Quality Council for Trades & Occupations
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OCCUPATIONAL SKILLS PROGRAMME CURRICULUM DOCUMENT

IN LINE WITH THE OQSF POLICY (2021) OCCUPATIONAL QUALIFICATION TYPE (NOMENCLATURE)

SKILLS PROGRAMME	SKILLS PROGRAMME ID	TITLE (DESCRIPTOR)	NQF LEVEL	CREDITS
Skills Programme	SP-250311	Wind Turbine Operator	3	56
CURRICULUM CODE	900277-000-00-00			
PARTNER DETAILS	**ORGANISATION NAME**	**WEBSITE ADDRESS**	**TELEPHONE NUMBER**	**LOGO**
QUALITY PARTNER - DEVELOPMENT	The Energy & Water Sector Education Training Authority (EWSETA)	https://ewseta.org.za/	+27 11 274-4700	

Contents

SECTION 1: CURRICULUM SUMMARY

1.1 Occupational Information:

1.1.1 Associated, Organising Framework for Occupations (OFO) Occupational Code and Title

313105: Wind Turbine Power Plant Process Controller

1.1.2 Occupation/Specialisation/Part-Qualification/Skills Programme Type, Title, NQF Level, Credits and Curriculum Code, addressed by this Curriculum.

TYPE	TITLE	NQF LEVEL	CREDITS	CURRICULUM CODE
Skills Programme	Wind Turbine Operator	3	56	900277-000-00-00

1.1.3 Alternative titles used by industry:

None

1.2 Curriculum Information:

1.2.1 Articulation for Qualifications and Part- Qualifications

N/A

1.2.2 Articulation for Skills Programmes

(a) Work Opportunities:
Wind Turbine Operator

(b) Learning Opportunities:
Learners may further their studies by enrolling in the following qualification, subject to meeting minimum entry requirements:

- Occupational Certificate: Wind Turbine Service Technician, NQF level 5, SAQA ID: 99559

1.3 Curriculum Structure:

1.3.1 Knowledge/Theory Modules:

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-01	Basic Health and Safety	3	3	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-02	Working at Heights & Manual Handling	3	5	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-03	Fire awareness	3	2	Face-to-face, or mobile training unit, or blended

900277-000-00-KM-04	First Aid	3	5	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-05	Basic Technical Training Mechanical	3	6	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-06	Basic Technical Training Electrical	3	4	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-07	Basic Technical Training Hydraulic	3	4	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-08	Basic Crane and Hoist Basic User	3	6	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-09	Basic Lift User	3	3	Face-to-face, or mobile training unit, or blended

Total number of credits: 38

1.3.2 Application Modules:

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-01	Inspect and routinely maintain main components	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-02	Maintain wind turbine systems.	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-03	Interpret wind turbine performance information	3	2	Face-to-face, or mobile training unit
900277-000-00-PM-04	Create awareness on health and safety around the wind farm.	3	2	No restrictions. Face-to-face, or mobile training unit
900277-000-00-PM-05	Monitor environmental compliance within the wind farm.	3	2	Face-to-face, or mobile training unit
900277-000-00-PM-06	Manage emergency responses in and around the wind farm.	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-07	Ensure proper use and maintenance of the personal and collective protective equipment.	3	3	Face-to-face, or mobile training unit

Total number of credits: 18

1.4 Entry Requirements:
NQF Level 2 qualification

1.5 Recognition of Prior Learning (RPL):

1.5.1 RPL for Access:
Learners may use the RPL process to gain access to training opportunities for a skills programme if they do not meet the formal, minimum entry requirements for admission. RPL assessment provides an alternative access route into a skills programme.
Such an RPL assessment may be developed, moderated, and conducted by the accredited Skills Development Provider which offers that specific skills programme. Such an assessment must ensure that the learner is able to display the equivalent level of competencies required for access, based on the NQF level descriptors.

1.5.2 RPL for Exemption:
For exemption from modules through RPL, learners who have gained the stipulated competencies of the modules of skills programme through any means of formal, informal, or non-formal learning and/or work experience, may be awarded credits towards relevant modules, and gaps identified for training, which is then concluded.

1.5.3 RPL for awarding credits:
Learners who have gained the stipulated competencies of the modules of a programme of learning, qualification, part-qualification, or skills programme through any means of formal, informal, or non-formal learning and/or work experience, may be awarded credits towards relevant modules, and gaps identified for training, which is then concluded.

For a Skills Programme, the accredited Skills Development Provider (SDP) must ensure all modular competency requirements are met prior to the FISA and keep record of such evidence.
Upon successful completion of the EISA/FISA, RPL learners will be issued with the QCTO certificate for the qualification, part-qualification, or skills programme. Quality Partners are responsible for ensuring the RPL mechanism and process for qualifications and part-qualification is approved by the QCTO.

1.6 Quality Partner for Assessment:
None

1.7 List of Qualification(s)/Part- Qualification(s)/Skills Programme(s) Related to this Curriculum.
Occupational Certificate: Wind Turbine Service Technician, NQF level 5, SAQA ID: 99559

SECTION 2: OCCUPATIONAL/SPECIALISATION/PART-QUALIFICATION/SKILLS PROGRAMME PROFILE

2.1 Purpose:

The purpose of this qualification is to prepare a learner to function as a Wind Turbine Operator.

Wind Turbine Operator monitors, plans, controls operations of the wind turbine and manage stability of natural environment, hazard, and safety requirements within the proximity of wind turbine & wind farm. A typical graduate will display the following attributes, attention to detail, health, and safety oriented & technical acumen, sociable, teamwork and professionalism.

2.2 Tasks:

TASK	LINKS TO ELO
Perform routine maintenance on wind turbine system.	Perform maintenance of wind turbine using appropriate procedures to solve operational problems.
Collect data on wind turbine performance	Collect data on wind turbine performance
Implement, manage, and monitor compliance to occupational health and safety and environment.	Use knowledge of applicable regulations and standards to ensure compliance to health, safety, and environmental requirements.

2.3 Occupational Task Details:

2.3.1 Task 1: Perform routine maintenance on wind turbine systems.

(a) Unique Product or Service:
Functioning of Main Wind turbine systems

(b) Responsibilities:
- Inspect, repair, and maintain main components.
- Inspect, repair, and maintain Wind turbine systems.

2.3.2 Task 2: Collect data on wind turbine performance.

(a) Unique Product or Service:
Records of wind turbine performance through SCADA System

(b) Responsibilities:
Interpret wind turbine performance and Errors information.

2.3.3 Task 3: Implement, manage, and monitor compliance to occupational health and safety and environment.

(a) Unique Product or Service:
Environmental, health and safety compliance

(b) Responsibilities:
- Create awareness on health and safety in and around the wind Turbines.
- Monitor environmental compliance within the wind farm.
- Manage emergency responses in and around the wind turbines.
- Ensure proper use and maintenance of the personal and collective protective equipment.

SECTION 3: CURRICULUM COMPONENT SPECIFICATIONS
3.1 Knowledge Module Specifications:

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-01	Basic Health and Safety	3	3	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-02	Working at Heights & Manual Handling	3	5	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-03	Fire awareness	3	2	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-04	First Aid	3	5	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-05	Basic Technical Training Mechanical	3	6	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-06	Basic Technical Training Electrical	3	4	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-07	Basic Technical Training Hydraulic	3	4	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-08	Basic Crane and Hoist Basic User	3	6	Face-to-face, or mobile training unit, or blended
900277-000-00-KM-09	Basic Lift User	3	3	Face-to-face, or mobile training unit, or blended

3.1 Detailing Knowledge Module (KM) Contents: 01: 900277-000-00-KM-01, Basic Health and Safety Introduction. NQF Level 3, Credits 3

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-01:	Basic Health and Safety	3	3	Face-to-face, or mobile training unit, or blended

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the basic health and safety in or around a wind turbine environment. The knowledge acquired will enable the learner to demonstrate an understanding of occupational safety and health rules and regulations specific to wind turbines.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-01-KT01	Safety	75
KM-01-KT02	Health	25

(c) Detailing each topic listed above into topic elements:

KM-01-KT01…SAFETY …75%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Local and International Legislation and regulations related to safety at work in or around Wind Turbines	25
KT0102	Types and uses of Personal protective equipment for Wind Industry	25
KT0103	Safety hazards and protection from weather elements and wildlife	25
KT0104	Basic Concepts and principles of hazard identification and risk assessment	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Describe the relevant legal requirements for safety in at work	40
IAC0102	Describe the types of safety hazards in the wind turbine environment	20
IAC0103	Describe the Types of Personal and Collective Protection Equipment	40

(c) Detailing each topic listed above into topic elements:

KM-01-KT02…HEALTH …25%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Personal health and wellbeing (Human Factors) in Wind Industry	25
KT0202	Managing pandemic and communicable diseases	25
KT0203	Weather and self-protection (Environmental Factors and Implications)	25
KT0204	Legal requirements for safety at work in or around a wind Turbine Environment	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Describe the relevance of human factors in wind turbine industry	34
IAC0202	Describe the principles of the effect of Environment in daily tasks	33

IAC0203	explain and describe the legal requirements in Wind Industry	33

3.1.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report

	• Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.1.3 Exemptions

None

3.2 Detailing Knowledge Module (KM) contents: 02: 900277-000-00-KM-02, Working at Heights & Manual Handling, NQF Level 3, Credits 5

