



TRANSPORT CANADA SAFETY MANAGEMENT SYSTEM ASSESSMENT PROCESS

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Who we are



Transport
Canada

Transports
Canada



Jacques Whitford Ltd.



International Safety Research Inc.

- Designed, developed and delivering TC Aviation SMS training for Civil Aviation delegated officers
- Assisted in the development of the TC Aviation SMS Assessment Process



Outline

- Part 1: Background to TC Aviation SMS
 - Canadian Aviation Regulations (CARs) and Standards for SMS
 - Accident Rates
 - Aviation SMS in Transport Canada
 - First Steps
- Part 2: Conducting the Assessment
 - SMS and Existing Regulations
 - Assessment vs. Audit?
 - SMS Assessment Process
 - Example TC Protocol
- Part 3: Completing the Assessment
 - Criteria
 - Observations
 - Measuring



Part 1: Background to TC Aviation SMS

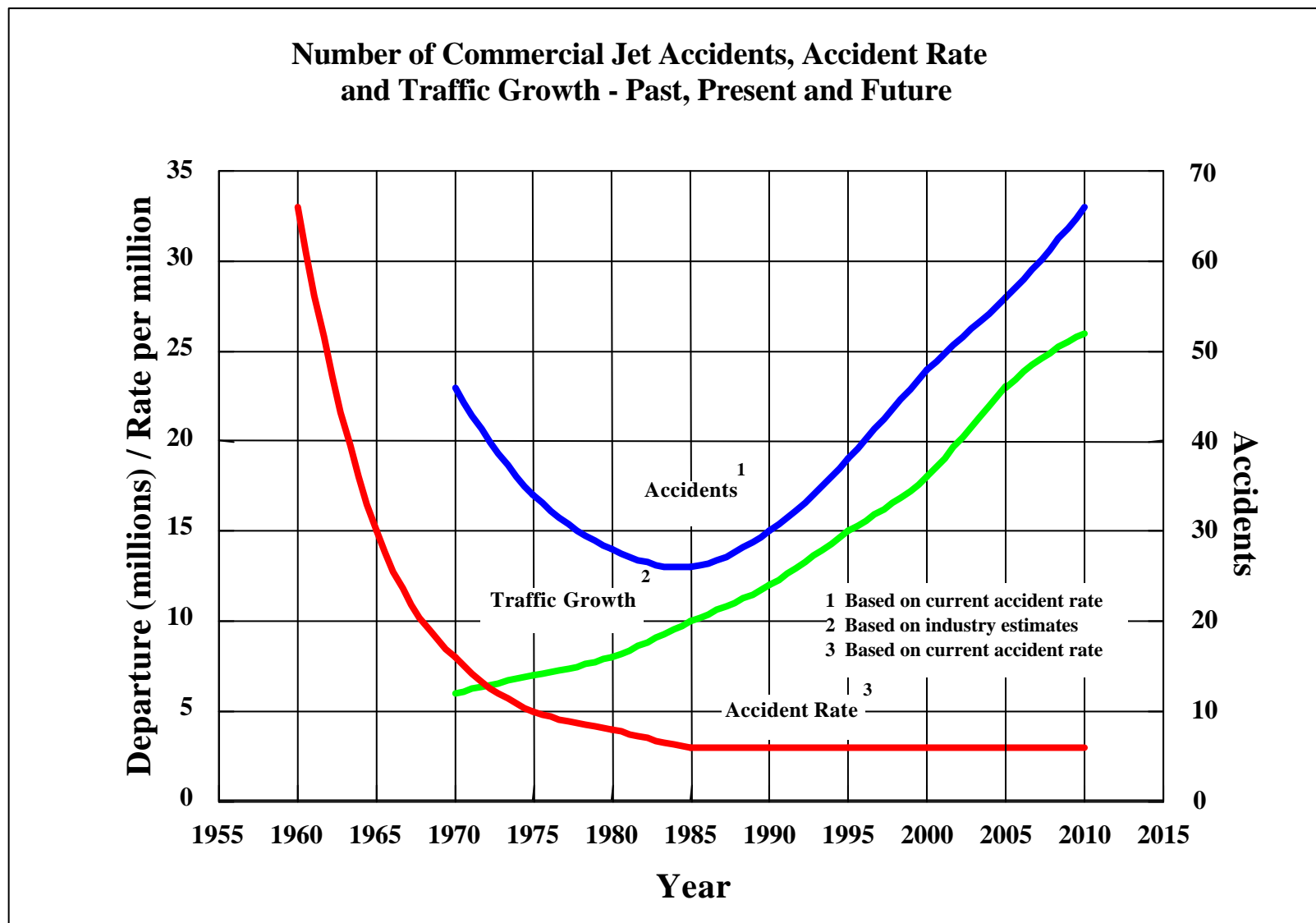


Canadian Aviation Regulations (CARs) and Standards for SMS

- I. General Provisions
- II. Aircraft Identification and Registration and Operation of a
Leased Aircraft by a NON-registered owner
- III. Aerodromes and Airports
- IV. Personnel Licensing and Training
- V. Airworthiness
 - Aircraft Certification (AC)
 - Maintenance & Manufacturing (M&M)
- VI. General Operating and Flight Rules
- VII. Commercial Air Services
- VIII. Air Navigation Services
- IX. Repeals and Coming into Force



Projected Traffic Growth and Accident Rates





Aviation SMS in Transport Canada

Starting in 2000, recognized the need for SMS:

- “SMS in Aviation Maintenance”
- “CASS 2001 – Making Safety Management Systems Work in the 21st Century—Something for Everyone”
- “Flight 2005 – Raising the Flight level”
 - ‘to improve safety through proactive management rather than reactive compliance with regulatory requirements’

Canadian SMS will be defined by regulations

- NPAs to CARs

Transport Canada Aviation SMS Components & Elements

1. Safety Management Plan

- Safety Policy
- Non-punitive Safety Reporting Policy
- Roles, Responsibilities & Employee Involvement
- Communication
- Safety Planning, Objectives & Goals
- Performance Measurement
- Management Review

