

BASIC POWER SYSTEM PROTECTION

SHORT DESCRIPTION OF COURSE AND EXPECTED COMPETENCIES

Students will, after passing the prescribed exam:

1. Knowledge of Electrical apparatus and plant
2. Knowledge of plant layout
3. Knowledge of Safety regulations and standards
4. Knowledge and skills to safely analyse record and report basic protection on all systems up to 132KV. This will limit the loss of supply and ensure the correct isolating of faulty apparatus

COURSE CONTENT:

1. EFFECTS OF AN ELECTRICAL FAULT
2. BASIC REQUIREMENTS FOR PROTECTION SCHEMES
3. CT'S AND VT'S
4. POTENTIAL DEVICES
5. CIRCUIT BREAKERS
6. RELAYS
7. DIFFERENT TYPES OF RELAYS
8. POWER TRANSFORMERS
9. TRANSFORMER FAILURES AND THEIR CAUSES
10. PROTECTION SCHEMES
11. BUSBAR PROTECTION SCHEMES – BUSS ZONE PROTECTION
12. RWCLOSERS AND SECTIONALISERS
13. TRANSMISSION LINE / CABLE UNIT
14. POLE DISCREPANCY
15. AC / DC DIAGRAMS
16. CLOSING CIRCUIT
17. TRIP CURRENT
18. THE BUCHHOLZ
19. TRIP WINDINGS AND OIL TEMPERATURE RELAY
20. SURGE ARRESTORS
21. VOLTAGE TRANSIENTS
22. BATTERIES

DURATION OF COURSE	5 DAYS	MINIMUM STUDENTS	5
EXPECTED PASS MARK	80%	MAXIMUM STUDENTS	15
TARGET POPULATION	ANY PERSONS INVOLVED WITH THAT WORK		
UNIT STANDARD	10689	CREDITS	
NQF LEVEL			

TO ATTEND THE ABOVE COURSE/S THE STUDENT MUST MEET THESE MINIMUM REQUIREMENTS:

1. MUST HAVE PASSED SUCCESSFULLY THE O.R.H.V.S. COURSE.
2. STUDENT MUST BE IN POSSESSION OF, AND UP TO DATE, REGULATION BOOK.
3. STUDENTS WILL BRING PEN, PENCIL, RULER AND WRITING PAD TO THE COURSE.
4. STUDENTS MUST BE ON TIME TO START THE COURSE.
5. MUST BE LITERATE IN THE ENGLISH LANGUAGE (MINIMUM LEVEL 3 ABD)

EXAMS/TESTS WILL BE DONE ON: THE MORNING OF THE LAST DAY – COVERING THE WHOLE COURSE