CONSTRUCTION
Training Group

LEARNER GUIDE

Stabilisers

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CONSTRUCTION Training Group

ASSESSOR GUIDELINES – GENERAL

1. Introduction

1.1 Scope

As the Assessment Instruments follow the guidelines set down by the National Guidelines for Occupational Health and Safety Competencyy Standards for the operation of Loadshifting and Other Types of Specified Equipment, Assessors should be familiar with the publication.

1.2 Evidence of Competence

Evidence of competence is established in a number of ways. The methods used in the following instruments involve:

- Assessment of practical performance
- Written and/or oral answers to questions on underpinning knowledge.

2. Preparing for the Assessment

2.1 Study the instruments

You need to read the assessment instruments and specific instructions carefully before beginning an assessment.

2.2 Confirm Appointments

Prior to an assessment, you need to confirm the date, time and location of the assessment with the applicant and any other relevant people.

2.3 Equipment Availability

The availability of equipment, materials and a suitable working area must be organised and confirmed, prior to the assessment.

2.4 Workplace Factors

Because procedures vary greatly between workplaces, it is important for assessors to plan their approaches to meet the requirements of the individual workplace. Make sure you take the timeframe into account when planning the assessment and also make the applicant aware of any time limits.

2.5 Selecting Questions

Questions for the written/oral assessment should be randomly
selected, either by hand or using the computer system, if applicable.

3. Conducting the Assessment

3.1 Provide an Explanation

Begin by explaining clearly to the applicant what is required of them. Check that the applicant has provided (or has been provided with) the necessary tools and equipment.

3.2 Practical Performance

Complete the practical performance checklist, as the applicant works through the required tasks. Wherever possible, this should be done in a normal working environment.

Do not ask the applicant questions while he/she is performing a task, as this can be distracting, and may affect the time taken to complete the assessment.

If, at any time, the applicant is endangering themself or others, stop the assessment immediately.

This indicates that the applicant is not yet competent and may require further training, before being reassessed.

Assessments should also be stopped, if equipment or property is likely to be damaged.

3.3 Knowledge

The knowledge assessment covers both oral and written exercises. The model answers provided with the knowledge assessment instruments are not necessarily exhaustive. Use your own judgement when scoring alternative answers.

3.4 Recording Responses

Each item and question on the assessment form you use is accompanied by a box. Assessors must complete every box as follows:

✓	CORRECT PERFORMANCE/ ANSWER
X	NOT YET ACHIEVED
NA	NOT APPLICABLE
O	ORAL ASSESSMENT
S	SIMULATED ASSESSMENT

If a box is marked incorrectly, cross out the mistake, mark the correct response alongside, and initial the change.

4. Determining Competencies

4.1 Assessment Summary

A specific assessment summary is given for each certificate class. This is to be filled in and signed by the assessor and counter signed by the applicant.

The duplicate is given to the applicant. The original with digital identification photo is sent to the certificating authority by the assessor. The triplicate remains with the assessor.

4.2 Competency Requirements

In order for you to deem an applicant competent, he or she must have completed each section of the assessment to the standard required. You should note any time constraints when arriving at your decision.

The standard required for each instrument is specified in the specific guidelines and/or on the summary page at the end of each instrument.

4.3 Additional Comments

Where an applicant fails to meet the standard of competence, you should add a written comment on the Assessment Summary, which briefly explains the problem.

Advice to the applicant, on the appropriate remedial action should also be included. This will also assist the certificate assessor, in the event that the applicant undergoes future reassessment.

Likewise, if an applicant demonstrates outstanding or remarkable performance, this should be noted.

4.4 Further Investigation

As a certificate assessor, it is your role to determine whether or not an applicant has achieved the standard necessary for the certifying Authority to be able to grant an equipment operator HSO qualification card.

Whenever you are unsure of the applicant's performance or knowledge, ask additional questions, and obtain additional evidence, before making your final decision.