2. Document Management

- Identification & Maintenance of Applicable Regulations
- SMS Documentation
- Records Management

3. Safety Oversight

- Reactive Processes
- Proactive Processes
- Investigation and Analysis
- Risk Management

4. Training

5. Quality Assurance

6. Emergency Preparedness



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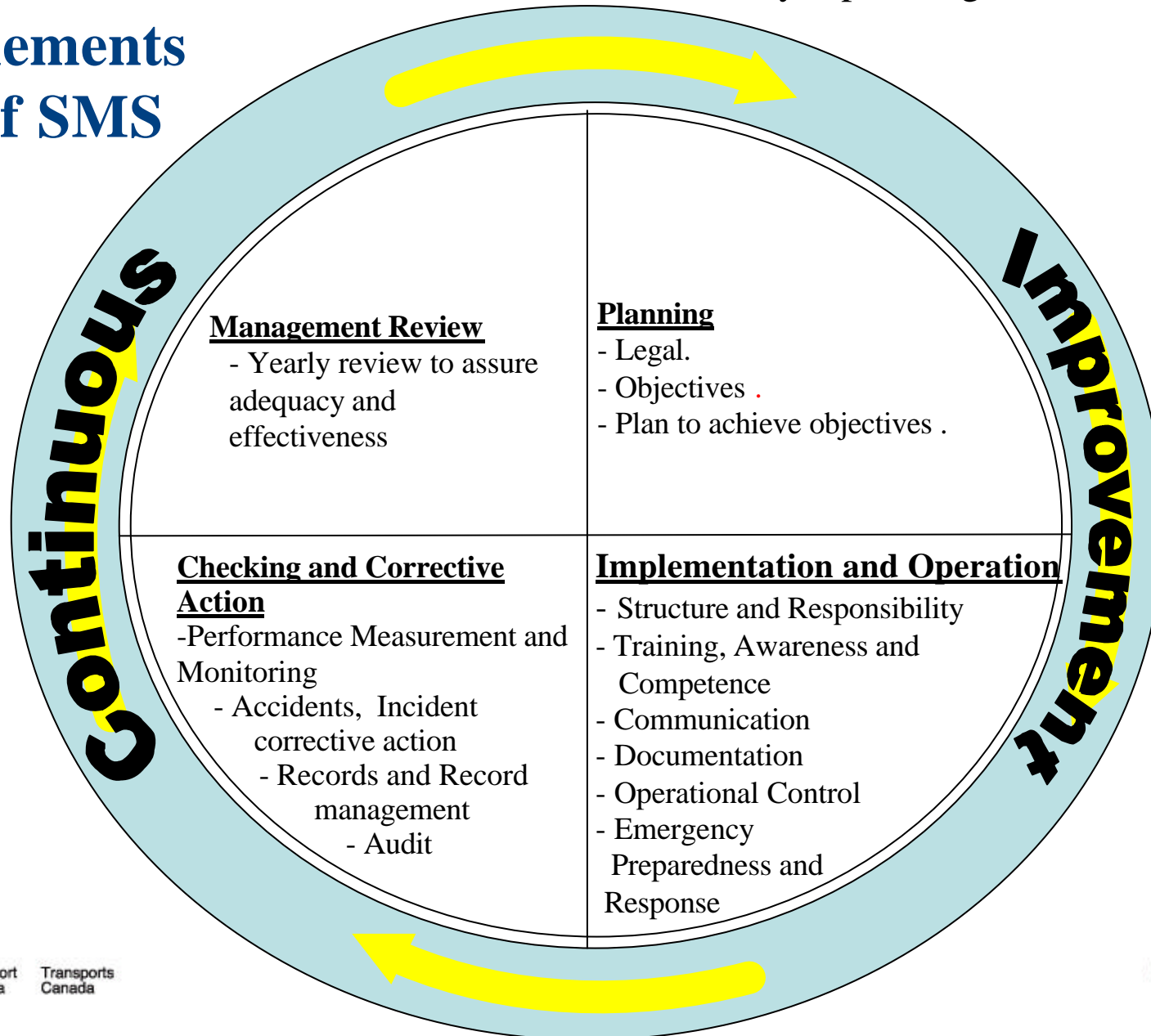
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Policy

- authorized and communicated by top management.



Elements of SMS





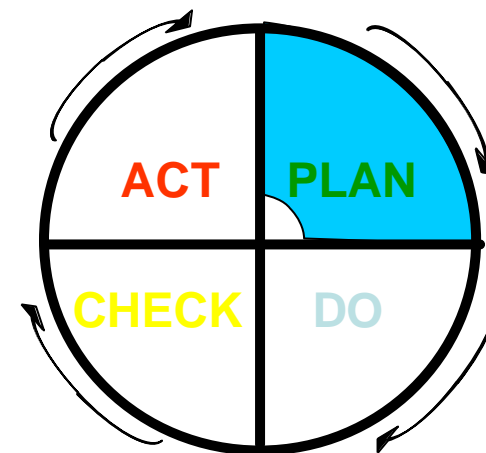
Implementation Phases

Initial Certification	1 Year Follow-up	2 Year Follow-up	3 Year Follow-up
<ul style="list-style-type: none">•Accountable Executive•Gap Analysis•Implementation plan and responsible person	<ul style="list-style-type: none">•SMS Plan, Policies, and Procedures•Reactive Reporting System	<ul style="list-style-type: none">•Proactive Reporting System	<ul style="list-style-type: none">•Training•Quality Assurance•Emergency Preparedness

Prerequisites



- Establish Accountability and Responsibility
 - Compliance document (Annex A)
 - Accountable Executive identification and commitment (Appendix D)
- Plan integration of regulatory requirements with company safety needs
 - Identify internal and external stakeholders
 - Identify laws and regulations





