% = 80\%$$

At this point, he stopped auditing the element 4 since it did not score at least 70% within each of the first two bands (Band I scored 50%). He might choose to continue checking for Band III questions on best practices. Regardless of the score attained for Band III, the grade for this Element 4 is Band 'Zero', because Band I did not attain at least 70%.

Audit Instructions

6.5   All SHMS audits using ConSASS protocol shall be done by a team of at least two WSH auditors. Typical audit methodology and processes are:

- Opening meeting
- Familiarisation tour
- Interviews with system owners/champions with document reviews
- Further verification by physical condition inspection and interviews with workers
- Auditor's team debrief
- Audit Closing meeting

6.6   Each audit question is accompanied with an instruction in red print. Auditors are to adhere to the instructions to minimise discrepancies in their audit methods.

6.7   In line with industry practice, the audit protocol comprises three key components: Document Review (DR), Interview of Personnel (IP), and Physical Inspection (PI).

6.8   Checklist questions shall be verified and substantiated with documents and records when assessing the SHMS implementation. Some questions ought to be verified at the job sites through PI and some by talking to workers and employees to obtain the confirmation only after several IP.

6.9　　The Questionnaire for Interview of Personnel is designed for auditors to have a casual conversation with workers (i.e. managers, supervisors, workers, and contract workers) during the audit process. The questionnaire is drawn from the main checklist and consideration has been taken that the interview questions may only be applicable to a specific group of staff (e.g. Management staff). The Questionnaire can be found in Annex C. Audit questions with an IP scoring method shall have at least 70% of the personnel interviewed give a positive answer response for credit to given. Please refer to Figure (i).

	Management	WSH personnel/ Committee Members	Line Manager	Workers / contractor / visitor	Linkage & Result
1	**Did PD/PM/CM present WSH message during TBM or morning assembly every morning or week?**				2.4
	Yes, Yes,	*Yes, No, No, Yes*	*No, No, Yes, No*	*No, Yes, Yes, No,*	7/14
	I presented.	*The PM did*	*No,*	*I don't know who*	50%
		Not at all	*Not that I can rem.*	*Yes, I saw the PM did not*	
		Never see them at all	*No lar*	*Yes,*	~~YES~~/NO
		Not that I can remember.	*Not at all*	*We never attend TBM*	

Figure (i)

6.10　　Interview results are captured in the row below the question by using simple notation such as ticks or "Yes/No". This is for computing the compliance percentage required for credit to be given to the linked question. The bottom row is for taking brief notes.

6.11　　Auditors are encouraged to ask additional interview questions for verifying unique system and control implemented at the workplace. Auditors may not record the name of the persons interviewed so that honest opinions can be shared. Please refer to Figure (ii).

44	**Identification of persons interviewed** *(Please note that identification should be brief to encourage open discussions, i.e. full names and/or ID numbers are not required)*				
					/
					%
					YES/NO

Figure (ii)

6.12　　When insufficient evidence is gathered for assessment, i.e. less than 70% of confirmation, the audit question shall be scored "No" by ticking in the "No" column in the ConSASS Checklist.

6.13　　When a system control/element required by the audit question is not relevant and not applicable to the workplace's SHMS, auditor shall tick in the "NA" column and state the reasons in the Auditor's Remark(s). The percentage scored for the element will be adjusted by taking away the "NA" question(s). Only Band I and Band II questions may have a "NA" response. Auditors are strongly encouraged to score the questions as much as possible and keep "NA" responses to the minimum.

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Note: Questions allocated in Band III are considered best practices of SHMS and such questions cannot be scored as "NA".

6.14   Auditors shall record the evidence verified briefly in the "Auditor's Remark(s)" such as date of implementation, document title/heading seen, etc.

6.15   SHMS audits shall focus more on physical inspections (PI) to verify the system elements are effectively implemented on-site with demonstrated standard work practices/behaviour/conditions that conform to the requirements and standards set by the company. Such verifications are to be done with employees and workers through interviews.

<u>The Score Card</u>

6.16   The score card tabulates the results obtained from the 20-element of the SHMS audited. It provides a profile of the maturity level of the SHMS in a company. Please refer to Annex B.

6.17   Auditors are required to shade the highest band attained (the first highest passing band) on the card for every element and fill in the necessary particulars including the company being audited, dates of audit, and the name of the lead auditor in the audit team with his/her signature.

6.18   Auditors are required to input the percentage scores on the card for the Bands which were audited. The last three rows indicate the overall score of the audit. The results provide the company Management or responsible personnel an indication of how much more is required to improve the element in the failed band. To view an example of a filled score card, please refer to Example 2.