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-02	Working at Heights & Manual Handling	3	5	Face-to-face, or mobile training unit, or blended

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the working at heights & manual handling in wind turbine environment. The knowledge acquired will enable the learner to demonstrate an understanding of Harness, legal requirements for working at heights, exercises, tools, equipment, and devices used, emergency Reponses and measures, techniques for manual handling, managing heavy objects, falling objects and their implications, management of injuries and risks associated with working at heights.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-02-KT01	Legislation and Behavioural Safety	4
KM-02-KT02	Harness	6
KM-02-KT03	Fall Prevention	5
KM-02-KT04	Vertical fall arrest system	6
KM-02-KT05	Fall arrest lanyards	11
KM-02-KT06	Dropped objects	3
KM-02-KT07	Self-retracting lifelines	6
KM-02-KT08	Measures to prevent injury during training	4
KM-02-KT09	Injuries, symptoms, and essential manual handling principles	4
KM-02-KT10	Manual handling risk control and proper manual handling techniques	9
KM-02-KT11	Emergency procedures	12
KM-02-KT12	Workshop – risk/hazard and suspension trauma	10
KM-02-KT13	PPE Review	4
KM-02-KT14	Rescue devices and rescue setup	5
KM-02-KT15	Rescue exercises	11

(c) Detailing each topic listed above into topic elements:

KM-02-KT01… LEGISLATION AND BEHAVIOURAL SAFETY …4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Global Legislation (International Standards for Working at Heights)	35
KT0102	National Legislation (General Safety Regulations of 1986)	35
KT0103	Behavioural Safety	30

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Discuss the main global and South African legislative requirements for working at heights	50
IAC0102	Discuss the requirements for behavioural safety in working at heights.	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT02… HARNES 6%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Pre-use inspection of Harness	25
KT0202	Fitting and Adjusting Harness	25
KT0203	Documentation and Records	25
KT0204	Maintenance and Proper Storage	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Explain the pre-use inspection procedure, importance, and maintenance procedures of the harness	40
IAC0202	Explain the Correct fitting procedures for the harness	30
IAC0203	Discuss the importance of proper documentation and record keeping in the use of the harness	30

(c) Detailing each topic listed above into topic elements:

KM-02-KT03… FALL PREVENTION…5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	Fall prevention over fall arrest.	20
KT0302	Pre-use inspection of anchoring points and Fall Arrest Systems	20
KT0303	Correct attachments to anchor points.	20
KT0304	Correct attachments to Fall Arrest Systems	20
KT0305	The importance of using work positioning and Fall Arrest Lanyards	20

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Explain the correct attachment to the anchor points and harness and consequences of making mistakes	35
IAC0302	Discuss measures to prevent falling over fall arrest	34
IAC0303	Discuss the procedures and importance of pre-use inspections of Systems	35

(c) Detailing each topic listed above into topic elements:

KM-02-KT04 … VERTICAL FALL ARREST SYSTEM…6%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Legal requirements Fall Arrest Systems	17
KT0402	Pre use inspection of Fall Arrest Systems	16
KT0403	Correct attachment and detachment of Fall Arrest Systems	17
KT0404	Correct use of Fall Arrest Systems	17
KT0405	Periodic inspections of Fall Arrest Systems	16
KT0406	Correct documentation for Fall Arrest Systems	17

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	IAC0401: Discuss the procedures and implications of pre-use and periodic inspection of the fall arrest system.	40
IAC0402	IAC0402: Explain the correct attachment, detachment, and use of vertical fall arrest system.	60

(c) Detailing each topic listed above into topic elements:

KM-02-KT05… FALL ARREST LANYARDS…11%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	Legal requirements for Fall Arrest Lanyards	13
KT0502	Pre use inspection of Fall Arrest Lanyards	12
KT0503	Correct attachment to the harness for Fall Arrest Lanyards	13
KT0504	Fall factor	12
KT0505	Fall indicators for Fall Arrest Lanyards	12
KT0506	Twin and single Fall arrest lanyard	12
KT0507	Approved anchor points for attachments to Fall Arrest Lanyards	13
KT0508	The importance of always using the fall arrest system.	13

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0501	Discuss the legal requirements for use of fall arrest lanyard	25
IAC0502	Explain the implications for the fall factor and fall indicators	25
IAC0503	Explain the differences and use of twin and single lanyard within the wind turbine environment.	25

IAC0504	Explain the importance of always using the fall arrest system	25

(c) Detailing each topic listed above into topic elements:

KM-02-KT06…DROPPED OBJECT…3%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0601	Risks of Dropped Objects	50
KT0602	Risk reductions for Dropped Objects	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0601	Discuss the risks posed and implications of dropped objects	50
IAC0602	Discuss measures to reduce risks from dropped objects	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT07… SELF RETRACTING LIFELINES… 6%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0701	Fall protection system during actual work in wind turbine	20
KT0702	Different allowed maximum angles when Using SRL	20
KT0703	How to attach correctly to the harness	20
KT0704	Approved anchor points for SRL fall protection system.	20
KT0705	Pre-use inspection of SRL	20

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0701	Explain the use and strength requirements for different weights in the use of retractable lifelines in a Wind Turbine.	25
IAC0702	Discuss the procedures for maximum angles and correct attachments to the harness in accordance with Manufacturers Specification.	25
IAC0703	Discuss approved anchor points for SRL to be attached to	25
IAC0704	Discuss the process and importance of pre-use inspection procedures of SRL	25

(c) Detailing each topic listed above into topic elements:

KM-02-KT08 … MEASURES TO PREVENT INJURY DURING TRAINING…4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0801	Control Measures for Training and warm up exercises	100

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0801	Discuss the control measures necessary to prevent injury during training and importance of warm up.	100

(c) Detailing each topic listed above into topic elements:

KM-02-KT09 INJURIES, SYMPTOMS, AND ESSENTIAL MANUAL HANDLING PRINCIPLES 4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0901	How to avoid common musculoskeletal injuries in the wind industry	25
KT0902	Typical symptoms of musculoskeletal injuries	25
KT0903	Essential manual handling principles	25
KT0904	Basic dynamic risk assessment and introduction to TILE principle	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0901	Explain measures to prevent and avoid common musculoskeletal injuries in wind turbine environment.	25
IAC0902	Discuss typical symptoms of musculoskeletal injuries.	25
IAC0903	Discuss essential manual handling principles.	25
IAC0904	Discuss the basic dynamic risk assessment and the TILE principle.	25

(c) Detailing each topic listed above into topic elements:

KM-02-KT10… MANUAL HANDLING RISK CONTROL AND PROPER MANUAL HANDLING TECHNIQUES…9%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1001	Working over shoulder heights risks.	15
KT1002	Working while kneeling risks	15
KT1003	Push and pull risks	14
KT1004	Carrying risks	14
KT1005	Lifting risks	14
KT1006	Work with handheld tolls risks	14
KT1007	Awkward postures risks	14

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC1001	Discuss various manual handling risks control measures applicable to the wind Industry while working above shoulder, kneeling, push and pulling, carrying, lifting, handheld tools and awkward positions.	50

IAC1002	Discuss various proper manual handling techniques and risk mitigation of musculoskeletal injuries by applying TILE Principle in Wind Industry	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT11… Emergency Procedures…12%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1101	Contents of a typical evacuation kit	25
KT1102	Preparing evacuation equipment for use	25
KT1103	Safe and correct evacuation in Passive Mode	25
KT1104	Safe behaviour and application of Fall Protection prior evacuation	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC1101	Identify and describe uses various contents of the evacuation kit	50
IAC1102	Explain the correct preparation and evacuation process and the demonstrate safe behaviour during emergency proceedings in a Wind Turbine	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT12… WORKSHOP – RISK/HAZARD AND SUSPENSION TRAUMA…10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1201	Application of Working at Heights and Manual Handling perspectives in a wind turbine.	50
KT1202	Suspension Trauma causes and prevention techniques	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC1201	Discuss the BST Working at heights procedures application in Wind Turbine Environment	50
IAC1202	Explain suspension trauma and techniques to reduce the risks when suspected on casualty	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT013… PPE Review… 4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1301	The individual parts of the PPE equipment and pre use inspection	100

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC1301	Identify and discuss the functions of the individual parts of the PPE Equipment	50
IAC1302	Discuss the procedures for performing pre-inspection for PPE	50

(c) Detailing each topic listed above into topic elements:

KM-02-KT14… RESCUE DEVICES AND RESCUE SETUP…5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1401	The individual parts of the rescue devices	50
KT1402	Correct use of rescue devices and slings	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC1401	Identify and discuss the individual parts of the rescue device	30
IAC1402	Discuss the uses of slings.	30
IAC1403	Discuss the correct use of the rescue device	40

(c) Detailing each topic listed above into topic elements:

KM-02-KT15… RESCUE EXERCISES…11%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1501	Safe Approach to Rescue situation in the wind turbine	35
KT1502	Description of Safe and correct rescue	35
KT1503	Description of Correct behaviour on the ladder with PPE	30

