



Enhancement of HASAS Version 1.3

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Outline

1. Brief Introduction of HASAS Version 1.3
2. Proposed Enhancement for HASAS Ver 1.3
3. Proposed Audit Criteria of HASAS Ver 1.3



Background

- **Housing Authority Safety Audit Scheme (HASAS)** since December 1996
- **Consists of 2 parts with totally 14 elements**
 - Part A : Elements 1-13 (Establishment of SMS)
 - Part B : Element 14 (Implementation of SMS)
- *HASAS Version 1.0* introduced in 1996, coverage and safety standards regularly reviewed
- *HASAS Version 1.1* had been adopted since Apr 1998 to Dec 2002
- *HASAS Version 1.2* had been adopted since Jan 2003 to Feb 2007
- *HASAS Version 1.3* has been adopted since Mar 2007 to present



Major Changes in HASAS Version 1.3

Increase Weighting of Implementation Aspects

Adjust weighting in Part A

- Reduce weighting of **procedural items** from **6 to 3 marks**
- Weighting of items in **physical performance** aspects to remain at **6 marks**

Adjust weighting in Part B

1. **Guidelines and Procedures** remain **3 marks**
2. **Implementation Aspects** increase **from 3 to 6 marks**
3. **High Risk/Incidence Rate** up by two folds **from 3 to 9 marks**;
i.e. - *Falling from height*
- *Falling objects*
- *Lifting operations*
- *Housekeeping*
- *Electric cables laying on ground*



Score Banding for Payment

Previous Payment Method:

- 100% payment for HASAS scores $>$ or $=$ 70%

New Payment Method with Score Banding:

1. Scores $<$ 70% for Part A or Part B or both, no payment
2. Scores $>$ or $=$ 70% but less than 80% for either part, 70% payment only for the safety audit item
3. Scores $>$ or $=$ 80% for both parts, full payment for the safety audit item



Audit on Nominated Subcontractors

- Check on-site safety performance of NSCs
- Physical checklists on 4 NSCs
 - Electrical Contractors
 - Fire Services and Water Pump Contractors
 - Lift and Escalator Contractors
 - Air Conditioning & Ventilation Contractors



HASAS Audit Performance



Audit Performance in 1 Mar 07 – 30 Jun 08

	Building	Piling & Foundation	Demolition	Others
Audits Conducted	115	14	10	9
80%≤Score	100 (87%)	12 (86%)	1 (10%)	2 (22%)
70%≤Score<80%	15 (13%)	2 (14%)	7 (70%)	6 (67%)
Score<70%			2 (20%)	1 (11%)



Summary of Score Mapping for Enhancement of HASAS 1.3

(Proposed Critical Pass in
Key Elements & High Risk Subsections)



Proposed Critical Pass in HASAS V1.3

- Part A: Key Elements
 - Element 3 Safety Training
 - Element 4 In-house Safety Rules
 - Element 6 Safety Inspection
 - Element 7 Job Hazard Analysis
 - Element 9 Accident Investigation
- Part B: High Risk Subsections
 - 14.1.3 Working at Height
 - 14.1.4 Housekeeping
 - 14.1.5 Falling Objects
 - 14.3.3 Lifting Operations



Score Mapping (1)

Score Mapping for Audit Results starting from
1/3/07 to 30/6/08 based on HASAS version 1.3

Total audits done for the said period : 148

building projects : 115

piling & foundation projects : 14

demolition projects : 10

others projects : 9



Building Projects (115 audits)

1 Mar 07 - 30 Jun 08 ▼	>=70 ▼	>=60 ▼	>=55 ▼	>=50 ▼
Ele 3 Safety Training	97%	98%	100%	100%
Ele 4 In-house Rules	96%	99%	100%	100%
Ele 6 Safety Inspection	96%	97%	97%	99%
Ele 7 Job Hazard Analysis	55%	93%	93%	96%
Ele 9 Accident Investigation	81%	93%	94%	97%
All Key Ele 3,4,6,7,9	43%	83%	83%	93%
Part 14.1.3 Working at Height	39%	59%	72%	87%
Part 14.1.4 Housekeeping	44%	81%	83%	90%
Part 14.1.5 Falling Objects	52%	77%	77%	94%
Part 14.3.3 Lifting Operations	86%	95%	98%	98%
All HR Parts 14.1.3-5 and 14.1.3.3	14%	44%	55%	71%
Both Key Els + High Risk Parts	6%	40%	50%	70%