Part 2: Conducting the Assessment

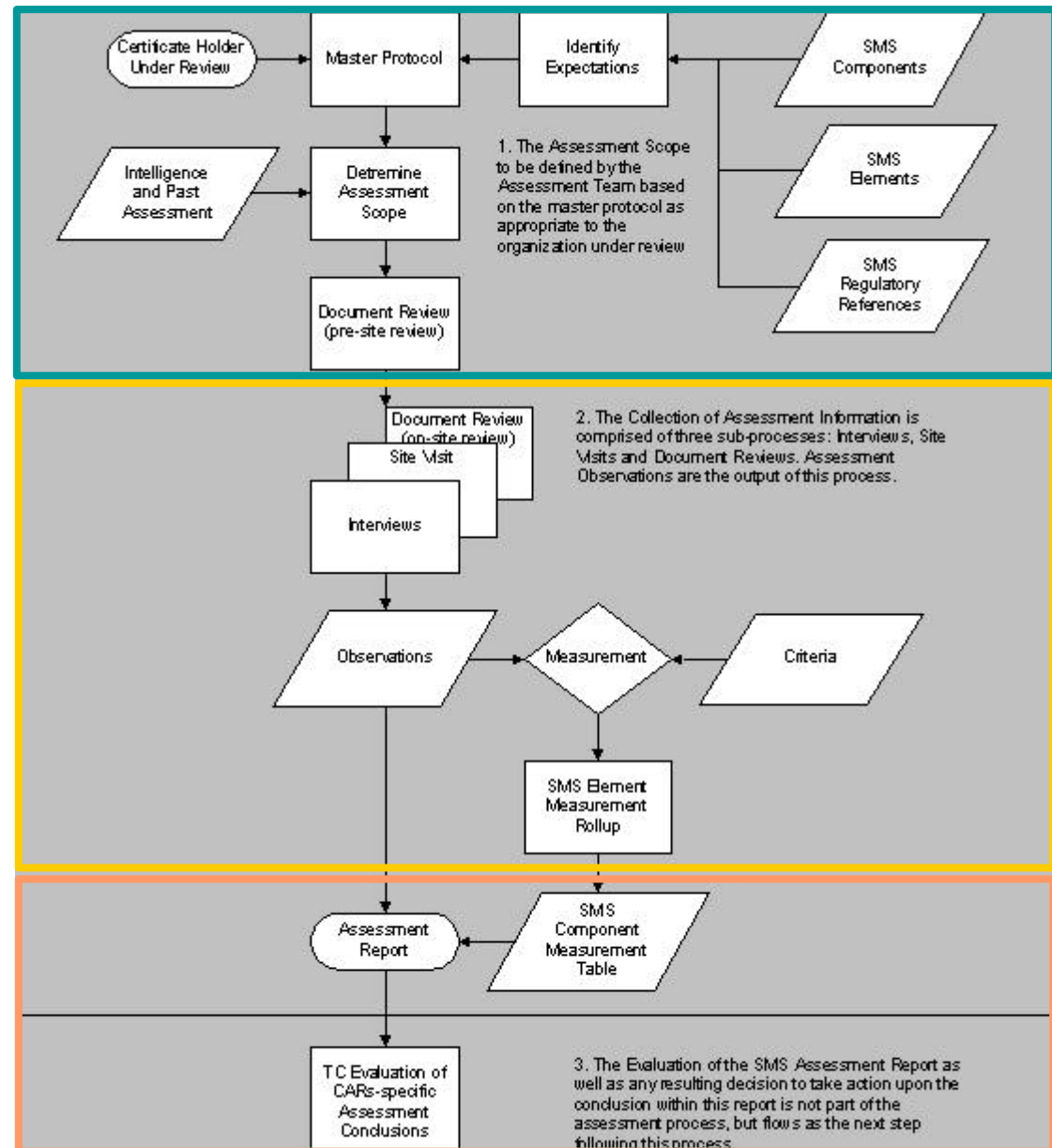


Assessment vs. Audit?

- Assessment focuses on the **effectiveness** and **efficiency** of a management system and makes judgements on its performance
- Audit focuses on **compliance** and **conformance** to a given standard and is based on factual verification of nonconformance

SMS Assessment Process

- Determine Assessment Scope
- Pre-Site Visit Document Review
- Site Visit
- Observations
- Apply Measures
- Rollup
- Assessment Report





Example TC Protocol

Typical protocol expectations include:

- CARS & TC standards
- Industry guidelines & standards
- Permits & approvals
- SMS expectations as defined in TP13881 E
- Generally accepted “safety management practices”

*The CARS
plus more!!!*

Table B1 – Safety Management Plan	
Component	1. Safety Management Plan
Element	1.1 Safety Policy
Expectations	
?A safety policy is in existence.	
?The organization has based its safety management system on the safety policy.	
?The safety policy is appropriate to the size and complexity of the organization.	
?The safety policy states the organization’s intentions, management principles and commitment to continuous improvement in the safety level.	
?The safety policy is approved by the accountable executive.	
?The safety policy is promoted by the accountable executive.	
?The safety policy is reviewed periodically	
?The safety policy includes a commitment to involve personnel at all levels in the establishment of the safety management system.	
?The safety policy includes a commitment to involve personnel at all levels in the maintenance of the safety management system.	
?The safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.	
?There is a clear declaration of commitment to safety.	
?Senior Management has a clear commitment to safety.	
?Senior Management demonstrates their commitment to safety through active and visible participation in the safety management system.	
?The policy is implemented at all levels of the organization.	
?The policy is clearly visible to all personnel and particularly throughout the safety critical areas of the organization.	
?The policy is included in key documentation and communication media.	
?Senior managers clearly articulate the importance of safety when addressing company personnel.	
?Verification that personnel have understood the message.	
?Senior executives have made a commitment to the development and ongoing improvement of the safety management system.	