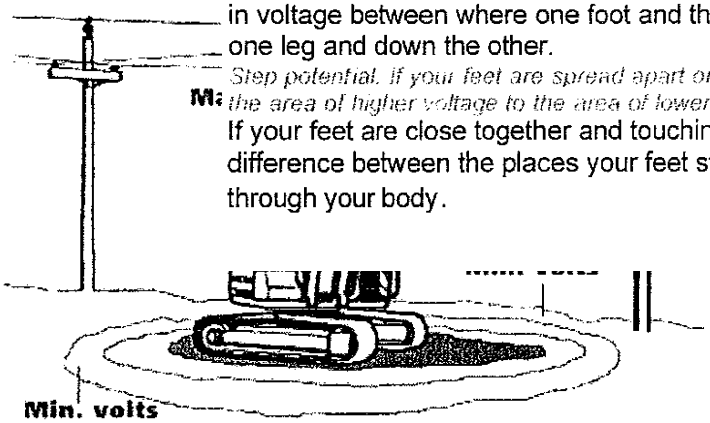
Diagram 1:

Step potential

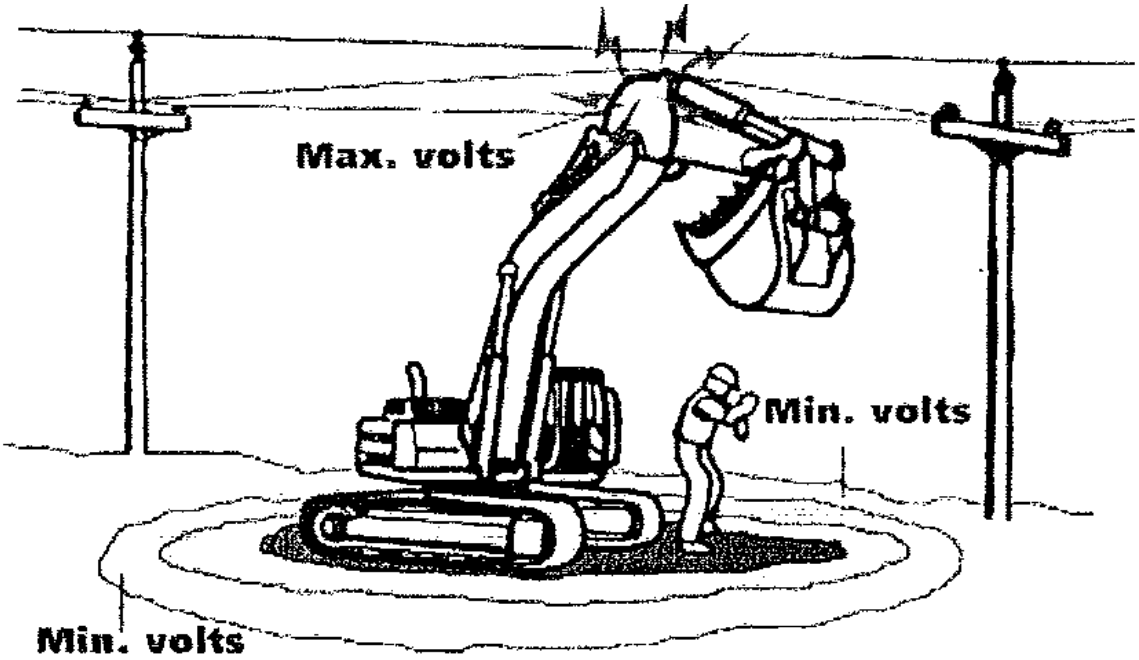
Step potential is the voltage difference between two places that are a step apart on energised ground. For example, if you are standing on energised ground, there could be a significant difference in voltage between where one foot and the other are placed, and an electric current could flow up one leg and down the other.

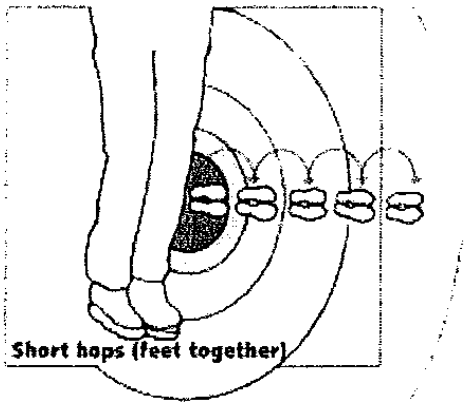
Step potential. If your feet are spread apart on energised ground, electricity can flow through your body from the area of higher voltage to the area of lower voltage