Piling and Foundation Projects

(14 audits)

1 Mar 07 - 30 Jun 08	>=70	>=60	>=55	>=50
Ele 3 Safety Training	93%	93%	100%	100%
Ele 4 In-house Rules	79%	93%	100%	100%
Ele 6 Safety Inspection	79%	93%	93%	93%
Ele 7 Job Hazard Analysis	43%	64%	64%	93%
Ele 9 Accident Investigation	100%	100%	100%	100%
All Key Ele 3,4,6,7,9	43%	64%	64%	86%
Part 14.1.3 Working at Height	21%	57%	57%	79%
Part 14.1.4 Housekeeping	79%	100%	100%	100%
Part 14.1.5 Falling Objects	71%	71%	71%	93%
Part 14.3.3 Lifting Operations	79%	100%	100%	100%
All HR Parts 14.1.3-5 and 14.1.3.3	14%	43%	43%	79%
Both Key Eles + High Risk Parts	7%	29%	29%	79%



Demolition Projects (10 audits)

1 Mar 07 - 30 Jun 08	>=70	>=60	>=55	>=50
Ele 3 Safety Training	100%	100%	100%	100%
Ele 4 In-house Rules	60%	90%	100%	100%
Ele 6 Safety Inspection	80%	90%	90%	100%
Ele 7 Job Hazard Analysis	20%	60%	60%	70%
Ele 9 Accident Investigation	100%	100%	100%	100%
All Key Ele 3,4,6,7,9	0%	60%	60%	70%
Part 14.1.3 Working at Height	40%	40%	50%	50%
Part 14.1.4 Housekeeping	30%	70%	70%	100%
Part 14.1.5 Falling Objects	50%	80%	80%	100%
Part 14.3.3 Lifting Operations	33%	67%	67%	89%
All HR Parts 14.1.3-5 and 14.1.3.3	10%	30%	30%	50%
Both Key Els + High Risk Parts	0%	0%	0%	30%



Others Projects (9 audits)

1 Mar 07 - 30 Jun 08 ▼	>=70 ▼	>=60 ▼	>=55 ▼	>=50 ▼
Ele 3 Safety Training	67%	100%	100%	100%
Ele 4 In-house Rules	56%	56%	89%	89%
Ele 6 Safety Inspection	56%	78%	78%	89%
Ele 7 Job Hazard Analysis	56%	78%	78%	89%
Ele 9 Accident Investigation	89%	89%	89%	89%
All Key Ele 3,4,6,7,9	33%	56%	56%	78%
Part 14.1.3 Working at Height	75%	75%	75%	75%
Part 14.1.4 Housekeeping	44%	78%	78%	89%
Part 14.1.5 Falling Objects	100%	100%	100%	100%
Part 14.3.3 Lifting Operations	78%	89%	89%	89%
All HR Parts 14.1.3-5 and 14.1.3.3	22%	56%	56%	67%
Both Key Eles + High Risk Parts	11%	44%	56%	56%



Rationale for Proposed Critical Pass

Part A

1. SM Reg since 1999 , Enforced since 2002
2. Fundamental elements of COP
3. Crucial to success of SMS

Part B

1. Mandatory
2. Full compliance
3. High Risk Items

HASAS

1. Scheme aimed at higher standards
2. HASAS more than 12 yrs since 1996
3. Continuous Improvement
4. Leading in industry



Working at height (section 14.1.3)

High risk activity causing majority of the fatal accidents

Year	Industry Wide Accident Statistics	
	Fatal Cases	Total Fatal Cases
2003	9 (36%)	25
2004	8 (47%)	17
2005	14 (56%)	25
2006	9 (56%)	16
2007	9 (47%)	19
2003-2007	49 (48%)	102



Protection against falling objects (section 14.1.5)

Most of the cases were serious

Year	Industry Wide Accident Statistics			
	Fatal Cases	Total Fatal Cases	Accident Cases	Total Acc Cases
2003	3 (12%)	25	237 (5.4%)	4367
2004	0	17	139 (3.6%)	3833
2005	3 (12%)	25	151 (4.2%)	3548
2006	1 (6%)	16	131 (3.9%)	3400
2007	3 (16%)	19	114 (3.7%)	3042
2003 - 2007	10 (9.8%)	102	772 (4.2%)	18190