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC1501	Discuss the safe Approach to a Rescue Situation in a Wind Turbine.	35
IAC1502	Explain the correct performance of rescue procedures.	35
IAC1503	Discuss the correct behaviour on the ladder with PPE and correct use of anchor points	30

3.2.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.2.3 Exemptions

None

3.3 Detailing Knowledge Module (KM) contents: 03: 900277-000-00-KM-03: Fire awareness, NQF Level 3, Credits 2

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-03	Fire awareness	3	2	**Face-to-face, , or mobile training unit, or blended**

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the wildfire. The knowledge acquired will enable the learner to demonstrate an understanding of legislation, combustion and spread of fire, extinguishing, prevention, and firefighting equipment.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-03-KT01	Legislation	10
KM-03-KT02	Fire combustion and fire spread	20
KM-03-KT03	Fire extinguishing	25
KM-03-KT04	Fire prevention	20
KM-03-KT05	Firefighting equipment in Wind Turbine	20

(c) Detailing each topic listed above into topic elements:

KM-03-KT01… LEGISLATION …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Global legislation relevant to Wind Industry	50
KT0102	Basic introduction to South African legislation on Fire Prevention related to the Wind turbine Environment.	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Discuss and describe the requirements of global legislation on fire management and prevention.	50
IAC0102	Discuss and describe the requirements of South African legislation on fire management and prevention.	50

(c) Detailing each topic listed above into topic elements:

KM-03-KT02… FIRE COMBUSTION AND FIRE SPREAD …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Types of fire	25
KT0202	Fire triangle	25
KT0203	Fire spread	35
KT0204	Fire Gases	15

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Explain the fire triangle and fire spread	50
IAC0202	Discuss the risks and hazards of different gases on fire bases on materials in a Wind Turbine	50

(c) Detailing each topic listed above into topic elements:

KM-03-KT03… FIRE EXTINGUISHING …20 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	Contingency plan in a wind Turbine	35
KT0302	Assessing the fire intensity curve	35
KT0303	Fire classes	30

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Discuss procedures for contingency planning and examples for a Wind Turbine and emergency preparedness	35
IAC0302	Discuss the procedures for assessing fire intensity curve and solve challenges of how to assess a fire and the response based on the assessment.	35
IAC0303	Explain the different classes of fire and methods of extinguishing using the media found in a Wind Turbine.	30

(c) Detailing each topic listed above into topic elements:

KM-03-KT04 …FIRE PREVENTION …25%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Fire hazards in a Wind turbine and mitigation measures	50
KT0402	Fire prevention measures in daily work in wind industry	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	Explain the fire hazards in a wind turbine and mitigation measures	50
IAC0402	Explain the measures to prevent fire occurrences and recognize Wind Turbines with Fixed fire Fighting Systems.	**50**

(c) Detailing each topic listed above into topic elements:

KM-03-KT05… FIREFIGHTING EQUIPMENT …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Pre use inspection of Firefighting Equipment	50
KT0402	Correct use of Firefighting equipment	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	Discuss the procedures and benefit of pre use inspection of fire equipment	50
IAC0402	Identify and discuss the correct use of firefighting equipment	50

3.3.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e.

	Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.3.3 Exemptions

None

3.4 Detailing Knowledge Module (KM) contents: 04: 900277-000-00-KM-04: First Aid, NQF Level 3, Credits 2

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-04	First Aid	3	5	**Face-to-face, , or mobile training unit, or blended**

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the first aid The knowledge acquired will enable the learner to demonstrate an understanding of lifesaving first aid using primary surveying and first aid structure and providing effective first aid to relevant incident in the wind turbine industry.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-04-KT01	Lifesaving first aid using primary surveying and first aid structure	50
KM-04-KT02	Providing first aid to relevant incident in the wind turbine industry	50

(c) Detailing each topic listed above into topic elements:

KM-04-KT01… LIFESAVING FIRST AID USING PRIMARY SURVEYING AND FIRST AID STRUCTURE …50%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Management of first aid using incidents in the WTG environment	15
KT0102	Primary survey “C”-A-B-C	15
KT0103	“C” catastrophic internal bleeding	14
KT0104	Unresponsive Casualty	14
KT0105	Obstruction of the airways	14
KT0106	CPR unresponsive, and not bleeding	14
KT0107	Bleeding and shock	14

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Discuss how to safely manage a First Aid Incident in a WTG Environment	15
IAC0102	Discuss and name primary survey “C”-A-B-C	15
IAC0103	Discuss how to control catastrophic internal Bleeding	15
IAC0104	Discuss First aid measures taken for unresponsive patient	15
IAC0105	Explain actions taken for patient with blocked airways,	15
IAC0106	Discuss importance of CPR for unresponsive and not bleeding patient including safe use of AED	15

IAC0107	Discuss correct first aid for external bleeding	10

(c) Detailing each topic listed above into topic elements:

KM-04-KT02… PROVIDING FIRST AID TO RELEVANT INCIDENT IN THE WIND TURBINE INDUSTRY …50%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	First aid For Burns	15
KT0202	Chemical contact to the eye	15
KT0203	Medical emergency heart attack and stroke	14
KT0204	Hypothermia	14
KT0205	Fractures	14
KT0206	Head to toe examinations	14
KT0207	Heat	14

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0201	Discuss the first aid procedures for burns.	17
IAC0202	Explain the first aid procedures for chemical contact to the eye	17
IAC0203	Explain the first aid procedures for medical emergency, situation heart attack and stroke	17
IAC0204	Explain the first aid procedures for hypothermia.	17
IAC0205	Explain the identification and first aid procedures for fractures	16
IAC0206	Explain the correct execution of head-to-toe examinations	16

3.4.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment

	• Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.4.5 Exemptions

None

3.5 Detailing Knowledge Module (KM) contents: 05: 900277-000-00-KM-05: Basic Technical Training Mechanical, NQF Level 3, Credits 6

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-05	Basic Technical Training Mechanical	3	6	**Face-to-face, or mobile training unit, or blended**

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the basic technical training mechanical The knowledge acquired will enable the learner to demonstrate an understanding of mechanical safety, bolted and welded connections, manual tightening and measuring tools and all Mechanical systems of the wind turbine enabling the learner to perform basic mechanical tasks using safe work procedures and correct PPE.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-05-KT01	Mechanical Introduction	5
KM-05-KT02	Mechanical safety	5
KM-05-KT03	The principles of bolted and welded connections	18
KM-05-KT04	Use of manual tightening and measuring tools	17
KM-05-KT05	Gearbox	9
KM-05-KT06	Breaking systems	11
KM-05-KT07	Yaw system	9
KM-05-KT08	Cooling system	9
KM-05-KT09	Lubrication system	17

(c) Detailing each topic listed above into topic elements:

KM-05-KT01 MECHANICAL INTRODUCTION …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Main components of the structure	30
KT0102	Main mechanical Systems	35
KT0103	How the turbine works.	35

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Discuss functions and main components of the wind Turbine	35
IAC0102	Identify and discuss the functions of the main mechanical systems of the wind turbine	35
IAC0103	Explain the functioning of the wind turbine	30

(c) Detailing each topic listed above into topic elements:

KM-05-KT02… MECHANICAL SAFETY …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Importance of mechanical safety	25
KT0202	Mechanical Safety signs	25
KT0203	Types of PPE	25
KT0204	The importance of appropriate isolation	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Discuss the importance of mechanical safety around wind turbine environment	35
IAC0202	Identify and explain the meaning of the different safety signs and the importance of adherence to them	35
IAC0203	Explain the importance of appropriate isolation working with mechanical components of the wind turbine	30

(c) Detailing each topic listed above into topic elements:

KM-05-KT03… THE PRINCIPLES OF BOLTED AND WELDED CONNECTIONS …18 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	The principles of bolted connections	25
KT0302	The locations of bolted and welded connections	25
KT0303	Inspections of welded connections	25
KT0304	Bolt connections and correct tightening tools	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Identify and explain the correct use of tightening tools and inspect bolt connections	25
IAC0302	Discuss the different location of important welded and bolded connections	25
IAC0303	Discuss the visual inspection of welded connections	25
IAC0304	Discuss the principles of bolted connections	25

(c) Detailing each topic listed above into topic elements:

KM-05-KT04… USE OF MANUAL TIGHTENING AND MEASURING TOOLS …17 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Metric system	17
KT0402	Selecting and using the correct manual tools	17
KT0403	Correctly setting and using a torque wrench	17
KT0404	Feeler gauges	16

KT0405	Callipers	16
KT0406	Dial gauge	17

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	Explain the use of the following tools: callipers, dial gauge and feeler gauges and recognize basic metric units of measurement	50
IAC0402	Explain the correct setting and using of manual Tightening tools and a torque wrench	50

(c) Detailing each topic listed above into topic elements:

KM-05-KT05 … GEARBOX …16%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	The function and operating principles of gearbox	50
KT0502	Inspection of the gearbox	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0501	Explain purpose and operating principals of the gearbox system work	25
IAC0502	Describe the Risk and Hazards Associated with gearbox and isolation techniques	25
IAC0503	Discuss the procedures for inspection of the gearbox system and the use of correct PPE	50

(c) Detailing each topic listed above into topic elements:

KM-05-KT06… BRAKING SYSTEM… 9 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0601	The function of the mechanical and aerodynamic brake	50
KT0602	Inspection of the mechanical brake system	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0601	Discuss the function of the mechanical and aerodynamic brakes and risks associated with the system.	50
IAC0602	Explain the procedures for inspection of the mechanical brake system and application of isolation techniques	50

(c) Detailing each topic listed above into topic elements:

KM-05-KT07… YAW SYSTEM …11 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0701	The function of the yaw system	50
KT0702	Inspection of the yaw system	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0701	Explain the purpose and functioning of the yaw system and its associated risks	50
IAC0702	Discuss the inspection procedures for the yaw system and isolation techniques	50

(c) Detailing each topic listed above into topic elements:

KM-05-KT08… COOLING SYSTEM …9 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0801	Components and function of the cooling system	50
KT0802	Inspection of the cooling system	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0801	Identify and explain the purpose and functioning of the cooling system and consequences of inadequate cooling	50
IAC0802	Explain the procedures for inspection of the cooling system, risks associated with it as well as correct use of PPE	50

(c) Detailing each topic listed above into topic elements:

KM-05-KT09… LUBRICATION SYSTEM …9 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0901	Components of the lubrication system and components needing lubrication	50
KT0902	Inspection of the lubrication system	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0901	Identify components and explain the functioning of the lubrication system and why components need lubrication	50
IAC0902	Discuss the procedures for inspection of the lubrication system and application of correct isolation techniques.	50

3.5.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.5.3 Exemptions

None

3.6 Detailing Knowledge Module (KM) contents: 06: 900277-000-00-KM-06, Basic Technical Training Electrical, NQF Level 3, Credits 4

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-06:	Basic Technical Training Electrical	3	4	No restrictions. Face-to-face, or online, or mobile training unit, or blended

(b) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the basic technical training electrical. The knowledge acquired will enable the learner to demonstrate an understanding of electrical safety, electricity components, sensors, electrical circuit and measuring instruments enabling participants to carry out basic electrical tasks.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-06-KT01	Introduction to electricity	4
KM-06-KT02	Electrical Safety	4
KM-06-KT03	Electrical components	24
KM-06-KT04	Sensors	23
KM-06-KT05	Electrical circuit	27
KM-06-KT06	Electrical measuring instruments	18

(c) Detailing each topic listed above into topic elements:

KM-06-KT01… INTRODUCTION TO ELECTRICITY …4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Direct current	25
KT0102	OHMs law	25
KT0103	Alternating current.	25
KT0104	Alternating current/ direct current.	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Explain characteristics and the differences between direct and alternating current	50
IAC0102	Explain the OHMs law and its application	50

(c) Detailing each topic listed above into topic elements:

KM-06-KT02… ELECTRICITY SAFETY …4%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Why electricity safety	13
KT0202	Low/high voltage	13
KT0203	PE and GFCI/RCD	13

KT0204	Stored energy	12
KT0205	Static electricity	12
KT0206	Electrical Safety signs	12
KT0207	Types of PPE	13
KT0208	The importance of appropriate isolation	12

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Discuss the reason for Electrical safety in wind turbine environment and the effects of electricity on human body and relation between current and contact time	10
IAC0202	Define low and high voltage and discuss risks and hazards associated with them	10
IAC0203	Discuss the requirement of Having HV Training before performing HV Work.	10
IAC0204	Discuss the Function and explain examples of GFCI/RCD and PE and Recognize circuits that are not protected by these	20
IAC0205	Discuss the different types of PPE used in handling electrical components and recognize safety signs	20
IAC0206	Discuss the Risk and Hazards of stored energy in electrical systems	10
IAC0207	Explain static electricity risks and hazards	10
IAC0208	Discuss Electrical Isolation importance	10

(c) Detailing each topic listed above into topic elements:

KM-06-KT03… ELECTRICITY COMPONENTS …24%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	Resistor	8
KT0302	Batteries	8
KT0303	Switches	8
KT0304	Contactors	8
KT0305	Relays	8
KT0306	Diodes	8
KT0307	Bridge rectifiers	8
KT0308	Capacitors	8
KT0309	Transformers	8
KT0310	Generators and motors	8
KT0311	Fuses and circuit breakers	8
KT0312	Processors and control systems	12

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Discuss the Function of resistors and electrical symbol	10
IAC0302	Discuss the function of batteries and Capacitors and electrical symbol	10

IAC0303	Discuss the Function of switches, relays and contactors and electrical symbol	10
IAC0304	Discuss the Function of bridge rectifiers and Diodes and their electrical symbol	10
IAC0305	Discuss the Function of Transformers and Electrical Symbol	10
IAC0306	Discuss the Function of Generators / Motors and their electrical symbol	10
IAC0307	Discuss the Function of Fuses and Circuit Breakers and their Electrical Symbol	10
IAC0308	Discuss the Function of processor control systems	10
IAC0309	Discuss the implications of handling and using any of the components wrongly	30

(c) Detailing each topic listed above into topic elements:

KM-06-KT04… SENSORS …23%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Introduction to sensors	20
KT0402	Wind sensors	20
KT0403	Temperatures	20
KT0404	Position sensors	20
KT0405	Other sensors	20

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0401	Identify and explain the use of different sensors	50
IAC0402	Explain types of sensors and their general function	50

(c) Detailing each topic listed above into topic elements:

KM-06-KT05… ELECTRICAL CIRCUIT …27%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	Symbols and diagrams	50
KT0502	Assembly of an electrical circuit	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0501	Identify and explain the use of different symbols and diagrams	50
IAC0502	Interpret and read a basic electrical diagram	50

(c) Detailing each topic listed above into topic elements:

KM-06-KT06… ELECTRICAL MEASURING INSTRUMENTS …18%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0601	Symbols and setting on electrical instruments	50
KT0602	How to measure with electrical measuring instruments	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0601	Discuss the symbols and setting of electrical measuring instruments for Voltage resistance and current	50
IAC0602	Explain the process of using and verifying electrical measuring instruments to measures	50

3.6.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e.

	Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.6.3 Exemptions

None

3.7 Detailing Knowledge Module (KM) contents: 07: 900277-000-00-KM-07, Basic Technical Training Hydraulic, NQF Level 3, Credits 4

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-07	Basic Technical Training Hydraulic	3	4	No restrictions. Face-to-face, or online, or mobile training unit, or blended

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the basic technical training hydraulic. The knowledge acquired will enable the learner to demonstrate an understanding of hydraulic safety, pumps, sensors, actuators, valves, accumulators, connections, filters, diagrams, and pressure measuring tools and perform basic hydraulic tasks.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-07-KT01	Hydraulic safety	10
KM-07-KT02	Pumps	5
KM-07-KT03	Actuators	5
KM-07-KT04	Valves	20
KM-07-KT05	Accumulators	17
KM-07-KT06	Sensors	5
KM-07-KT07	Pipes, hoses, and connections	9
KM-07-KT08	Oil and Filters	12
KM-07-KT09	Hydraulic diagrams	12
KM-07-KT10	Pressure measuring tools	5

(c) Detailing each topic listed above into topic elements:

KM-07-KT01… HYDRAULIC SAFETY …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Why hydraulic safety	13
KT0102	High pressure systems	12
KT0103	Stored energy	12
KT0104	Safety signs	12
KT0105	Chemicals	12
KT0106	Types of PPE	13
KT0107	The importance of appropriate isolation	13
KT0108	Why hydraulic safety	13

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Explain why safety is important working with hydraulic systems and risks and hazards associated with it	20

IAC0102	Explain the working of high-pressure hydraulic systems and pressure relieve systems	20
IAC0103	Discuss Risks and hazards of stored energy in hydraulic systems	20
IAC0104	Discuss the safety signs and chemical within the hydraulic system and SDS	20
IAC0105	Explain the correct PPE to be used with hydraulics	10
IAC0106	Identify the correct isolation techniques with hydraulics	10

(c) Detailing each topic listed above into topic elements:

KM-07-KT02… PUMPS …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Introduction to pumps	40
KT0202	Start and Stop Pressures of pumps	60

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Explain the type of pumps within the wind turbine hydraulic systems and their functions	40
IAC0202	Explain how to check pressures of the pumps	60

(c) Detailing each topic listed above into topic elements:

KM-07-KT03… ACTUATORS …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	Introduction to actuators	100

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Explain the functioning and use of actuators within the wind turbine hydraulic systems	80
IAC0302	Discuss how to identify an actuator in a hydraulic diagram	20

(c) Detailing each topic listed above into topic elements:

KM-07-KT04 … VALVES …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Introduction to valves	12
KT0402	Directional control valves	12
KT0403	Pressure relief valves	13
KT0404	Pressure reduction valves	13
KT0405	Needle valves	13
KT0406	Non-return valves	13
KT0407	Throttle valves	12
KT0408	Resistor valves	12

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	Discuss the general use of valves within the hydraulic systems and their specific functions in accordance with Types	50
IAC0402	Discuss different types of valves, their uses and identification on a hydraulic diagram	30
IAC0403	Explain how to set pressure on pressure relief valves	20

(c) Detailing each topic listed above into topic elements:

KM-07-KT05… ACCUMULATORS …17%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	Introduction to accumulators	50
KT0502	Pre-charge pressure	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0501	Explain the importance of accumulators within the hydraulic systems	50
IAC0502	Explain the checking of pre-charge pressure	50