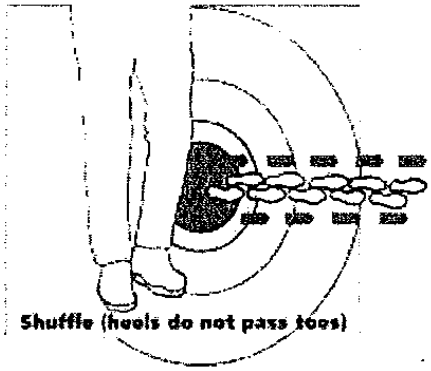
If your feet are close together and touching, you are fairly safe. Since there is almost no voltage difference between the places your feet stand, there is little reason for electricity to seek a path through your body.

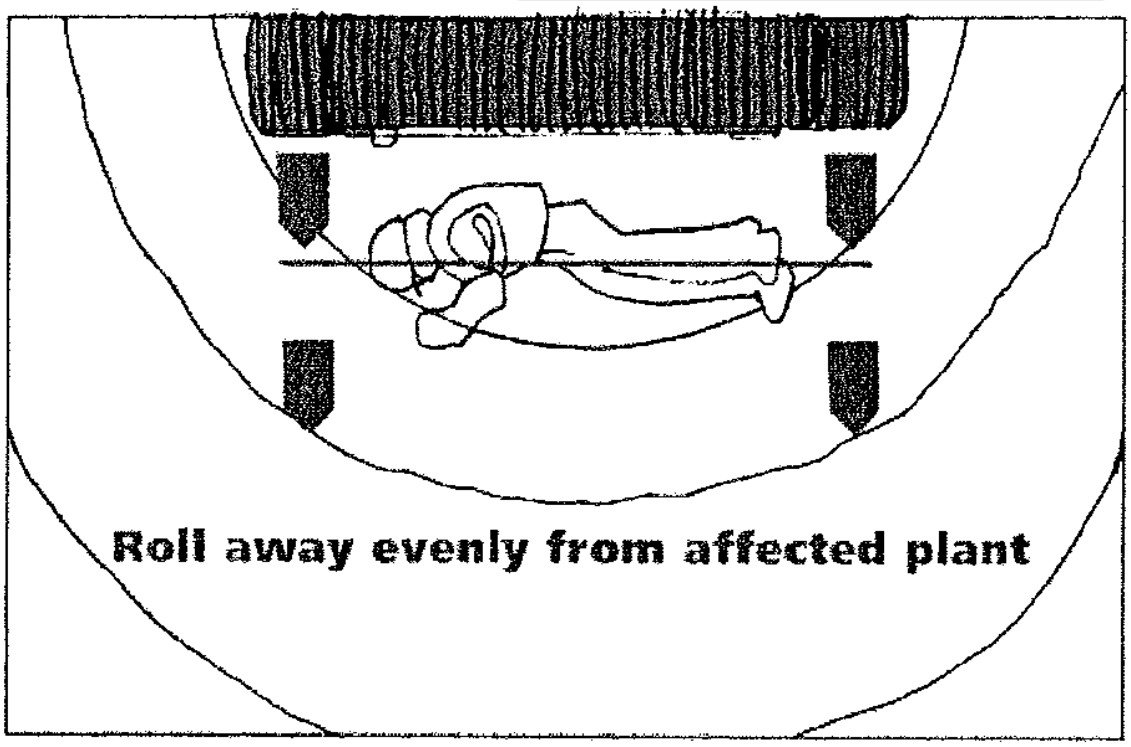


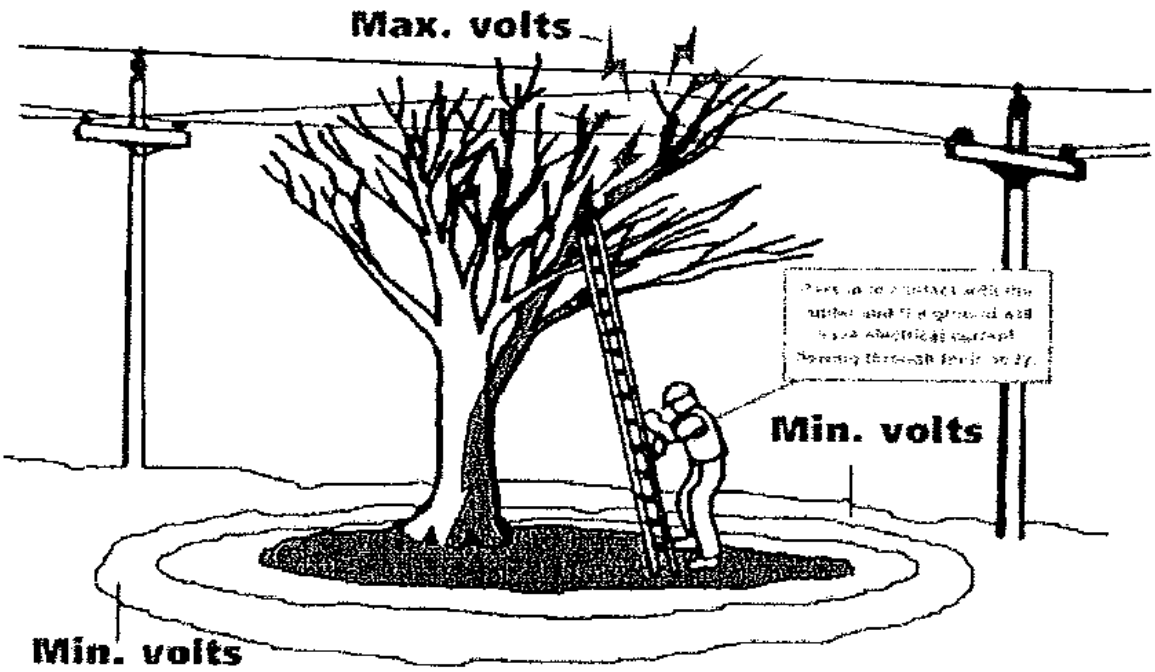
If anything touches a high-voltage power line or if a power line falls to the ground, electricity will flow to the ground, energising the tree or equipment and anything in contact with it. The surrounding ground may be extremely hazardous. The voltage gradually decreases from the point of contact until it reaches zero. The safe distance shown here—10 metres — is for line voltages up to and including 66 kV (66 000 V).




Short hops (feet together)


Shuffle (heels do not pass toes)


Roll away evenly from affected plant



Touch potential

Touch potential is another danger that comes from the difference in voltage. It occurs when you touch something that is energised while standing on the lower voltage ground. For example, if some equipment is in contact with a power line, it will be energised to the same voltage as the power line; the surrounding ground will be energised to a lower voltage. If you touch the energised equipment or tree at the same time as you touch the ground with your feet, electricity will flow through your body from the higher voltage equipment to the lower voltage ground.

Touch potential: Trees and equipment become energised when they contact a power line. Electricity can flow through a worker who touches the energised tree or equipment, often causing serious injury or death.