Year	HA Sites Accident Statistics			
	Fatal Cases	Total Fatal Cases	Accident Cases	Total Acc Cases
2003	0	1	15 (7.7%)	195
2004	1 (100%)	1	20 (15.6%)	128
2005	0	0	2 (3.3%)	61
2006	0	0	0	37
2007	0	0	2 (3.5%)	57
2003 - 2007	1 (50%)	2	39 (8.2%)	478



Housekeeping (section 14.1.4)

High incidence rate

(a) Slip, trip or fall on same level

(b) Stepping on objects

Year	Industry Wide Accident Statistics		HA Sites Accident Statistics	
	Accident Cases	Total Acc Cases	Accident Cases	Total Acc Cases
2003	868 (20%) 1 Fatal Acc (4%)	4367	47 (24%)	195
2004	695 (18%)	3833	20 (16%)	128
2005	687 (19%)	3548	21 (34%)	61
2006	640 (19%)	3400	13 (35%)	37
2007	539 (18%)	3042	16 (28%)	57
2003 - 2007	3429 (19%)	18190	117 (24%)	478



Lifting Operation (section 14.3.3)

Increase use as a result of change of construction method (pre-cast construction-façade walls, etc)

- Involving heavy machinery and very heavy load leading to
(a) “striking against or struck by moving object” and (b) “struck by falling object”
- Majority of serious nature

Year	Industry Wide Accident Statistics			
	Fatal Cases	Total Fatal Cases	Accident Cases	Total Acc Cases
2003	4 (16%)	25	984 (23%)	4367
2004	6 (35%)	17	896 (23%)	3833
2005	1 (4%)	25	825 (23%)	3548
2006	2 (13%)	16	736 (22%)	3400
2007	3 (16%)	19	698 (23%)	3042
2003 - 2007	16 (16%)	102	4139 (23%)	18190

Year	HA Sites Accident Statistics	
	Accident Cases	Total Acc Cases
2003	47 (24%)	195
2004	38 (30%)	128
2005	9 (15%)	61
2006	7 (19%)	37
2007	12 (7%)	57
2003 - 2007	113 (24%)	478



Additional Audit Criteria 1

Promotion of Safety Climate Survey and Work Safe Behaviour

Q1.1.1 Does the safety policy commit the organisation to high standards of OSH for all its employees and for others who might come into contact with its activities?

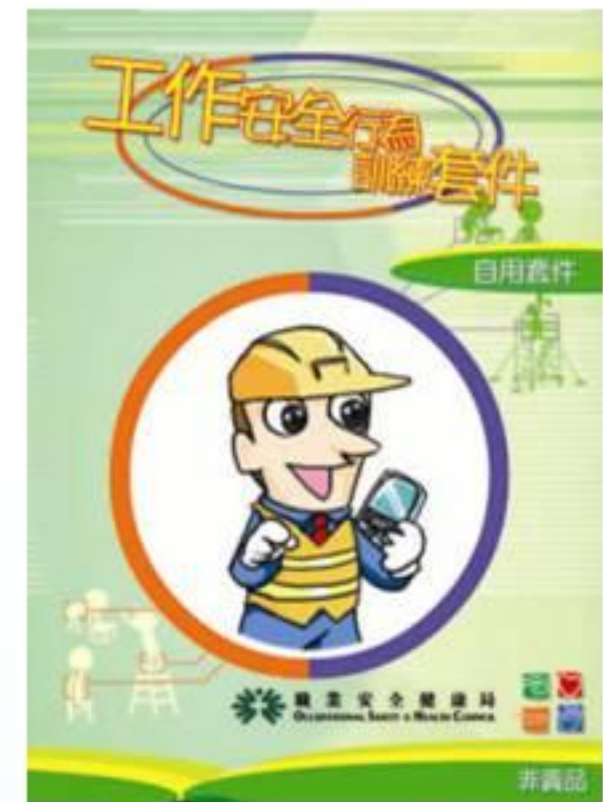
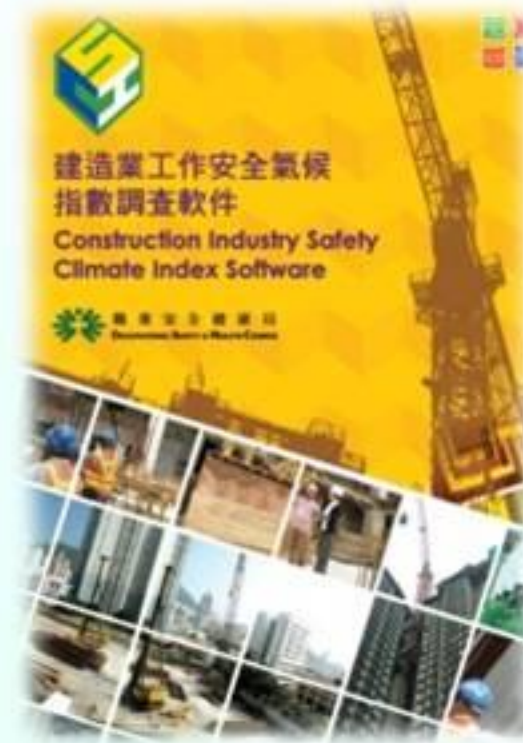
Weighting : **from 3 to 12 marks**