(c) Detailing each topic listed above into topic elements:

KM-07-KT06… SENSORS …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0601	Introduction to sensors	45
KT0602	Pressure sensors	55

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0601	Explain sensors and their use in the hydraulic system	45
IAC0602	Discuss the uses of pressure sensors and identification on a hydraulic diagram	55

(c) Detailing each topic listed above into topic elements:

KM-07-KT07… PIPES, HOSES, AND CONNECTIONS … 5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0701	Oil transfer	60
KT0702	Hydraulic connections	40

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0701	Explain the function and inspection of the components that transfer the oil	50
IAC0702	Discuss the different types of connections and fittings for hydraulic components	50

(c) Detailing each topic listed above into topic elements:

KM-07-KT08 … OIL and FILTERS …9%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0801	Handling oil procedures/ cleanliness.	25
KT0802	Collecting oil sample.	25
KT0803	Check oil levels.	25
KT0804	Filters	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0801	Explain the procedures for the correct handling of oil and the importance of cleanliness	35
IAC0802	Discuss the reason for collecting a proper oil sample and checking oil levels	35
IAC0803	Discuss the use and function of filters and their maintenance	20

(c) Detailing each topic listed above into topic elements:

KM-07-KT09… HYDRAULIC DIAGRAM …12%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0901	Hydraulic Symbols and diagrams	45
KT0902	Identifying accurate measuring points	55

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0901	Discuss different diagrams and symbols used in hydraulic systems	45
IAC0902	Discuss the importance of identifying measuring points	55

(c) Detailing each topic listed above into topic elements:

KM-07-KT10… PRESSURE MEASURING TOOLS …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT1001	Pressure gauge/ manometer	45
KT1002	Pressure measuring	55

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC1001	Identify and explain the use of pressure gauges / manometers and their symbols	45
IAC1002	Explain the process and importance of measuring pressure and calibration	55

3.7.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• Hydraulic oil

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.7.3 Exemptions

None

3.8 Detailing Knowledge Module (KM) contents: 08: 900277-000-00-KM-08: Basic Crane and Hoist Basic User, NQF Level 3, Credits 6

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-08	Basic Crane and Hoist Basic User	3	6	**Face-to-face, , or mobile training unit, or blended**

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the crane and hoist basic user**.** The knowledge acquired will enable the learner to demonstrate an understanding of legislation and lifting equipment related documentation, lifting plan and risks assessment, pre operation, lifting operations, pre-operation practice and lifting equipment.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-08-KT01	Legislation and lifting equipment related documentation	10
KM-08-KT02	Lifting plan and risks assessment	10
KM-08-KT04	Safety of Crane and Hoist	10
KM-08-KT04	Lifting Equipment	20
KM-08-KT05	Lifting Accessories	10
KM-08-KT06	Pre-operation practice	10
KM-08-KT07	Lifting Operation	20
KM-08-KT08	Post Lifting	10

(c) Detailing each topic listed above into topic elements:

KM-08-KT01… LIFTING PLAN AND RISKS ASSESSMENT …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Roles and responsibilities for Crane and Hoist Operator	40
KT0102	Manufacturers documentation and statutory inspection documentation	35

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Discuss the roles and responsibilities for crane and hoist operator	30
IAC0102	Explain and discuss the information in manufacturer documentation and statutory inspections	40
IAC0103	Discuss the License and competency in accordance with local legislation	30

(c) Detailing each topic listed above into topic elements:

KM-03-KT02… LIFTING PLAN AND RISKS ASSESSMENT …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	Lifting plan	50
KT0202	Risk assessment	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0201	Explain the contents of a lifting plan	50
IAC0202	Discuss the uses and main aim of conducting risk assessment for crane and hoisting operations	50

(c) Detailing each topic listed above into topic elements:

KM-08-KT03… Safety of crane and Hoist …10 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	Reduction of Risks in basic lifting operations	100

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0301	Discuss the procedures to mitigate mechanical, chemical, hydraulic, and electrical hazards	100

(c) Detailing each topic listed above into topic elements:

KM-08-KT04… Lifting Equipment …20 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Types of Cranes	30
KT0402	Types of Hoists	30
KT0403	Crane and Hoists Operating Systems	20
KT0404	Safety and Emergency Systems	20

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0401	Discuss the different types of cranes typically used in maintenance Operations	30
IAC0402	Explain the types of hoists Typically used in Maintenance Operations	30
IAC0403	Describe the principal functions of hydraulic, electrical, and mechanical systems of a cranes and hoists	20
IAC0404	Explain the functions of basic safety systems on crane and hoists	20

(c) Detailing each topic listed above into topic elements:

KM-08-KT05… Lifting Accessories …10 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	Types of lifting accessories	40
KT0502	Application of lifting accessories in accordance with manufacturer information	60

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0501	Discuss the different types of lifting accessories	50
IAC0502	Explain the application of lifting accessories in accordance with manufacturer's instructions	50

(c) Detailing each topic listed above into topic elements:

KM-08-KT06 … Pre-Operation - LIFTING OPERATIONS …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
	Pre-use Inspections	50
KT0602	Pre-Lifting Tasks	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0601	Discuss requirements for emergency and identification of hazards and setting up of exclusion Zone.	35
IAC0602	Explain communication needs between slinger signaller and operator	30
IAC0603	explain the required steps to prepare for lifting, considerations for hazardous goods lifting and housekeeping requirements.	35

(c) Detailing each topic listed above into topic elements:

KM-08-KT05… LIFTING **OPERATION** …10%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0701	Lifting Operations	50
KT0702	Emergency Procedures	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0701	Discuss if the Load is Correctly attached to lifting accessories and identification of warning Fault signs	50
IAC0702	Explain the effects of weather conditions, and other environmental considerations	50

(c) Detailing each topic listed above into topic elements:

KM-08-KT08… Post Lifting …10 %		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0801	Shut down and Parking procedures	50
KT0802	Defects of Lifting Equipment	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0801	Discuss the Shut down and parking procedures for cranes and hoists in accordance with manufacturer	50
IAC0802	Explain the Storage maintenance and reporting of defective lifting equipment and accessories	50

3.8.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.8.3 Exemptions

None

3.9 Detailing Knowledge Module (KM) contents: 09: 900277-000-00-KM-09: Lift User, NQF Level 3, Credits 1

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-KM-09	Lift User	3	1	Face-to-face, , or mobile training unit, or blended

(a) Purpose of Knowledge Module:

The focus of the learning in this knowledge module is to build an understanding of the lift user**.** The knowledge acquired will enable the learner to demonstrate an understanding of general use, pre-use inspection and operations of lifts. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 1,25 days.

(b) List of Knowledge Topics:

TOPIC CODE	TOPIC TITLE	% OF TIME TO BE SPENT
KM-09-KT01	General use of Lifts	5
KM-09-KT02	Inspection of lift prior to use	20
KM-09-KT03	Legislation and Manuals	20
KM-09-KT04	Operation of lifts	30
KM-09-KT05	Evacuation of lifts	20
KM-09-KT06	Shut down after use	5

(c) Detailing each topic listed above into topic elements:

KM-09-KT01… GENERAL USE OF LIFTS …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0101	Standards for use of lifts	25
KT0102	Transport of personnel and equipment	25
KT0103	Lift functionality	25
KT0104	General safety in the use of lifts	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0101	Explain the standards and norms for use of lifts	30
IAC0102	Discuss procedures for transporting persons and equipment in accordance with Manuals and Legislation	30
IAC0103	Discuss the general safety functionalities of lifts	40

(c) Detailing each topic listed above into topic elements:

KM-09-KT02… INSPECTION OF LIFT PRIOR TO USE …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0201	General purpose of pre-use inspections	25
KT0202	Pre-use inspection checklist	25
KT0203	Pre-use inspection steps, inside the lift	25

KT0204	Inspection of lift - safety	25

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0201	Discuss the general purpose and requirement of pre-use inspection	40
IAC0202	Discuss the procedural steps for pre-use inspections in accordance with type and Model	40
IAC0203	Explain the pre use inspections from the outside of the lift	20
IAC0204	Discuss the Pre-use Inspections from Inside of the Lift	20

(c) Detailing each topic listed above into topic elements:

KM-09-KT03… Legislation and Manuals …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0301	National Legislation	50
KT0302	Brand Specific Legislation	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0301	Discuss the National Legislation towards Service Lifts	40
IAC0302	Explain the contents and Navigation of Instruction Manual for Service Lifts	60

(c) Detailing each topic listed above into topic elements:

KM-09-KT04… OPERATION OF LIFTS …30%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0401	Initial safety precautions.	9
KT0402	Pre use inspection	9
KT0403	Stay in danger zone	9
KT0404	Safety in the lift travel range	9
KT0405	Safety inside the lift	9
KT0406	Fences and gates	9
KT0407	Faults and damages	10
KT0408	Empty transfer	9
KT0409	Unstable objects in the lift	9
KT0410	Safety when operating a lift.	9
KT0411	Emergency descent	9

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	IAC DESCRIPTION	% OF TIME TO BE SPENT
IAC0401	Explain the Correct PPE for use and operation of Service Lifts	20
IAC0402	Discuss the procedures for empty transfer, unsafe objects in the lift and safety when operating the lifts	20

