SAQCC FIRE

D&GS TRAINING SUB COMMITTEE

COURSE CURRICULUM

COURSE	**Standards Training SANS 246**	
ORIGINATOR	**K Norgate**	
DATE	7th November 2013	
Amendment 1	29th November 2013	Changes
Amendment 2	06th February 2014	Split SANS 246 and SANS322 curriculums
Amendment 3	26th November 2018	Update in line with SANS246 2015

EQUIVALENT TRAINING COURSES AVAILABLE		
TITLE	TRAINING SCHOOL	CONTACT DETAILS
SANS 246	Fire Systems Training	011 450 4706

STATUS OF CURRICULUM	-	Re-write in line with standards update

EQUIVALENT UNIT STANDARD	

None

PURPOSE OF TRAINING COURSE

This training course is for learners requiring to get an understanding of the fire detection National standard used within South Africa.

Learners who have completed this course will have a thorough working knowledge of the design, installation, commissioning and servicing requirements for fire detection systems in electronic environments as per the South African National Standards.

LEARNING ASSUMED TO BE IN PLACE

This course assumes the learner is already proved competent in:

- Workshop practice
- Cables and Cabling
- Basic fire theory
- Supplier Training
- Installation and Commissioning practices
- Standards training SANS 10139

OUTCOMES REQUIRED

Topics Covered:

1. The full content of the National standard for fire detection in electronic equipment installations SANS 246

Outcome 1: To understand the Scope of SANS 246 and Risk Assessments in relation to electronic equipment installations

Learning Outcomes:

To include:

- Assessing fires in electronic equipment areas
- The scope of SANS 246
- The risk assessment of electronic equipment areas

Assessment:

Learner to describe the scope of the SANS standard and fire risks associated with electronic equipment installations.

Outcome 2: Selection of the Fire Protection Strategy

Learning Outcomes:

To include:

- The description and explanation of the 3 main categories of risk
- Apply the correct fire detection and suppression required as per the risk category

Assessment:

Learner to describe:

- The different categories of electronic equipment room environments.
- The application of the various categories.
- Selecting a fire protection solution for each category room.

Outcome 3: Construction requirements of electronic equipment rooms.

Learning Outcomes:

To include:

- Fire separation of electronic equipment installations
- Fire detection interface to air conditioning systems, fire dampers
- Electrical cables and fire separation

Assessment:
Learner to demonstrate knowledge of the importance of the properties of the equipment room additional requirements for protection against fire.

Outcome 4: Fire detection systems and alarm systems

Learning Outcomes:

To include:
- Selection of the type of fire detection system for an electronic equipment installation
- Design of fire detection systems for an electronic equipment installation
- Detector types for an electronic equipment installation
- Coverage and positioning of fire detectors for an electronic equipment installation
- Alarms and indications
- Consideration of Interaction with other systems

Assessment:
Learner to identify the type of fire system and detection devices for various electronic equipment installations.

Outcome 5: Detector Selection and Specifications

Learning Outcomes:

To include:
- Selection of correct detector type
- Positioning of detectors
- Detector sensitivity selection
- Detector Spacing and Location
- Detector zoning
- Reference to Annex A for detailed information on spacing and location of detectors

Assessment:
Learner to select the appropriate type of detector and provide details of recommended sensitivity, location, spacing and zoning.

Outcome 6: Fixed firefighting equipment

Learning Outcomes:

To include:
- Determination of total flooding or cabinet systems
- Factors to be considered with suppression systems
- SANS notes regarding:
    - Watermist suppression systems
    - Automatic sprinklers
    - Condensed aerosol systems
    - Foam systems

- Portable fire-fighting equipment

Assessment:
Learner to describe the various interfaces required to a gas suppression system and advise which systems are recommended and which systems have special requirements or are not recommended.

Outcome 7: Smoke Control

Learning Outcomes:

To include:
- Design criteria for smoke extraction
- Differences between extinguishing agent venting, over pressure venting and smoke extraction

Assessment:
Learner to describe the various options for smoke control and why it may be necessary.

Outcome 8: Fire Safety Precautions

Learning Outcomes:

To include:
- Understanding other areas of fire safety responsibility
- General fire safety housekeeping of electronic equipment areas
- Other fire risk issues:
    - Waste management
    - Storage of combustible materials
    - Electrical installations
    - Smoking
    - Arson
    - Hot Work
    - Cooking and heating equipment
- Unoccupied areas
- Training – to understand the level of on-site training for personnel responsible for electronic equipment areas
- Building works and alterations and the actions required
- Action in the event of fire within electronic equipment areas

Assessment:
Learner to identify the various additional fire safety requirements related to electronic equipment areas. Learner to know the training required, actions required in the event of building works and alterations and describe what actions are required in the event of a fire within electronic equipment areas.

Outcome 9: Contingency and Recovery Planning

Learning Outcomes:

To include:

- Protection of data
- General contingency
- Documentation
- Testing contingency and recovery plans
- Business critical ancillary facilities

Assessment:

- Learner to describe the contingency and recovery plan procedure.
- Learner to give examples of business-critical ancillary facilities and how the associated fire risks should be handled.

Outcome 10: Inspection, testing and commissioning

Learning Outcomes:

To include:

- Understand all measures of inspection
- Testing of the fire alarm
- Performance testing for critical and high risk installations
- Performance testing for medium risk installations
- Smoke Pellet performance test
- Paper burn performance test
- Overheated enamel wire performance test
- Overheated PVC/LSF wire performance test
- Overheated resistor performance test
- Polyurethane mat performance test
- Potassium chlorate/lactose performance test

Assessment:

- Learner to describe the various fire alarm and performance tests suitable per risk category of installation.