(Part A audit score weighting 0.5% to 2%)

Criteria : Contractor is required to implement

“Construction Industry Safety Climate Index Survey”

“Work Safe Behaviour (WSB) Programme”



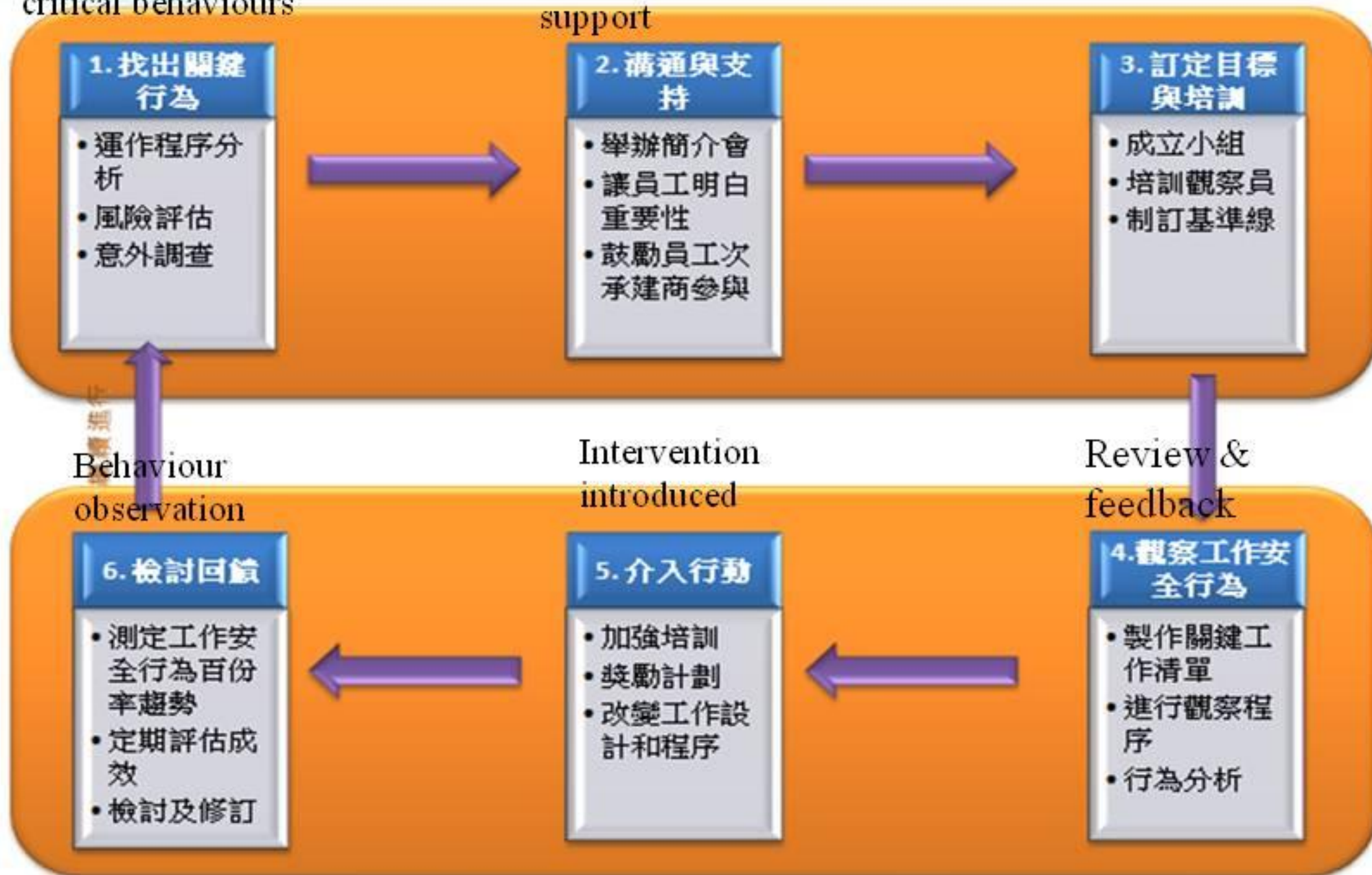


Work Safe Behaviour

Identification of critical behaviours

Communication for support

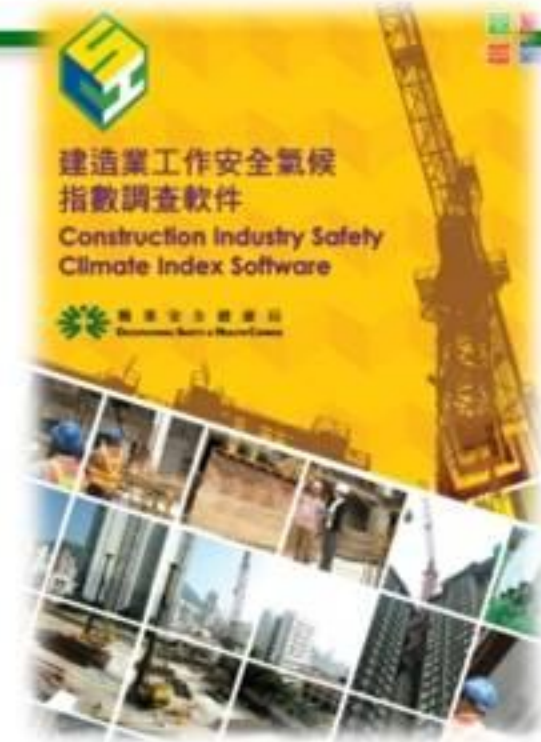
Goal setting & training





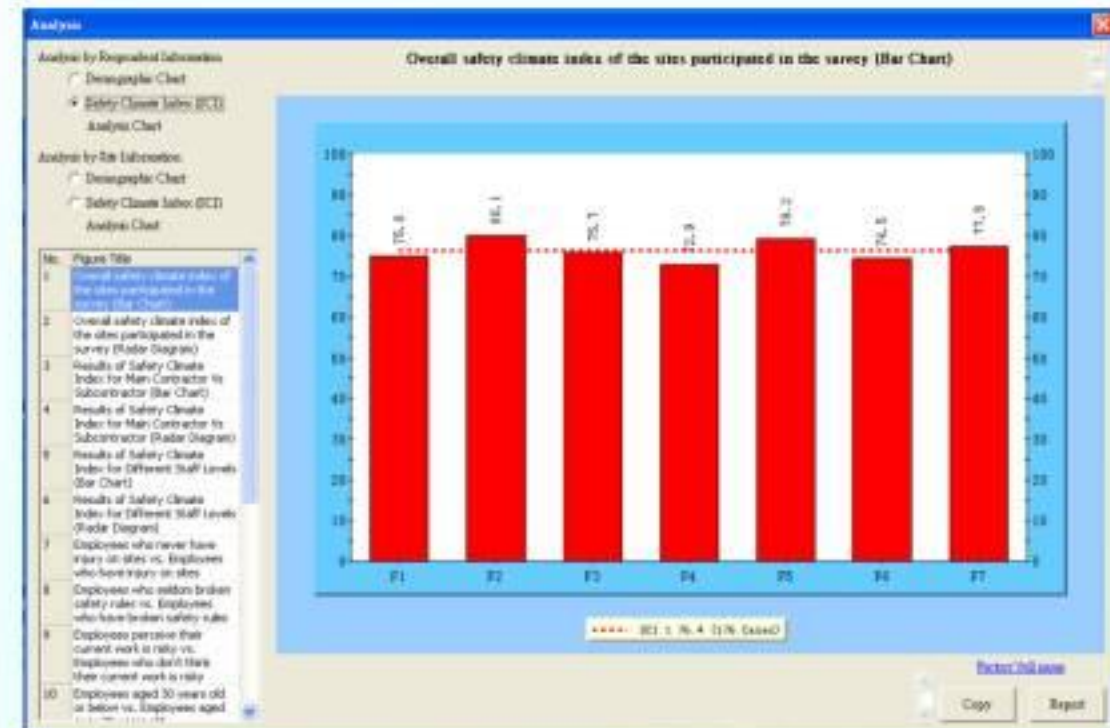
SCI Survey

- Preparation of SCI Survey
- Conducting survey
- Data analysis
- Report writing
- Announcement of result
- Continual improvement



38 Questions on 7 Dimensions

1. Commitment and Concern for OSH by Organization and Management
2. Resources for safety and its effectiveness
3. Risk taking behavior and perception of work risk
4. Perception of safety rules and procedures
5. Personal involvement in safety and health
6. Safe working attitude and workmates' influence
7. Safety promotion and communication





Additional Audit Criteria 2

Implementation of Safe Working Cycle