Currents greater than 75 mA can cause ventricular fibrillation (rapid, ineffective heartbeat) and will cause death in a few minutes.

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PART ONE

PERFORMANCE ASSESSMENT

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Assessor Guidelines – Specific (Performance Assessment)

ASSESSMENT INSTRUMENT – SPECIATIONS
The following performance assessment covers the Loadshifting Standard elements from [NOHSC:7019(1992) which apply to a Stabiliser

1. The assessment requires the operator to check the equipment, plan the work and to safely and competently operate, the equipment.

The assessment is performed in three sections:

1.1 Conduct routine pre-operational check on Stabiliser.

1.2 Inspect the site and plan the work.

1.3 Conduct pre-operational and post start up checks.

2.1 Drive the Stabiliser to the work area.

2.2 Mixing of materials

3.1 Shut down the equipment and secure the site.

2. The performance assessment can be conducted at any location which has

- Sufficient clear space to operate the machine
- Ground suitable for planing

3. Equipment and resources required:

- A stabiliser
- Suitable site on which to use the Stabiliser.

4. Unless other arrangements are agreed to by the assessor, it will be the responsibility of the applicant, applicant's employer or trainer to provide the required equipment and resources.

5. To be assessed an applicant must wear:

- Safety helmet (where required)
- Appropriate footwear
- Other protective clothing and equipment as appropriate.