IAC0403	Discuss the uses of emergency descent of lifts	20
IAC0404	Explain the meaning of stay in danger zone and Travel range	20
IAC0405	Discuss safe use of lifts, fences, and gates and how to identify faults and damages	20

(c) Detailing each topic listed above into topic elements:

KM-09-KT05… EVACUATION OF LIFTS …20%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0501	Operation of doors in case of emergency	30
KT0502	Rescue and evacuation plan	30
KT0503	Evacuation of lift	40

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0501	Explain operations of the lift doors when out of designated entry and Access points	50
IAC0502	Explain the rescue and evacuation plan for the lift and correct reporting of issues	50

(c) Detailing each topic listed above into topic elements:

KM-09-KT05… SHUTDOWN AFTER USE …5%		
TOPIC ELEMENT CODE	**TOPIC ELEMENT TITLE**	**% OF TIME TO BE SPENT**
KT0601	Lift in parking position	50
KT0602	Shutdown procedures	50

(d) Internal Assessment Criteria (IAC) and Weight

IAC CODE	**IAC DESCRIPTION**	**% OF TIME TO BE SPENT**
IAC0601	Explain Correct Parking of Service Lift	50
IAC0602	discuss the correct shut down procedure of service Lift	50

3.9.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• None

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

3.9.3 Exemptions

None

4 Practical Skill Module (PM) Specifications:

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-01	Inspect and routinely maintain main components	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-02	Maintain wind turbine systems.	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-03	Interpret wind turbine performance information	3	2	Face-to-face, or mobile training unit, or blended
900277-000-00-PM-04	Create awareness on health and safety around the wind farm.	3	2	No restrictions. Face-to-face, or mobile training unit, or blended
900277-000-00-PM-05	Monitor environmental compliance within the wind farm.	3	2	Face-to-face, or mobile training unit, or blended
900277-000-00-PM-06	Manage emergency responses in and around the wind farm.	3	3	Face-to-face, or mobile training unit
900277-000-00-PM-07	Ensure proper use and maintenance of the personal and collective protective equipment.	3	3	Face-to-face, or mobile training unit

4.1 Practical Module (PM) - 01: 900277-000-00-PM-01, Inspect and routinely maintain main components, NQF Level 3, Credits 3

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-01	Inspect and routinely maintain main components	3	3	Face-to-face, or mobile training unit

4.1.1. Module Details

(a) Purpose of the Practical Skills Module:

The focus of learning in this module is on providing the learner with an opportunity to inspect and routinely maintain the main component of wind turbine within a controlled environment. Learners will also be practicing skills related to setting preparation to work at heights and conducting routine maintenance for main components of the wind turbine.

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM01-PS01	Set preparation to work at heights for routine maintenance of main components safe work instructions
PM01-PS02	Conduct routine maintenance for main components of the wind turbine in accordance with safe work instructions

(c) Scope of each Practical Skill Activity:

PM-01-PS01: SET PREPARATION TO WORK AT HEIGHTS FOR ROUTINE MAINTENANCE OF MAIN COMPONENTS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given the assignment, tools and equipment, PPE, nacelle with non-functioning main components of the wind turbine system (gearbox, braking system, yaw, cooling, and lubrication systems), work instruction, consumables such as greases, oils and filters, components inspection checklist, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Interpret work instructions.
PA0102	Select tools and equipment
PA0103	Inspect and don correct PPE
PA0104	Prepare the harness and fall arrest lanyard to specifications
PA0105	Use the Ladder with Fall Arrest System to climb with tools and equipment safely

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	isolation skills
AK0102	Functions of different components
AK0103	Inspection procedures
AK0104	Work instructions

AK0105	Communications skills
AK0106	Routine maintenance procedures
AK0107	Manufacturer's manual

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Harness and its attachments are inspected and set up in accordance with standard procedures
IAC0102	Appropriate tools and equipment are selected for the specified work instructions of different main components of the wind turbine
IAC0103	Tools and equipment are carried to the nacelle using appropriate equipment

(c) Scope of each Practical Skill Activity:

PM-01-PS02: CONDUCT ROUTINE MAINTENANCE FOR MAIN COMPONENTS OF THE WIND TURBINE	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given the assignment, tools and equipment, PPE, main components of the wind turbine (three blades, three pitch bearings, a hub, main bearing, main shaft) work instruction, consumables such as greases, oils and filters, components inspection checklist, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Inspect the main components of the wind turbine.
PA0202	Identify routine maintenance requirements for all main components.
PA0203	Complete the inspection checklist.
PA0204	Conduct routine maintenance and maintain the documentation requirements (cleaning, oiling, greasing, replacement of minor components)
PA0205	Report major maintenance requirements observed and recorded.

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	isolation skills
AK0202	Functions of different components
AK0203	Inspection procedures
AK0204	Procedures for routine maintenance of main components
AK0205	Structure of main components and functions
AK0206	Communications skill
AK0207	Manufacturer's manual
AK0208	Emergency evacuation preparedness
AK0209	First aid procedures
AK0210	Two-way radio communication skills
AK0211	Working at heights skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Inspection of components is conducted in compliance with standard procedures
IAC0202	Routine maintenance of components is conducted in compliance with manufacturer's manual
IAC0203	Post maintenance checks are conducted, and documentation and records kept safe

4.1.2. Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.1.3 Exemptions

None

4.2 Practical Module (PM) – 02: 900277-000-00-PM-02, Maintain wind turbine systems., NQF Level 3, Credits 3

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-02	Maintain wind turbine systems.	3	3	Face-to-face, or mobile training unit

(4) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to inspect and routinely maintain wind turbine system of wind turbine within a controlled environment. Learners will also be practicing skills related to setting preparation to work at heights and conducting routine maintenance for the wind turbine systems.

(4) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM02-PS01	Set up preparation for routine maintenance of the wind turbine systems
PM02-PS02	Conduct maintenance of the wind turbine systems

(4) IScope of each Practical Skill Activity:

PM-02-PS01: SET UP PREPARATION FOR ROUTINE MAINTENANCE OF THE WIND TURBINE SYSTEMS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given the assignment, tools, and equipment, measuring instrumentation, PPE, wind turbine system (gearbox, braking system, yaw, cooling, and lubrication systems), work instruction, consumables such as greases, oils and filters, components inspection checklist, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Interpret work instructions.
PA0102	Select tools and equipment
PA0103	Inspect and don correct PPE
PA0104	Prepare the harness and fall arrest lanyard to specifications
PA0105	Use the stairs to climb with tools and equipment

(4) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Isolation skills.
AK0102	Functions of wind turbine systems
AK0103	Components and functions of gearbox
AK0104	Component and functions of transformer
AK0105	Components and functions of braking system
AK0106	Components and functions of the yaw system
AK0107	Components and functions of cooling system
AK0108	Components and functions of lubrications system
AK0109	Inspection procedures
AK0110	Standard work instructions
AK0111	Communications skill

AK0112	Routine maintenance procedures
AK0113	Manufacturer's manual

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Harness and its attachments are inspected and set up in accordance with standard procedures
IAC0102	Tools and equipment selected are relevant for the specified work instructions for wind turbine systems
IAC0103	Tools and equipment are carried out using appropriate measures

(4) IScope of each Practical Skill Activity:

PM-02-PS02: CONDUCT ROUTINE MAINTENANCE FOR MAIN COMPONENTS OF THE WIND TURBINE	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given the assignment, tools, and equipment, measuring instrumentation, PPE, nacelle with main components of the wind turbine (three blades, three pitch bearings, a hub, main bearing, main shaft) work instruction, consumables such as greases, oils and filters, components inspection checklist, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Inspect the main components of the wind turbine.
PA0202	Identify routine maintenance requirements for all main components.
PA0203	Complete the inspection checklist.
PA0204	Conduct routine maintenance and maintain the documentation requirements (cleaning, oiling, greasing, replacement of minor components)
PA0205	Report major maintenance requirements observed and recorded.

(4) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	isolation skills.
AK0202	Functions of wind turbine systems
AK0203	Components and functions of gearbox
AK0204	Component and functions of transformer
AK0205	Components and functions of braking system
AK0206	Components and functions of the yaw system
AK0207	Components and functions of cooling system
AK0208	Components and functions of lubrications system
AK0209	Inspection procedures
AK0210	Standard work instructions
AK0211	Communications skill
AK0212	Routine maintenance procedures
AK0113	Manufacturer's manual

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Inspection of components is conducted in compliance with standard procedures
IAC0202	Routine maintenance of wind turbine systems is conducted in compliance with manufacturer's manual.
IAC0203	Post maintenance checks are conducted, and documentation and records kept safe
IAC0204	Tools and equipment are cleaned and stored in terms of the housekeeping procedures.

4.2.2 Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.2.3 Exemptions

None

4.3 Practical Module (PM) - 03: 900277-000-00-PM-03, Interpret wind turbine performance information, NQF Level 3 Credits 2

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-03	Interpret wind turbine performance information	3	2	Face-to-face, or mobile training unit, or blended

4.3. Module Details

(a) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to interpret wind turbine performance information within a controlled environment. Learners will also be practicing skills related to monitoring, measuring, and logging data in real time and Interpreting performance of the wind turbine.