Daily Safe Working Cycle	Element of Safety Management System
1. Morning Safety Meeting	-Safety Organization (Communication) - Q2.14, Q2.1.5 & Q2.16 -Safety Promotion (Safety Awareness) - Q11.1.1, Q11.1.6 & Q11.1.7 -PPE Programs - Q8.1.7
2. Hazard Identification Activity	-Risk Assessment & Implementation of sites - Q7.1.2, Q7.1.4, Q7.1.6
3. Prior to work Inspection	-Safety Inspection (Daily) - Q6.1.1 -Process Control (Daily inspect. & maintenance of facilities & tools) - 14 -PPE (Supervision) - Q8.1.6
4. Guidance & Supervision at Work	-Safety Training (Supervision) - Q3.1.1 -Safety Organization (Competence) - Q2.1.8 -In-house Safety Rules - Q4.16 -Safety Inspection (Monitoring) - Q6.1.1
5. Safety Inspection	-Safety Inspection (Supervision) - Q6.1.2 -Subcontractor Control - Q13.2.6
6. Process Safety Discussion	-Safety Organization (Communication & Cooperation) - Q2.14 & Q2.16 -Subcontractor Control - Q13.2.5 -Process Control -14
7. Tidying up after Work	-Process Control (Housekeeping) - Q14.1.4.1