Example of Assessment Criteria

Table D1.1 – Safety Management Plan – Safety Policy	
Score	Criteria
1	Senior Management does not demonstrate commitment to a SMS. Safety policies are not well developed and most personnel are not involved in SMS.
2	(3) less some aspects
3	<ul style="list-style-type: none">•A safety policy is in existence and appropriate to the size and complexity of the organization.•The organization has based its safety management system on the safety policy.•The safety policy is approved by the accountable executive.
4	
5	<p>Assessment criteria define the standards for the assessment</p> <p>The selection of assessment criteria is closely linked with assessment objectives</p> <p>The policy is clearly visible to all personnel and particularly throughout the safety critical areas of the organization. The policy is included in key documentation and communication media. Senior managers clearly articulate the importance of safety when addressing company personnel. Verification that personnel have understood the message. Commitment of the organization's senior executives to the development and ongoing improvement of the safety management system.</p>



Example of Assessment Criteria

Table D1.1 – Safety Management Plan – Safety Policy	
Score	Criteria
1	Senior Management does not demonstrate commitment to a SMS. Safety policies are not well developed and most personnel are not involved in SMS.
2	(3) less some aspects
3	<ul style="list-style-type: none">•A safety policy is in existence and appropriate to the size and complexity of the organization.•The organization has based its safety management system on the safety policy.•The safety policy is approved by the accountable executive.•The safety policy is promoted by the accountable executive.•The safety policy is reviewed periodically.•The safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.
4	All of (3) plus some aspects of (5)
5	<p>All of 3, plus all of the following:</p> <p>There is a clear declaration of commitment to continuous improvement in the safety level.</p> <p>The safety policy states the organization's commitment to continuous improvement in the safety level.</p> <p>Senior Management has a clear commitment to continuous improvement in the safety management system.</p> <p>Personnel at all levels are involved in the safety management system.</p> <p>The policy is implemented at all levels of the organization.</p> <p>The policy is clearly visible to all personnel.</p> <p>The policy is included in key documentation of the organization.</p> <p>Senior managers clearly articulate the importance of the safety management system.</p> <p>Verification that personnel have understood the safety management system.</p> <p>Commitment of the organization's senior management to the safety management system.</p>

Assessment level 3
defines the minimum
requirements for the
SMS to meet the
CARS and TC
standards



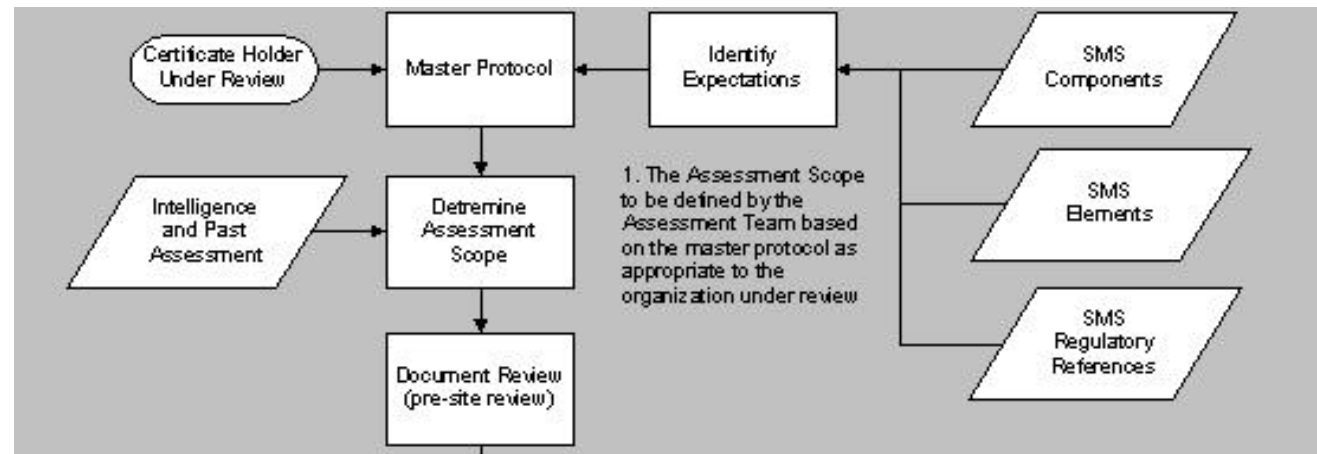
Example of Assessment Criteria

Score		
1	Senior Management does not demonstrate involvement in SMS.	Not well developed and most personnel are not
2		
3	<ul style="list-style-type: none">•A safety policy is in existence and•The organization has based its safety•The safety policy is approved by•The safety policy is promoted by•The safety policy is reviewed periodically•The safety policy is communicated	ation.
4	All of (3) plus some aspects of	ware of their individual safety obligations.
5	All of 3, plus all of the following There is a clear declaration of commitment to continuous improvement in the safety level. The safety policy states the organization's safety level. Senior Management has a clear commitment to the safety management system. Personnel at all levels are involved in the establishment and maintenance of the safety management system. The policy is implemented at all levels of the organization. The policy is clearly visible to all personnel and particularly throughout the safety critical areas of the organization. The policy is included in key documentation and communication media. Senior managers clearly articulate the importance of safety when addressing company personnel. Verification that personnel have understood the message. Commitment of the organization's senior executives to the development and ongoing improvement of the safety management system.	Commitment to continuous improvement in the safety management system and visible participation in the safety

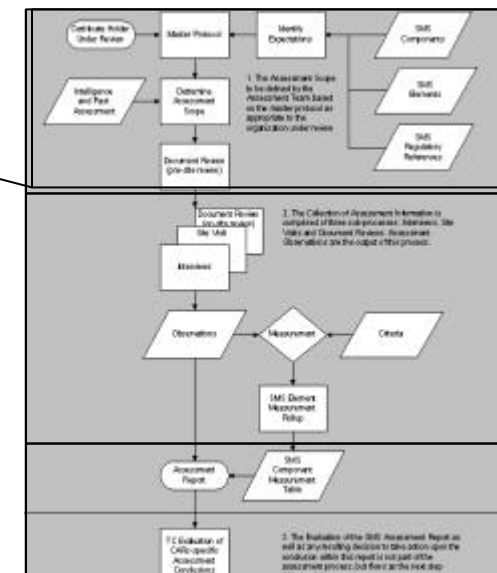
Assessment level 5
defines the continuous improvement criteria:

- Industry guidelines & standards
- Permits & approvals
- SMS expectations as defined in TP13881 E
- Generally accepted “safety management practices”

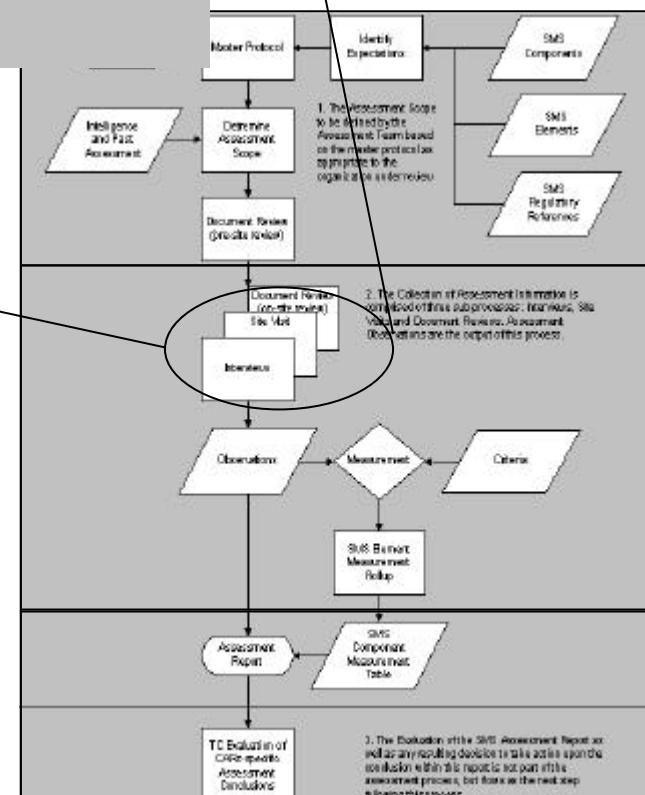
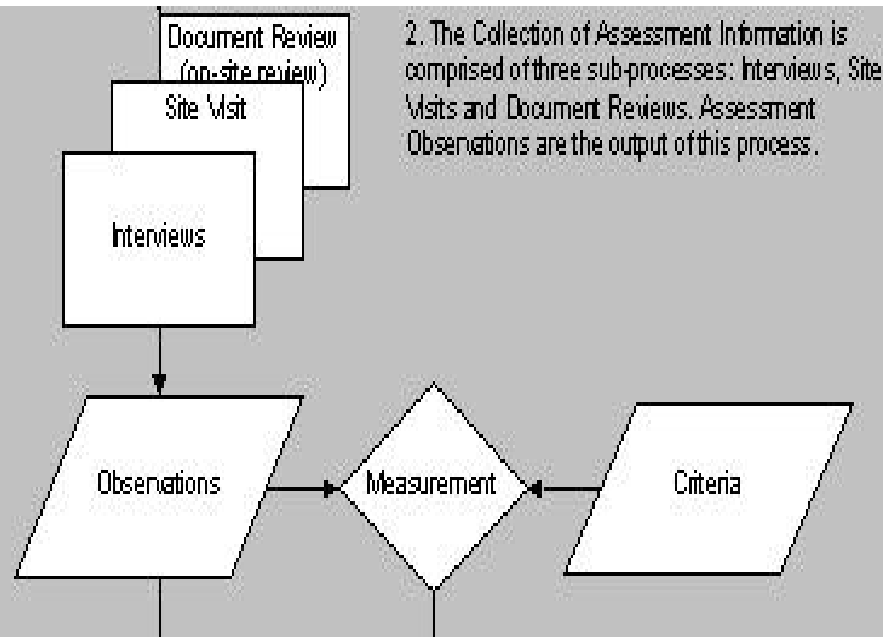
Phase 1: Assessment Preparation and Planning by TC



- Define assessment objectives
- Define assessment scope
- Notify and confirm with the Assessee
- Document review
- Make a “go/no go” decision
- Prepare the Assessment Protocol



