

SAQCC FIRE

D&GS TRAINING SUB COMMITTEE

COURSE CURRICULUM

COURSE	Commissioning and Servicing gas systems	
ORIGINATOR	Keith Norgate	
DATE	26th January 2015	
Amendment 1	03rd March 2015	Committee changes
Amendment 2	02nd April	Committee changes
Issued	30th April	Issued

EQUIVALENT TRAINING COURSES AVAILABLE		
TITLE	TRAINING SCHOOL	CONTACT DETAILS
Nil		

STATUS OF CURRICULUM	-	Issued
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EQUIVALENT UNIT STANDARD	
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SAQA US ID 254319

PURPOSE OF TRAINING COURSE

This training course is for persons conducting commissioning and servicing of gas extinguishing systems to gain a knowledge of the requirements for conducting these works.

Learners who complete this course will obtain a knowledge of these skills.

LEARNING ASSUMED TO BE IN PLACE

This course assumes the learner can read, write and understand English and has a knowledge of the installation of gas suppression systems.

Learner to have attended supplier training.

Learner to be familiar with SANS 10139 and SANS 369-1 and SANS 369-2

OUTCOMES REQUIRED

Topics Covered:

1. Enclosure check / room integrity
2. Review of mechanical components
3. Review of electrical components
4. Functional tests
5. Documentation
6. Servicing procedures
7. Training of operators

Outcome 1: Enclosure checks

Learning Outcomes:

To include:

- The inspection of the protected room for openings
- The principle of room integrity testing
- Understanding a room integrity report
- Fire rating of the room
- Checking that venting has been conducted against design

Assessment:

Learner to describe the process and need for room integrity testing and room sealing.

Outcome 2: Review of mechanical components

Learning Outcomes:

To include:

- Ensure pipe routes and sizes are in accordance with hydraulic design
- Ensure nozzle sizes and positions are correct
- Check pipes and supports are secure

- Check cylinder positions and fixings
- Check manifold is fixed securely
- Check manifold pressure test certificate
- Check sufficient gas is allowed for the volume of space
- Conduct or witness pressure testing of pipes
- Check all signage and labelling
- Check that the actuation configuration is in compliance with manufacturer requirements
- Check all manifold hoses and attachments are tight
- Check pressure gauges to ensure correct cylinder pressure

- **Assessment:**

Learner to understand all aspects of mechanical checks

Outcome 3: Review of electrical components

Learning Outcomes:

To include:

- Check cable types, routing and fixing
- Check the source of mains power to the system
- Check battery sizes, labelling and correct installation
- Check quantity, position and types of fire detectors
- Check audible/ visual alarms correctly installed
- Check manual operation devices are correctly installed and labelled
- Check for main/reserve switches or hold switches
- Check panel and wiring correctly installed. EOL resistors are in correct place

Assessment:

Learner to demonstrate knowledge of electrical component checks

Outcome 4: Functional tests

Learning Outcomes:

To include:

- Conduct panel tests
- Check operation of fire detectors and correct zoning
- Check for coincidence operation
- Check for time delay before discharge
- Check correct operation and sequence of operation for audible and visual alarms
- Check interlocks are functioning
- Ensure all valve activating devices operate
- Check system operation in auto and in manual function
- Check remote signalling(if any) operate

Assessment:

Learner to be able to explain the correct procedure of functional tests

Outcome 5: Documentation for gas suppression systems

Learning Outcomes:

To include :

- Understand the documentation requirements for a gas system in line with National standards
- Requirements and contents of a log book
- System drawing requirements
- O and M manuals
- System certification (AIA certificates)

Assessment:

Learner to demonstrate knowledge of documentation requirements

Outcome 6: Servicing of gas systems

Learning Outcomes:

To include:

- Periodicity of servicing
- User checks required
- 3 monthly checks
- 6 monthly checks
- Annual checks
- Hydraulic testing of cylinders and hoses

Assessment:

Learner to describe the requirements for serving gas suppression systems

Outcome 7: Training of operators

Learning Outcomes:

To include:

- Teaching the panel functions
- System structure and operational sequence
- Use of Auto/ manual control
- Identifying fire alarms and locating them
- Identifying false alarms and simple rectifications
- Keeping clear space around detectors
- Need to keep room integrity
- Caution during cleaning or room modifications
- Recording events in the log book
- Evacuation procedures
- Post discharge requirements

Assessment:

Learner to describe the training requirements of end users