8. Final Check after Work	-Safety Inspection (Monitoring) - Q6.1.1





Additional Audit Criteria 2

Implementation of Safe Working Cycle

Weekly Safe Working Cycle	Element of Safety Management System
1. Weekly Inspection and Weekly Check	-Safety Inspection (Monitoring) - Q6.1.2 -Subcontractor Control - Q13.1.4 -Process Control -14
2. Process Safety Discussion	-Safety Organization (Communication & Cooperation) - Q2.14 & Q2.16 -Subcontractor Control - Q13.1.4
3. Weekly Tidying up	-Process Control (Housekeeping) - Q14.1.4.1



Monthly Safe Working Cycle	Element of Safety Management System
1. Monthly Safe Meeting	-Safety Organization (Communication) - Q2.14 & Q2.16 -Safety Promotion (Safety Awareness) - Q11.1.1, Q11.1.6 & Q11.1.7
2. Monthly Inspection	-Safety Inspection (Monitoring) - Q6.1.2 -Subcontractor Control - Q13.1.4 & Q2.1.6
3. Monthly Safe Training	-Safe Training - Q3.1.7 -Analysis/Prevention of Accidents - Q9.1.6
4. Monthly Safe Committee Meeting	-Safety Committee - Q5.1.1 & Q5.1.2





End