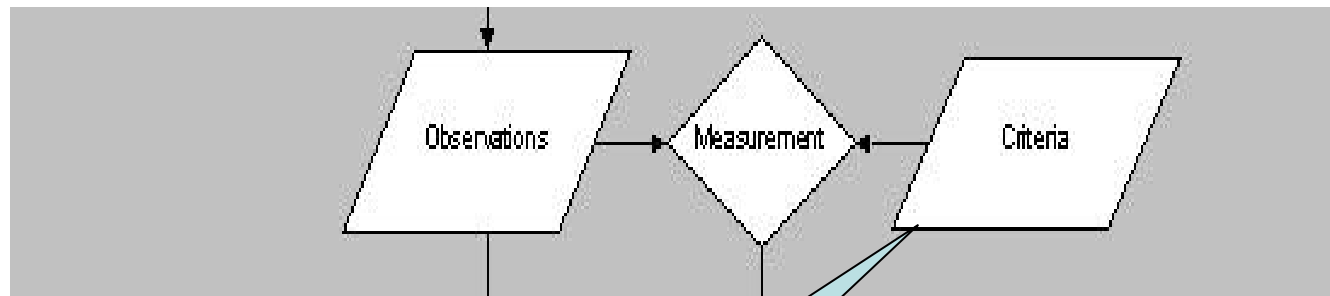
Potential SMS Assessment Process



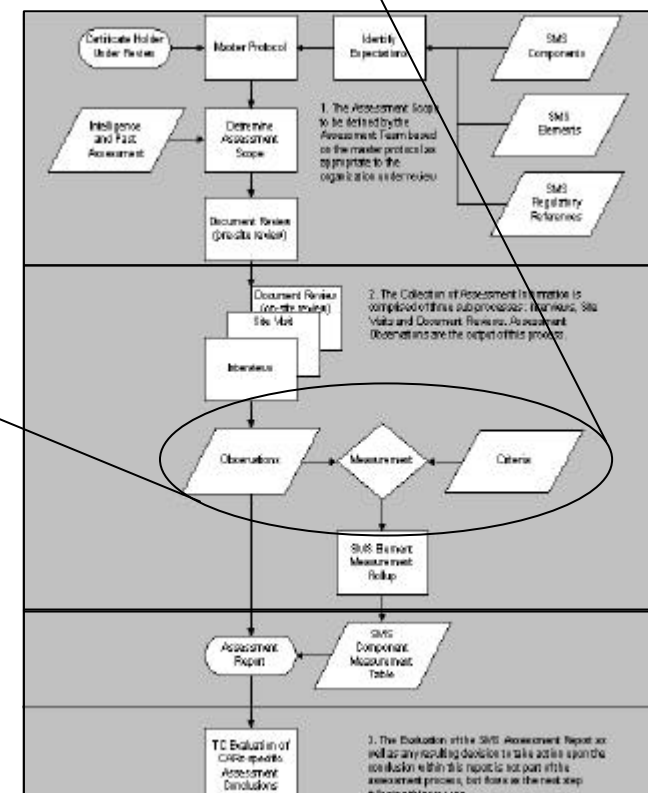


Part 3: Completing the Assessment

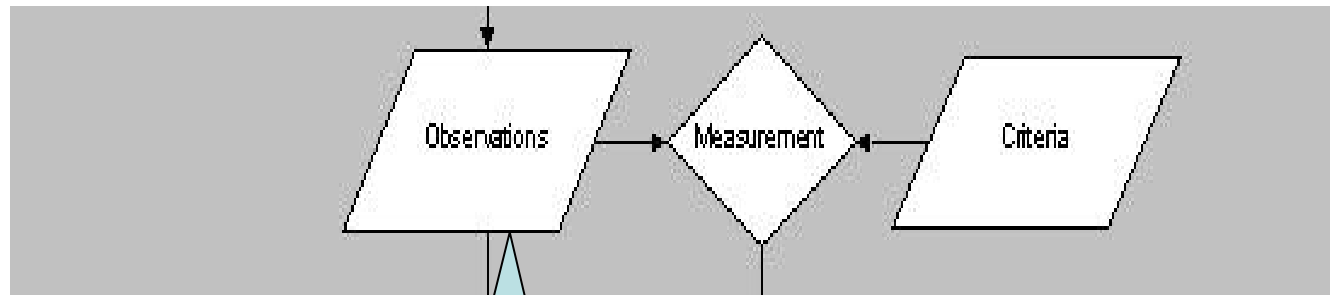
Measurement Process: Criteria



Criteria is used to measure / quantify performance

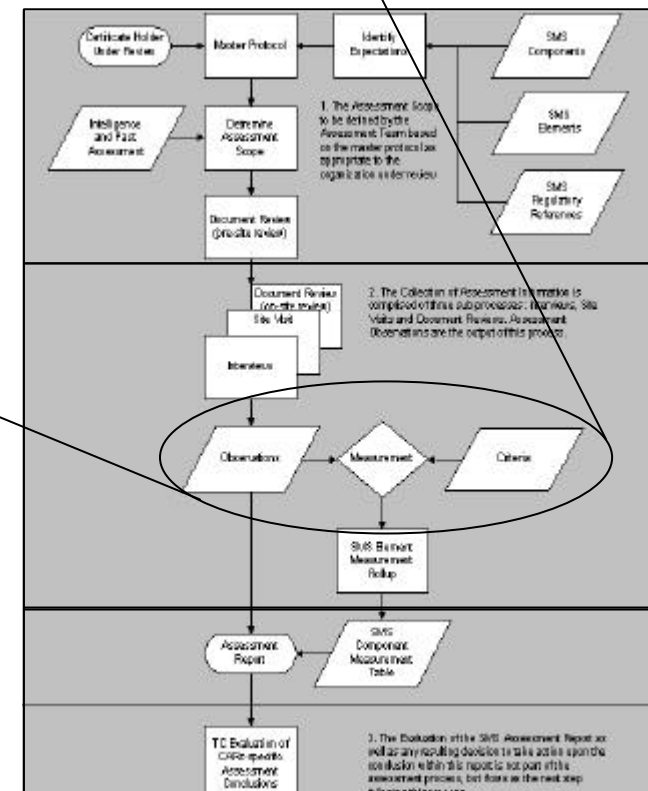


Measurement Process: Observations

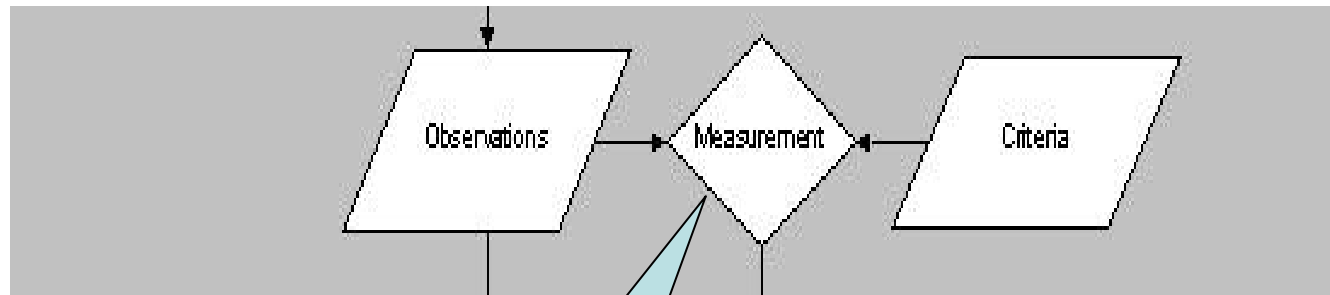


Observations substantiate the measurement

- Review / rewrite notes
- Team meetings to assess all gathered information



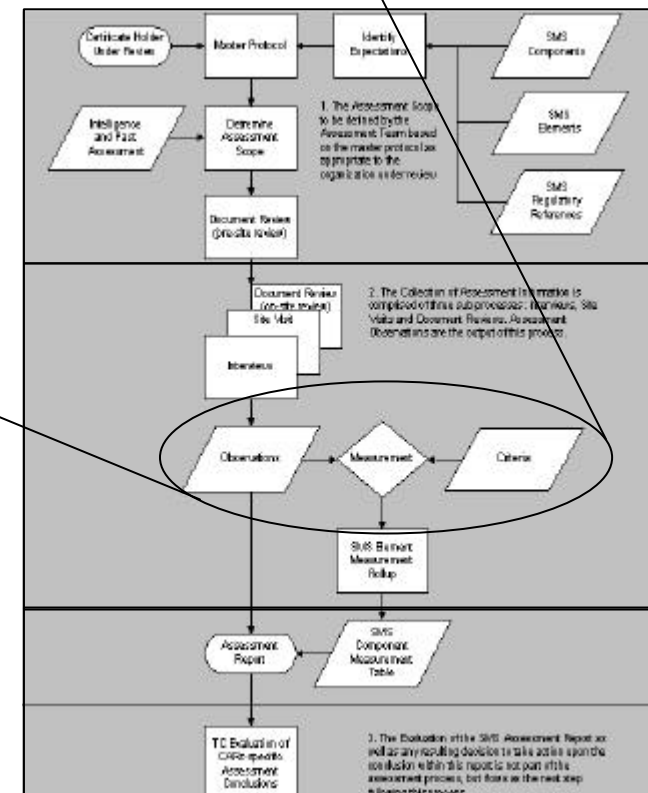
Measurement Process



Measuring the Observations

Input from:

- Observations
- Criteria





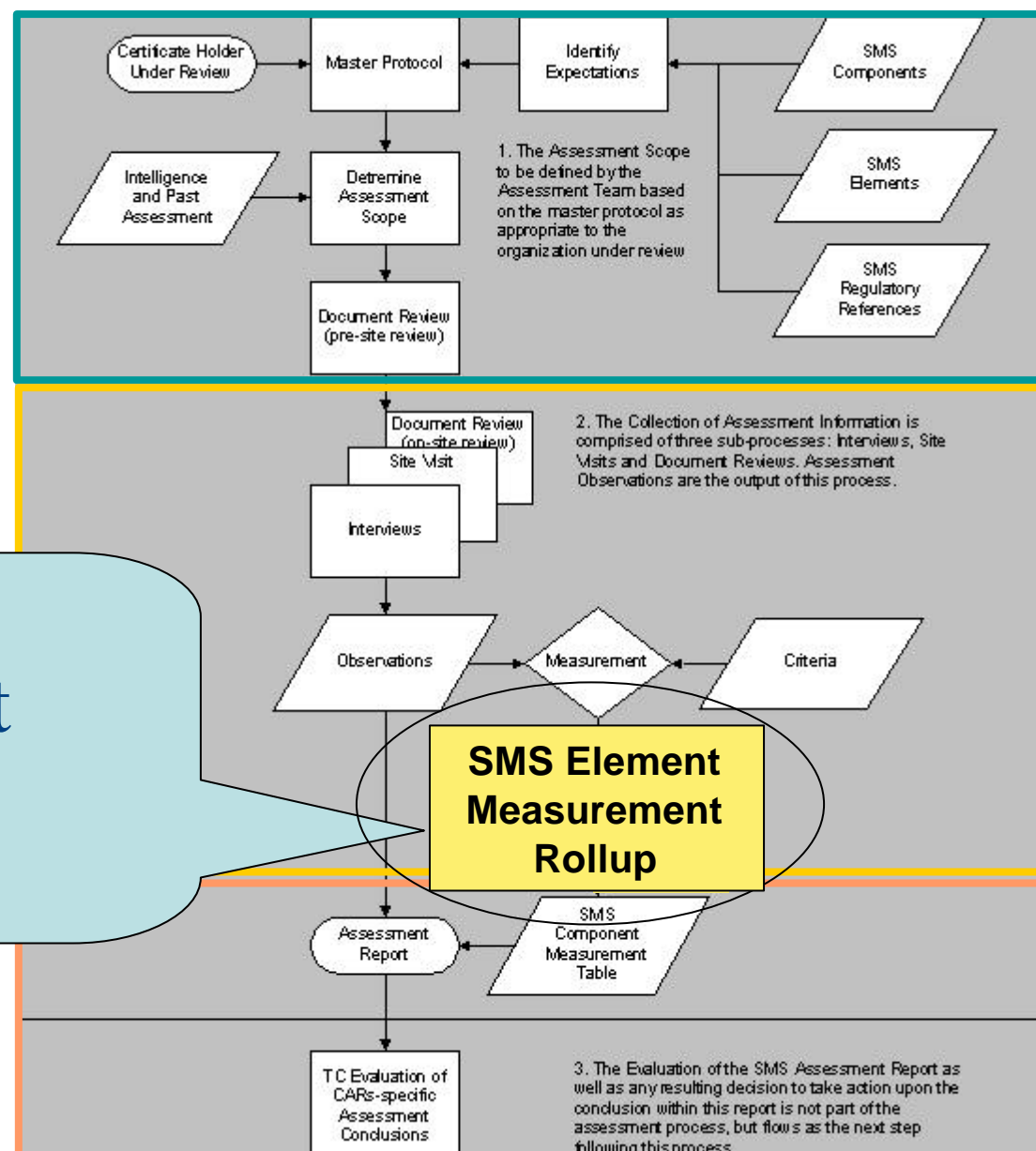
Measurement Process

Criteria for Measurement Award Level

Table D1.1 – Safety Management Plan – Safety Policy	
Score	Criteria
1	Senior Management does not demonstrate commitment to a SMS. Safety policies are not well developed and most personnel are not involved in SMS.
2	(3) less some aspects
3	<div> <ul style="list-style-type: none"> •A sa •The •The •The •The •The </div>
4	All o
5	<div> <p>All o</p> <p>There</p> <p>The s</p> <p>safety</p> <p>Senid</p> <p>mana</p> <p>Persc</p> <p>The p</p> <p>The p</p> <p>The p</p> <p>Senid</p> </div> <div> <p>Criteria of the measurement award levels for each element are given in the Evaluation Guide:</p> <ul style="list-style-type: none"> – Review response to the assessment questions against criteria expectations in the table – Select a measurement award level (1 – 5) for each element </div>
	<p>Verification that personnel have understood the message.</p> <p>Commitment of the organization's senior executives to the development and ongoing improvement of the safety management system.</p>