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM03-PS01	Monitor, measure and log data in real time
PM03-PS02	Interpret performance of the wind turbine

(c) Scope of each Practical Skill Activity:

PM-03-PS01: MONITOR AND MEASURE SYSTEM PERFORMANCE	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given an assignment, wind turbine facility, measurement instruments for voltages, measurement instruments for system current, measurement instruments for rotational speed and wind speed, software for capturing wind turbine performance data and analysis, templates, measurement tools, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Measure system voltage
PA0102	Measure system current
PA0103	Measure rotational speed
PA0104	Measure wind speed

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Use of measurement instruments
AK0102	Measuring procedures
AK0103	Component of the wind turbine system and their functions
AK0104	Reporting skills
AK0105	Basic communication skills
AK0106	Applied data processing software

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Measurement instruments selected are used for correct variables of the wind turbine system
IAC0102	Data is captured into data analysis software to produce performance graphics for accurate interpretation.

(c) Scope of each Practical Skill Activity:

PM-03-PS02: INTERPRET PERFORMANCE OF THE WIND TURBINE	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given an assignment, wind turbine facility, measurement instruments for voltages, measurement instruments for system current, measurement instruments for rotational speed and wind speed, software for capturing wind turbine performance data and analysis, templates, measurement tools, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Input data into computer (data processing) software
PA0202	Produce graphic results.
PA0203	Analyse and interpret the output results

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	Use of measurement instruments
AK0202	Measuring procedures
AK0203	Component of the wind turbine system and their functions
AK0204	Reporting skills
AK0205	Basic communication skills
AK0206	Applied data processing software

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Data is captured in real time for performance analysis
IAC0202	Graphics are produced to indicate variable system performance over a period in a day or a defined period.

4.3.2. Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.)

	commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)
FACILITATOR/LEARNER RATIO	N/A

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.3.3 Exemptions

None

4.4 Practical Module (PM) - 04: 900277-000-00-PM-04, Create awareness on health and safety around the wind farm, NQF Level 3, Credits 2

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-04	Create awareness on health and safety around the wind farm	3	2	Face-to-face, or online, or mobile training unit, or blended

4.4.1. Module Details

(a) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to create awareness on health and safety around the wind farm within a controlled environment. Learners will also be practicing skills related to setting up preparation for health and safety awareness and conducting health and safety awareness**.**

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM-04-PS01	Set up preparation for health and safety awareness
PM-04-PS02	Conduct health and safety awareness

(c) Scope of each Practical Skill Activity:

PM-04-PS01: SET UP PREPARATION FOR HEALTH AND SAFETY AWARENESS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, roleplay, health and safety requirements for wind turbine, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Identify hazardous environment within the wind turbine and wind farm
PA0102	Document awareness training programme based on health and safety procedures
PA0103	Create and print health and safety awareness leaflets
PA0104	Create presentation slides and demonstrations for health and safety

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Communication skills
AK0102	Applied health and safety regulations
AK0103	Interpersonal skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Critical safety areas (hazardous sites) are described for their health and safety implications for wind turbine environments.
IAC0102	The training awareness programme is documented for both internal staff and external stakeholders.

(c) Scope of each Practical Skill Activity:

PM-04-PS02: CONDUCT HEALTH AND SAFETY AWARENESS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given assignment, roleplay, health and safety requirements for wind turbine, profile of participants, assessment checklist, internal and external stakeholders, workshop facility, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Set up and convene the awareness training session
PA0202	Distribute leaflets to participants.
PA0203	Conduct presentation of the awareness training session
PA0204	Take and answer questions.
PA0205	Distribute assessment tool to monitor participants reaction to the session
PA0206	Update the training programme documentation based on participants inputs

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	**APPLIED KNOWLEDGE**
AK0201	Communication skills
AK0202	Applied health and safety regulations
AK0203	Interpersonal skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	**IAC DESCRIPTION**
IAC0201	The preparation for the awareness training is done timeously for the determined number of participants
IAC0202	Health and safety awareness presentation is made simple and accessible for specific participants

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results

	• Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)
FACILITATOR/LEARNER RATIO	N/A

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.4.3 Exemptions

None

4.5 Practical Module (PM) - 05: 900277-000-00-PM-05, Monitor environmental compliance within the wind farm, NQF Level 3, Credits 2

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-05	Monitor environmental compliance within the wind farm.	3	2	Face-to-face, or online, or mobile training unit

4.5.1. Module Details

(a) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to monitor environmental compliance within the wind farm within a controlled environment**.** Learners will also be practicing skills related to maintaining records of plants and animal habitat in the farm and monitoring compliance with environmental legal requirements in a wind farm.

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM05-PS01	Maintain record of plants and animal habitat in the farm
PM05-PS02	Monitor compliance to environmental legal requirements in a wind farm

(c) Scope of each Practical Skill Activity:

PM-05-PS01: MAINTAIN RECORD OF PLANTS AND ANIMAL HABITAT IN THE FARM	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, wind farm, checklists, environmental legal requirements, standard environmental management policies, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Maintain existing record of plants and animals in the farm
PA0102	Monitor and record of different forms of pollution within the farm environment
PA0103	Monitor and keep records of environmental sustainability of environmentally sensitive area in the wind farm.
PA0104	Coordinate responses to responses to environmental changes arising from weather elements

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Basics of environmental conservation
AK0102	Characteristics of animals and plants on land and in water
AK0103	Emergency evacuation procedures
AK0104	Communication skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Records of environmental factors is kept monitoring changes and reporting
IAC0102	Changes is existing environment is monitored to coordinate responses for rehabilitation and management of emergency responses

(c) Scope of each Practical Skill Activity:

PM-05-PS02: MONITOR COMPLIANCE TO ENVIRONMENTAL LEGAL REQUIREMENTS IN A WIND FARM	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given assignment, wind farm, checklists, environmental legal requirements, standard environmental management policies, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Keep and maintain records in the changes in land use within the wind farm
PA0202	Maintain and keep records of public health safety with the wind farm

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	Basics of legal requirements for environmental conservation
AK0202	Characteristics of animals and plants on land and in water
AK0203	Emergency evacuation procedures
AK0204	Communication skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Changes to land use are recorded and reported to comply with legal requirements
IAC0202	Health and safety records are kept for public protection

4.5.2. Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options

	• All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)
FACILITATOR/LEARNER RATIO	N/A

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.5.3 Exemptions

None

4.6 Practical Module (PM) - 06: 900277-000-00-PM-06, Manage emergency responses in and around the wind farm, NQF Level 3, Credits 3

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-06	Manage emergency responses in and around the wind farm.	3	3	Face-to-face, or online, or mobile training unit,

4.6.1. Module Details

(a) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to manage emergency responses in and around the wind farm within a controlled environment**.** Learners will also be practicing skills related to preparing for emergency response, activating emergency response for fire and injury within the wind turbine environment.

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM06-PS01	Prepare for emergency response in wind turbine environment
PM06-PS02	Activate emergency response for fire within the wind turbine environment
PM06-PS03	Activate emergency response for injury on duty within the wind turbine environment

(c) Scope of each Practical Skill Activity:

PM-06-PS01: PREPARE FOR EMERGENCY RESPONSE IN WIND TURBINE ENVIRONMENT	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, guidelines for emergency planning, standard templates, types of tools and equipment for emergency response, stakeholders, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Conduct environmental and risk assessment for the wind turbine environment
PA0102	Develop evacuation plan for all possible emergency situations
PA0103	Set up structures for management of emergency evacuations
PA0104	Source and maintain equipment for emergency responses
PA0105	Conduct drilling exercises for emergency evacuation.
PA0106	Conduct internal and external awareness training for emergency response within the wind turbine environment.

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Hazards, Incidences and Risk Assessment procedures
AK0102	Emergency evacuation planning
AK0103	Basic planning skills

AK0104	Communication skills
AK0105	Stakeholder relations skills
AK0106	Use of emergency equipment
AK0107	First aid skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	Public awareness training for emergency responses is conducted to keep the public safe around the wind turbine environment.
IAC0102	Emergency response structures are created to allocated responsibilities and functions in compliance with legal requirements and industry standard practice
IAC0103	Drilling exercises are conducted to keep staff and public aware of the safety issues and reinforcement of roles.

(c) Scope of each Practical Skill Activity:

PM-06-PS02: ACTIVATE EMERGENCY RESPONSE FOR FIRE WITHIN THE WIND TURBINE ENVIRONMENT	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given assignment, roleplay, emergency response equipment, emergency evacuation plan, fire prevention equipment, PPE, local government fire brigade services, learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Immediately activate evacuation plan
PA0202	Establish the source and type of fire
PA0203	Manage the use of fire extinguishers and related fire prevention tools
PA0204	Inform stakeholders and invite local government fire brigade team.
PA0205	Identify the injured and activate first aid measures.
PA0206	Assess (debriefing) and record the damage.