Example 2

CONSTRUCTION SAFETY AUDIT SCORING SYSTEM - SCORE CARD

Name of Company: ____**ABC Construction Pte Ltd**____ Audit Date: **20 & 21 August 2020**

S/No.	System Elements	BAND I	BAND II	BAND III
1	WSH Policy	100%	75%	100%
2	Organisational roles, responsibilities and authorities	100%	75%	50%
3	Actions to address risk, opportunities, legal & other requirements	75%	73%	67%
4	WSH Objectives & Planning to achieve them	50%	80%	50%
5	Resources	100%	75%	50%
6	Competence	100%	83%	50%
7	Awareness	100%	75%	100%
8	Communication	80%	83%	50%
9	Documented information	100%	83%	50%
10	Operational planning & control	80%	86%	50%
11	Safety controls	88%	83%	NA
12	Health and wellness controls	100%	75%	50%
13	Contractor Management & Procurement	100%	75%	100%
14	Emergency preparedness	100%	83%	0%
15	System monitoring, performance and compliance evaluation	100%	80%	67%
16	WSH inspections	100%	80%	67%
17	Internal audit	100%	80%	50%
18	Management review	100%	80%	50%
19	Incident, non conformity and corrective actions	75%	80%	75%
20	Continual improvement	100%	75%	50%
	No. of elements in band (≥70%)	19 / 20	19 / 20	4 / 19
	% of Total element score 70% and above	95%	95%	21%
	Mean score in each band	92%	79%	59%

Name of Lead Auditor: Signature of Lead Auditor:

____**Peter Ong P K**____ ____*Peter Ong*____

Taking the scenario from Example 1, the auditor indicates on the score card that Element 4: 'WSH Objectives & Planning to achieve them' attained Band 'Zero' and scored 50% in Band I (the score in the failed band). The auditor continues to audit till Band II and Band III.

Company management can then see that there is another 20% to satisfy Band I, before it can be recognised for passing Band II of the 80% scored. Preparation can then be made to have targeted improvement on areas that 'failed'.

7. Sampling Strategies

7.1 Appropriate audit sampling is critical and yet, can be a tricky issue. Wrong conclusions are drawn if the samples are not representative or do not reflect the true state of the situations.

7.2 Where an audit question requires evidence gathering, a minimum sampling size of three is recommended for questions requiring DR and IP verification. This is to keep the sampling size small yet credible. The passing criterion is at least two out of the three sampled to meet the intent of the question. Please refer to Example 3 for illustration.

Example 3

In auditing the 'Element 3 – Action to address risks, opportunities, legal and other requirements' of the SHMS, Question 3.8 in Band II: 'Is the person(s) assigned for RA implementation who acknowledge and lead the implementation of the control measures or SWP specified in the RA?'

The audit instructions given are: 'Verify at least 3 risk assessments for evidence'

Since Question 3.8 is a follow up of Question 3.7 which requires to verify at least 3 current on-site activities, the auditor tried but could only identify 3 on-site work activities: Excavation, Piling, and Formwork because the construction was at the early stage of the project.

He then checked if all the 3 documented RA on details such as control measure to be implemented, who was responsible, and acknowledgement by the person involved, etc relevant to the 3 current on-site work activities.

In his checks, the auditor found that the Supervisor on the excavation work had not been informed on the control measures and he had not acknowledged on the RA worksheets. The other 2 RA for the piling and formwork activities were in order.

Hence 2 out of the 3 samples passed. Because 2 out of 3 is the majority, Question 3.8 is considered to have satisfied the requirement for credit to be given as 'Yes' result.

7.3   If auditors opined that certain questions require a larger sampling size, he or she may proceed to do so if the audit duration permits. The general passing criterion is 70% of the sample population.

7.4   If the sample size does not exceed two, the auditor is required to conduct a 100% sample check and all the samples must meet the passing criteria in order to be considered satisfying the question.

Interview Sampling

7.5   When selecting staff for interviews, auditors shall cover a wide range of staff representation from different levels of the organisational hierarchy: company management, line management, workers, WSH personnel and even subcontractors and suppliers.

Note: A WSH Committee Member who is a non-WSH personnel shall be selected for interview.

7.6   As far as reasonably practicable, auditor shall have influence on whom to be interviewed depending on the language capability and job positions, etc. **A minimum of 12 persons shall be interviewed based on the Questionnaire for Interviews of Personnel.** Suggested persons and numbers are:

Position	No.
• PD, PM or CM*	2
• WSH Committee Member	1
• WSH personnel	1
• Supervisors	3
• Workers	5
	12

   * *PD – Project Director, PM – Project Manager, CM – Construction Manager*

7.7   The Questionnaire for Interviews of Personnel aims to assist auditors to gather workers' feedback and comments of the SHMS implemented. Auditors are encouraged to add questions that are relevant to the SHMS of the workplace and may also choose not to ask all the questions provided in the questionnaire, especially when it is already known that the system elements are not in place. Please refer to Annex C.

7.8   The total number of persons to be interviewed is a function of audit duration and the size of the workforce at the workplace at the time of audit. Auditor shall note that the Checklist questions are finite, but the verification of the SHMS is dependent on the site conditions and the efficiency of the WSH auditors.

<u>END</u>