Assessment Evaluation





Assessment Evaluation

- The SMS components of a company will only be assessed once the required documents are in place
- Components are evaluated according to the timetable for implementation
- Normal SMS assessment review period **once the SMS is fully implemented** is 3-5 yrs (depending on certificate type)

Assessment Evaluation: Award Levels

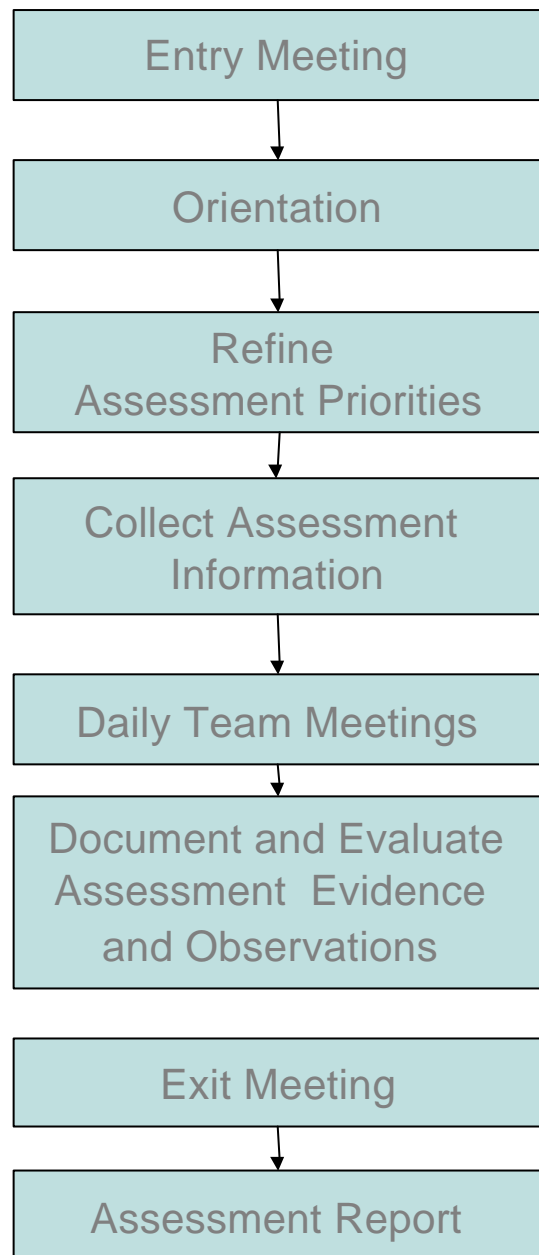
Table E – SMS Measurement Table						
	Component	Element	CAR Compliant	Element Score	Component Score	
Award Level	Description		Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
			Total:		+7	
			Y / N			
			Y / N			
	Y / N					
	Total:		+3			
	3. Safety Oversight	3.1 Reactive Processes	Y / N			
		3.2 Proactive Processes	Y / N			
		3.3 Investigation and Analysis	Y / N			
		3.4 Risk Management	Y / N			
		Total:		+4		
	4. Training	4.1 Training, Awareness and Competence	Y / N			
		Total:				
	5. Quality Assurance	5.1 Operational Quality Assurance *	Y / N			

Assessment Evaluation : Award Levels

Table E – SMS Measurement Table					
Component	Element	CAR Compliant	Element Score	Component Score	
Award Level 3.0	Description In compliance with the SMS CARS. Meets the minimum acceptable standard of assessment	Y / N			
		Y / N			
		Y / N			
		Y / N			
		Y / N			
		Y / N			
		Y / N			
		Total:	+7		
		Y / N			
		2.2 SMS Documentation			
2.3 Records Management		Y / N			
Total:			+3		
3. Safety Oversight	3.1 Reactive Processes	Y / N			
	3.2 Proactive Processes	Y / N			
	3.3 Investigation and Analysis	Y / N			
	3.4 Risk Management	Y / N			
Total:			+4		
4. Training	4.1 Training, Awareness and Competence	Y / N			
Total:					
5. Quality Assurance	5.1 Operational Quality Assurance *	Y / N			

Assessment Evaluation : Award Levels

Table E – SMS Measurement Table						
	Component	Element	CAR Compliant	Element Score	Component Score	
Award Level 3.5- 4.5	Description Exceeds the minimum acceptable standard of assessment Meets all of 3 plus some aspects of 5		Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
			Y / N			
		Total:			+7 'w	
			Y / N			
			Y / N			
5.0	Meets all of the criteria of 3 plus all of the additional requirements listed under the criteria for that component. Demonstrates industry best practices at a very high level.		Y / N			
			Y / N			
			Y / N			
		Total:			+3 'w	
			Y / N			
			Y / N			
			Y / N			
			Y / N			
		Total:			+4 'w	
4. Training		4.1 Training, Awareness and Competence	Y / N			
			Total: ,			
5. Quality Assurance		5.1 Operational Quality Assurance *	Y / N			



Evaluation of Corrective Action

- Once a non-compliance has been identified, it must be addressed by a **corrective action plan**
- Corrective action plan is reviewed by TC
- After corrective action is implemented, organisation monitors to ensure that the problem has been eliminated



Questions