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	Hazards, Incidences and Risk Assessment procedures
AK0202	Emergency evacuation planning
AK0203	Basic planning skills
AK0204	Communication skills
AK0205	Stakeholder relations skills
AK0206	Use of emergency equipment
AK0207	First aid skills
AK0208	Types of fire

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Fire prevention emergency response is activated in accordance with prescribed procedures
IAC0202	Stakeholders are informed urgently for their own safety precautions and to activate their response in accordance with the law and company policies.
IAC0203	Debriefing is conducted to evaluate compliance and draw lessons from the incident

(c) Scope of each Practical Skill Activity:

PM-06-PS03: ACTIVATE EMERGENCY RESPONSE FOR INJURY ON DUTY WITHIN THE WIND TURBINE ENVIRONMENT	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, roleplay, emergency response equipment, fire prevention equipment, PPE, local government fire brigade services, learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0301	Immediately activate evacuation plan
PA0302	Establish the source and type of symptoms and injuries
PA0303	Manage the use of first aid tool kits
PA0304	Inform stakeholders and invite local government emergency health services.
PA0305	Identify the injured and activate first aid measures.
PA0306	Assess (debriefing) and record the damage

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0301	Hazards, Incidences and Risk Assessment procedures
AK0302	Emergency evacuation planning
AK0303	Basic planning skills
AK0304	Communication skills
AK0305	Stakeholder relations skills
AK0306	Use of emergency equipment
AK0307	First aid skills

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0301	Fire prevention emergency response is activated in accordance with prescribed procedures.
IAC0302	Stakeholders are informed urgently for their own safety precautions and to activate their response in accordance with the law.
IAC0303	Debriefing is conducted to evaluate compliance and draw lessons from the incident.

4.6.2. Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.)

	commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results • Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)
FACILITATOR/LEARNER RATIO	N/A

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.6.3 Exemptions

None

4.7 Practical Module (PM) - 07: 900277-000-00-PM-07, Ensure proper use and maintenance of the personal and collective protective equipment., NQF Level 3, Credits 3

MODULE CODE	MODULE TITLE	NQF LEVEL	CREDITS	MODE OF DELIVERY
900277-000-00-PM-07	Ensure proper use and maintenance of the personal and collective protective equipment.	3	3	Face-to-face, or online, or mobile training unit

4.7.1. Module Details

(a) Purpose of the Practical Skills Module:

The focus of the learning in this module is on providing the learner an opportunity to ensure proper use and maintenance of personal and collective protective equipment within a controlled environment**.** Learners will also be practicing skills related to care and handling personal protective equipment, use and maintain harness and lanyard to specifications.

(b) List of Practical Skill Activities:

PRACTICAL SKILL CODE	ACTIVITY TITLE
PM07-PS01	Care and handle personal protective equipment
PM07-PS02	Use and maintain harness to specifications
PM07-PS03	Use and maintain lanyard to operational specifications

(c) Scope of each Practical Skill Activity:

PM-07-PS01: CARE AND HANDLE PERSONAL PROTECTIVE EQUIPMENT	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, role-players, routine maintenance procedures for PPE, storeroom, storage shelves, oil, grease, bolts, tightening equipment, cleaning solutions, PPE equipment and tools, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0101	Identify individual components of each PPE item.
PA0102	Establish and practice its use under supervision and on your own
PA0103	Keep the PPE tidy and ready for use
PA0104	Store PPE items to prescribed specifications
PA0105	Inspect and report damages to PPE

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0101	Wind turbine PPE and their components
AK0102	Applied uses of different PPE in Wind Turbine environment
AK0103	Maintenance and inspection procedures
AK0104	Documentation requirements
AK0105	Storage Procedures for PPE
AK0106	Uses of lanyard
AK0107	Wind turbine PPE and their components

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0101	PPE inspection is conducted to test functionality, damages, and report maintenance requirements
IAC0102	PPE is stored in safe and tidy spaces
IAC0103	PPE is cleaned in accordance with manufactures; manual specifications

(c) Scope of each Practical Skill Activity:

PM-09-PS02: USE AND MAINTAIN HARNESS TO SPECIFICATIONS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE	
Given assignment, harness, lanyard, fittings, use specifications, operating manual, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**
PA0201	Prepare the harness, fittings, and attachments for use
PA0202	Fit components together to specifications
PA0203	Ensure correct attachments.
PA0204	Conduct pre-use inspections
PA0205	Use the harness to operational requirements
PA0206	Conduct maintenance (cleaning, greasing, etc.) the harness
PA0207	Maintain up to date use and maintenance documentation records

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0201	Wind turbine PPE and their components
AK0202	Applied uses of different PPE in Wind Turbine environment
AK0203	Maintenance and inspection procedures
AK0204	Documentation requirements
AK0205	Storage Procedures for PPE
AK0206	Uses of lanyard
AK0207	Assembly and use of harness
AK0208	Methods of cleaning and storing harness

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0201	Harness is cleaned using methods standard for working at heights sector
IAC0202	Pre-inspection is conducted before the harness can be used and a record thereof kept
IAC0203	Maintenance records are kept in accordance with standard procedures

(c) Scope of each Practical Skill Activity:

PM-09-PS03: USE AND MAINTAIN LANYARD TO OPERATIONAL SPECIFICATIONS	
PRACTICAL SKILL ACTIVITY SCOPE OUTLINE:	
Given assignment, harness, lanyard, fittings, use specifications, operating manual, the learner must be able to:	
PRACTICAL SKILL ACTIVITY ELEMENT CODES	**PRACTICAL SKILL ACTIVITY ELEMENTS**

PA0301	Check that the lanyard complies to legal requirements.
PA0302	Attach to harness to specifications.
PA0303	Use approved anchor points for attachments
PA0304	Conduct pre-use inspections.
PA0305	Use the harness (lanyard) to specifications.
PA0306	Report any damage to the lanyard
PA0307	Store lanyard to specifications
PA0308	Document on the use of lanyard

(d) Applied Knowledge that underpins the Practical Skill

APPLIED KNOWLDEGE CODE	APPLIED KNOWLEDGE
AK0301	Wind turbine PPE and their components
AK0302	Applied uses of different PPE in Wind Turbine environment
AK0303	Maintenance and inspection procedures
AK0304	Documentation requirements
AK0305	Storage Procedures for PPE
AK0306	Uses of lanyard
AK0307	Assembly and use of harness

(e) Internal Assessment Criteria (IAC)

IAC CODE	IAC DESCRIPTION
IAC0301	Lanyard is cleaned using methods standard for working at heights sector
IAC0302	Pre-inspection is conducted before the lanyard can be used and a record thereof kept
IAC0303	Maintenance records are kept in accordance with standard procedures.

4.7.2. Criteria for accreditation

Requirements, against which Skills Development Providers (SDP) and Assessment Centres, will be accredited, as listed below.

Physical Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
EQUIPMENT & TOOLS	• Physical training facilities (or if using a hybrid or e-learning model – software or internet platform) conducive to hosting the number of learners comfortably and safely for the duration of this module • Facilities that meet the minimum requirements for the comfort of learners (ablutions, hand washing facilities, sheltered from the elements etc.) commensurate with site-based training options • All learning materials, lesson plans, workbooks, assessment guides to cover the related topics • Tools and standards for internal assessment • Record -keeping systems to capture learner data and issue a statement of results

	• Wind Turbine Operator learning material and related hand-outs
CONSUMABLES	• All consumables required for the provision of this module

Human Resource Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• Assessment official (SME) must have a minimum of an NQF Level 5 qualification in the field related to the module and 3 years' experience in the wind industry. i.e. Occupational Certificate: Wind Turbine Service Technician (NQF Level 5) – SAQA ID: 99559 • Qualified and experienced assessor
FACILITATOR/LEARNER RATIO	• 1:12

Legal Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)	
QUALIFICATIONS & EXPERIENCE	• CIPC registered entity • SARS Tax compliance • Compliant and current health and safety audit report • Relevant labour legislation visible in a facility or on the platform (as required by current legislation)
FACILITATOR/LEARNER RATIO	N/A

Additional Requirements:

SKILLS DEVELOPMENT PROVIDER (SDP)
None

ASSESSMENT CENTRE
None

4.7.3 Exemptions

None

5. POSSIBLE SEQUENCING AND INTEGRATION

ORDER	MODULE TITLE	MODULE CODE	LEVEL	CREDITS
1.	Basic Health and Safety	900277-000-00-KM-01	3	3
2.	Working at Heights & Manual Handling	900277-000-00-KM-02	3	5
3.	Fire awareness	900277-000-00-KM-03	3	2
4.	First Aid	900277-000-00-KM-04	3	5
5.	Basic Technical Training Mechanical	900277-000-00-KM-05	3	6
6.	Basic Technical Training Electrical	900277-000-00-KM-06	3	4
7.	Basic Technical Training Hydraulic	900277-000-00-KM-07	3	4
8.	Basic Crane and Hoist Basic User	900277-000-00-KM-08	3	6
9.	Basic Lift User	900277-000-00-KM-09	3	3
10.	Inspect and routinely maintain main components	900277-000-00-PM-01	3	3
11.	Maintain wind turbine systems.	900277-000-00-PM-02	3	3
12.	Interpret wind turbine performance information	900277-000-00-PM-03	3	2
13.	Create awareness on health and safety around the wind farm.	900277-000-00-PM-04	3	2
14.	Monitor environmental compliance within the wind farm.	900277-000-00-PM-05	3	2
15.	Manage emergency responses in and around the wind farm.	900277-000-00-PM-06	3	3
16.	Ensure proper use and maintenance of the personal and collective protective equipment.	900277-000-00-PM-07	3	3