6. The performance of each applicant is to be recorded on the assessor's checklist.

7. Safety of personnel:

When an applicant is working dangerously, recklessly or without the necessary co-ordination, the assessor must direct the applicant to cease work and terminate those parts of the assessment immediately.

8. the items in the shaded boxes are of critical importance. Failure to get any of these correct means that competency has not been achieved and the applicant must be failed.

9. In cases where criteria cannot be physically performed the applicant is required to demonstrate his/her understanding of these criteria by answering relevant questions orally, or by stimulation.

The type of answer provided is to be shown on the assessment sheet as:

O	Oral Assessment
S	Stimulated assessment
N/A	Not applicable

10. Where an applicant is assessed as 'not yet competent' he/she must be informed of the reason(s) in order to gain further appropriate training.

11. The full performance assessment can take up to 1 hour.

12. The applicant's competence in each unit is to be summarised for both performance and knowledge on the summary sheet. Competency is achieved for a unit when the required number of boxes for the unit have been ticked or marked "O", "S", or "N/A"/

Overall competency is achieved when all competence in all units has been assessed.

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Conduct Routine Checks:

1.1 Routine checks on vehicle/equipment:
Tyre condition and inflation, condition of wheels.
Checks liquid levels:

- ☐ Fuel
- ☐ Hydraulic oil
- ☐ Engine oil
- ☐ Coolant
- ☐ Transmission
- ☐ Battery

Checks equipment for defects:

- ☐ Damaged, worn or broken parts
- ☐ Safety guards and covers
- ☐ Warning signs
- ☐ Ground engagement tools for wear
- ☐ Loose nuts, bolts
- ☐ Hoses and fittings
- ☐ Grease holes and grease pins
- ☐ Connections for missing pins or keepers

Plan Work and Check Equipment
1.2 Inspects site and plans work
Identify Hazards

- ☐ Rough/uneven/unstable terrain
- ☐ Obstructions
- ☐ Inclines and declines
- ☐ Soft and sloping edges
- ☐ Restricted operator vision area
- ☐ Plant, personnel
- ☐ Wet slippery conditions
- ☐ Service drains
- ☐ Underground serives/Hazards
- ☐ Services eg power, gas
- ☐ Aware of material type to be stabilised

Access and path of movement is indicated

- ☐ To work area
- ☐ For work

Appropriate equipment for the task

- ☐ Equipment is appropriate for the task

Operational Checks
1.3 Conducts pre-operational and post start-up checks in accordance with manufacturer's specifications/operating manual.

- ☐ Mounts correctly
- ☐ Adjusts seat, secures safety belt (if applicable)
- ☐ In neutral, park brake on
- ☐ Warning device
- ☐ Personnel clear
- ☐ Starts engine
- ☐ Gauges, warning lights
- ☐ Attachment movement
- ☐ Braking system
- ☐ Steering

2. Drives Unit:
2.1 Drives to the work area

- ☐ Ensures travel direction clear
- ☐ Travels at safe speed
- ☐ Obeys road and warning signs
- ☐ Selects appropriate route
- ☐ Raises bowl to clear obstructions

2.2 Mixing materials

- ☐ Positions Stabiliser in correct position for mixing
- ☐ Rotor tailgate in correct position
- ☐ Rotor speed in desired mode as direction by supervisor (if applicable)
- ☐ Maintains specified forward speed
- ☐ Maintains specified mixing depth
- ☐ Maintains a straight line
- ☐ Works to a pattern
- ☐ Overlaps previous mixing pass
- ☐ Working in conjunction with water truck/push bar

- ☐ Controls mixing additive spray system correctly
- ☐ Lowers rotor to specified mixing depth
- ☐ Brake applied while rotor being lowered into hard material. (if applicable) (Stabiliser may directionally jerk if brake not applied)
- ☐ Maintains safe distance from edge as directed by supervisor, site instructions, signing or barricades
- ☐ Signals are interpreted and observed
- ☐ Checks all clear before reversing

3. <u>Shuts down equipment and secures site:</u>

3.1 Shuts down equipment and secures site

Parks equipment –

- ☐ Attachments lowered to ground
- ☐ Parks away from danger areas and in a suitable location

Shuts down equipment –

- ☐ Neutralises controls
- ☐ Sets parking brake/safety lock applied
- ☐ As per Operation Manual
- ☐ Moves controls to release pressure
- ☐ Removes keys
- ☐ Locks cabin (If applicable)
- ☐ Dismounts correctly

Post operational check –

- ☐ Cleans rotor area (if applicable)
- ☐ Minor servicing
- ☐ Checks and reports any damage

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ORAL/WRITTEN ASSESSMENT

Assessor Guidelines – Specific (Knowledge Assessment)

1. Knowledge assessment for Stabiliser is divided into three units.

2. To satisfy the requirements for competency the applicant must correctly answer (either in writing or orally) the specified number of questions in each of the following sections:

   1.1 Conduct routine checks

   Select 8

   1.2 Plan work

   Select 8

   1.3 Check controls and equipment

   Select 2

   2.1 Drives Unit

   Select 5

   3.1 Shut down equipment

   Select 3

   3.2 Secure site

   Select 1

3. The full knowledge assessment of twenty-nine (29) questions can take up to 1 hour.

4. The items in the shaded boxes are of critical importance. Failing to get any of these correct means that competency has not been achieved and the applicant must fail.

CONDUCT ROUTINE CHECKS:
(Select 9 from Q1-15 including shaded boxes)

1. What should be the first check of your Stabiliser at the start of your shift?

   Walk around it looking for visual defects

2. What precautions must be taken when an inspection of work has to be performed under a raised body or a crush point area?

   Provision provided to prevent personnel from being injured by striking or crushing

3. Name three defects you would look for when conducting a routine check on the hydraulic system of the Stabiliser.

   Hydraulic oil leaks, loose connections and hoses for splits, fractures or bulges

4. Name five pre-operational checks that should be carried out on the Stabiliser before it is started.

   Radiator, battery, fuel, oil, hydraulic lines, wheels/drums, structural etc

5. What warning divide must function on the Stabiliser to warn personnel that the Stabiliser is to travel, or is travelling in reverse?

   A reversing warning device

6. If an air system is installed on the Stabiliser what daily action would you take with the air condensation in the air receiver?

   Drain the water from the tank

7. What should be provided on the Stabiliser to prevent the operator from being dislodged from the seat of the Stabiliser?

   A safely belt

8. When should ground engagement tools be checked for wear?

   At least four times daily. In hard conditions more regularly.

9. What problem could be indicated by bubbles or milky engine oil in the sump?

   Water leaking into the sump

10. Why shouldn't the hydraulic oil storage tank be filled above the filled mark?

    Space in the tank is needed for displacement in the system

11. When changing a battery which battery clamp should be removed first?

    The earthed battery clamp

12. How would you remove the radiator filler cap of a Stabiliser that has not completely cooled off?

    Slightly loosen cap to release pressure and then slowly remove cap

13. Why shouldn't tyres be checked when they are still heat effected from travelling?

    The pressure in the tyres would be increased by the heat.

14. How would you establish the service and the frequency of the service to be carried out on the Stabiliser you are required to operate?

    By the service manual provided

15. To establish if the required service has been conducted what document would you refer to?

    The log book/service sticker

PLAN WORK:
(Select 3 from Q16-20 including shaded boxes)

16. What is the danger of travelling near the edge of the fill? (List 2)

    The edge of fill may collapse. The Stabiliser could tip or rollover. Injury to operator

17. If there is a likelihood of the Stabiliser being overturned what must be provided on the Stabiliser to protect the operator?

    A rollover protective structure and safety belts

18. In hazardous working areas where permission is required to work what must the operator ensure before the work is commenced?

    That the required permits have been obtained

19. If you accidentally damaged an electrical cable who would you immediately contact to render the power supply safe?

    The electrical supply authority

20. What would you refer to in order to establish the location of underground services?

    Supply authority or project plans, council maps

21. What should be provided to prevent a person falling into a trench or excavation?

    Barricades or guardrails or fencing

22. How should the flow of road traffic be controlled where signs and barricades are considered inadequate to control a potential hazard?

    By a Traffic Controller or by Police Officer

23. When should ear protection be worn?

    Where the noise could contribute to the loss of hearing

24. When should a person wear a safety helmet?

    Where the person could be struck on the head

25. What is the minimum type of footwear that an operator should wear to operate a Stabiliser?

    Non-slip footwear the encloses the foot

(Select 3 from Q26-31 including shaded boxes)

26. Which is the preferred route of travel, diagonally across or directly down a sloping surface?

    Directly down the sloping surface

27. What gear should be selected to travel down a steep sloping surface?

    A low gear. The gear required to climb the sloping surface

28. What is required to be obtained before an unregistered rubber tyred Stabiliser is driven along a public road?

    An unregistered vehicle permit

29. What government license do you require to drive a rubber tyred Stabiliser on a public road?

    Relevant State Government license

30. Is it permissible to carry passengers in a Stabiliser?

No, only if there is approved seating and seatbelts ■

31. How would you establish the capabilities and limitations of the equipment?

    By information provided by the employer and documented by the manufacturer □

CHECK CONTROLS AND EQUIPMENT (Select 2 from Q32-35 including shaded boxes)

32. On the start-up check you notice a bulge form in a hydraulic hose. What action would you take?

    Switch off the machine and have the hose replaced □

33. When should tests, checks and inspections be made by the operator on the Stabiliser that is to be operated?

    Before daily use ■

34. What action would you take with damage and defects found on the machine?

    Report the damage and defects to the authorised person and refrain from operating if a danger exists. ■

DRIVES UNIT (Select 6 from Q35-44 including shaded boxes)

35. Applicant to state the meaning of the hand signal of 'stop' as demonstrated by the assessor

    Stop ■

36. How would you dismount from a Stabiliser that has contacted live power lines?

    Jump clear ensuring contact with the ground and Stabiliser is not at the same time □

37. When travelling, what would you do before travelling down a steep grade?

    Reduce speed with service break and select the appropriate gear for the grade □

38. Before reversing a Stabiliser what precaution should be taken?

    Ensure the direction of travel is clear ■

39. Would you coast the Stabiliser downhill?

    No ■

40. What effect does fanning the brake control instead of a firm application of the brake control have on the air pressure for the brakes?

    Fanning may exhaust the pressure faster than the compressor can replace it. □

41. Why is it important to obey signals and directions?

    Ground personnel may have better vision around the Stabiliser than the operator ■

42. Describe why the brakes must be applied when lowering the rotor into hard material,

    The Stabiliser may jerk causing injury to personnel. ■

43. Why is it important to maintain the specified forward speed when mixing?

    To produce a uniform mixing of material

44. As an operator would you leave an unattended Stabiliser engine running?

    No

SHUT DOWN EQUIPMENT
(Select 1 from Q45-49 including shaded boxes)

45. Name the areas where you would not park the Stabiliser

    Access ways, near overhangs, refuelling sites, tidal or flood areas, adjacent to an excavation

46. Which direction should the Stabiliser face if it has to be parked on a sloping surface?

    Across the slope

47. Where possible, what type of surface should be selected to park the Stabiliser on?

    A level surface

48. When leaving the Stabiliser, what should be done with the attachments?

    Attachments lowered and pressure removed from lines, or safety bars/props in place if the attachment is to be left in a raised position

54. What post-operational checks should be carried out by the operator at the end of the shift?

    Check the equipment for defects and wear

SECURE SITE
(Select 1 from Q55-56)

55. What shall be provided when a Stabiliser has to be parked on or protrudes onto an access way?

    Barricades, lights and signs

56. For what reason should the key be removed from the ignition of the Stabiliser?

    To prevent unauthorised

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Unit	Form of assessment	Total number of boxes in the assessment	Number of boxes given or NA	Number of boxes required to meet standard	Were all critical boxes given or NA?		Assessment standard requirements achieved *		
1	Performance	36		27	Yes	No	Yes	No	
	Knowledge	20		15	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA
2	Performance	20		15	Yes	No	Yes	No	
	Knowledge	7		5	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA
3	Performance	12		9	Yes	No	Yes	No	
	Knowledge	4		3	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA

*Performance standard = Number of items required to meet standard (including all critical boxes)

Knowledge standard = Number of questions required to meet standard (including all critical boxes)

Summary

Candidate is:

☐ **COMPETENT** Date:_____

☐ **NOT YET COMPETENT**

Name of Assessor:_____ Signature: _____

Name of Candidate_____ Signature: _____

Comments/feedback:

_____

_____

_____

_____