

Industry Standards – Power Network Craftsperson

A power network craftsperson has responsibility for the safe construction, maintenance and repair of the UK's electrical power network, to provide a safe and reliable supply of electricity to the country. This involves working at various locations across a company's power network. There are three specialisms within this occupation: working on overhead lines, on underground cables and in substation fitting.

There are three specialisms within this occupation:

- Overhead lines: the “transmission and distribution overhead lines” area involves working predominantly on wood poles and steel tower structures
- Underground cables: undertaking work in excavations at differing depths on underground power cables
- Substation fitting: working in and around substations

Overhead Lines Craftsperson Industry Standard

The “transmission and distribution overhead lines” area involves working predominantly on wood poles and steel tower structures, showing the ability to:

- Adhere to safety practices and procedures, carry out risk assessments and check the structures to be climbed and the working conditions while working at height
- Carry out excavations, erect wood poles, steel towers and install their support mechanisms
- Climb poles and steel towers to install, maintain, test, repair and dismantle overhead line plant and equipment safely at height
- Use electrical theories and principles to use test equipment for voltage, current and earth resistance testing to maintain the integrity of the network
- Consult design specifications to tension and terminate conductors, erect and assemble steel work and fittings
- Install and connect electrical transformers, switchgear, circuit breakers and other associated equipment
- Drive vehicles equipped with tools and materials to job sites including mobile elevated work platforms
- Apply mechanical knowledge to use winches, drum handlers, pull lifts, tirsors and tensioning devices
- Carry out electrical switching procedures on high and low voltage networks, operating switchgear, fuses and making and breaking live conductor connections
- Organise and control work teams to carry out maintenance operations on overhead line plant and apparatus

Induction Units – (if delivering Power Network Craftsperson apprenticeship standard, all units are mandatory)

Unit Code	Title	Internal Ref
	Download all Induction Units here	
001	Health, Safety and the Environment	2417
002	First Aid	2417
003	Manual Handling	2417
004	Fire and Emergency Procedures	2417
005	Drug and Alcohol Awareness	2417
006	SHEA Power (Revised Version 2014)	2417
007	Risk Assessment	2417
008	Personal Protective Equipment	2417
009	Basic Hand Skills	2417
010	AME Power Environments (Min of 1) – S/S, OHL or U/G	2417
011	Working with Others	2417
012	Asbestos Awareness	2417

013	Work at Height	2417
014	Network Appreciation (OHL and UG Networks)	2417
015	Interpersonal Skills	2417

Technical Skills and Knowledge Group B – (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 4)

Unit Code	Title	Internal Ref
020	Location of Utilities (OHL and U/G Services)	2432
021	Utilities Excavation	2433
022	Excavation Shuttering	2434
023	Excavator Banks person	2435
024	Remove, Test and Insert Cut-Out Fuses	2436
025	Utilities Drum and Winch	2437
026	Safe Driving	2438
027	Wayleaves	
028	4 x 4 Off Road Driving Skills	2440
029	Abrasive Cutting Equipment	2441
030	Vehicle Marshalling	2442
031	Slinger and Rigging	2443
032	Use of Liquefied Petroleum Gas (LPG)	2444
033	Traffic Management	2445
034	Electrical Testing Procedures	2446
035	Confined Space Awareness	2447
036	Hydraulics and Pneumatics	2448
037	Power Regulation Awareness	2449

Overhead Lines Group C – must select a minimum of 5 from either Wood Pole OR Steel Tower:

Group C – Wood Pole - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 5)

Unit Code	Title	Internal Ref
040	Wood Pole Access	2455
041	Install Wood Poles and Stays	2456
042	Wood Pole Steelwork HV / LV	2457
043	Wood Pole Conductor Stringing HV / LV	2458
044	Wood Pole Earthing	2459
045	Wood Pole Conductor Jointing	2460
046	Wood Pole Install / Remove Plant / Apparatus	2461
047	Wood Pole Install / Remove Plant / Apparatus Earthing	2462

048	Wood Pole LV Services	2463
049	Live Low Voltage Overhead Lines	2464
050	HV Live Line Operations (use of rods from ground)	
051	HV Hot Glove Operations	
Group C – Steel Tower - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 5)		
Unit Code	Title	Internal Ref
052	Steel Tower Access and Rescue	2467
053	Use of Access Equipment - Steel Tower	2468
054	Steel Tower Conductor Stringing	2469
055	Steel Tower Earthing	2470
056	Steel Tower Fittings	2471
057	Steel Tower Insulators	2472
058	Steel Tower Conductor Repairs / Jointing	2473

Group D - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 2)- MUST include 090		
Unit Code	Title	Internal Ref
090	Organise the Use of Resources	2493
091	Receipt of Documents	2494
092	Low Voltage Switching OHL	2495
093	Low Voltage Switching UG	2496
094	High Voltage Switching Substations	2497
095	High Voltage Switching OHL	2498
096	High Voltage Protection	2499
097	Diagnostic Fault Finding	2500

Substation Fitting Craftsperson Industry Standard

Working in and around substations means showing the ability to:

- Adhere to safety practices and procedures, carry out risk assessments, check the condition of the work site
- Use electrical / mechanical knowledge and skills to install, maintain and dismantle a wide variety of high voltage plant and apparatus including transformers, switchgear, cable terminations and other associated equipment
- Build and install high voltage substations safely in both urban and rural locations
- Use technical knowledge to carry out substation inspections, condition monitoring and reporting
- Apply electrical theories and principles to use electronic equipment to carry out diagnostic fault finding procedures
- Maintain sub-station transformers and switchgear by replacing insulating oils and other insulating mediums
- Inspect and maintain substation earthing, security equipment, telecommunication devices and alarm systems
- Drive vehicles equipped with tools and materials to job sites including using mobile elevated work platforms
- Carry out electrical switching procedures on high and low voltage networks, operating switchgear, fuses and carrying out live working operations

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023	Excavator Banks person	2435
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025	Utilities Drum and Winch	2437
026	Safe Driving	2438
027	Wayleaves	
028	4 x 4 Off Road Driving Skills	2440
029	Abrasive Cutting Equipment	2441
030	Vehicle Marshalling	2442
031	Slinger and Rigging	2443
032	Use of Liquefied Petroleum Gas (LPG)	2444
033	Traffic Management	2445
034	Electrical Testing Procedures	2446
035	Confined Space Awareness	2447
036	Hydraulics and Pneumatics	2448
037	Power Regulation Awareness	2449

Group C – Substation Fitting - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 6)

Unit Code	Title	Internal Ref
070	Substation Oil Handling and Testing	2475
071	Substation Monitoring / Inspection	2476
072	Working at Height (Substations)	2477
073	Transformer Maintenance	2478
074	Transformer Install	2479
075	Circuit Breaker Maintenance	2480
076	Circuit Breaker Install	2481
077	Switchgear Maintenance	2482
078	Switchgear Install	2483
079	Battery Systems Maintenance	2484
080	SF6 Handling	2485
081	Power System Plant Maintenance	2486
082	Busbar Equipment Maintenance	2487
083	Compressed Air Plant Systems Maintenance	2488
084	LV Systems Maintenance	2489

085	Power System Plant Maintenance / Install	2490
086	Substation Earthing	2491
087	Control and Panel Wiring	2492
Group D - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 2) MUST include 090		
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091	Receipt of Documents	2494
092	Low Voltage Switching OHL	2495
093	Low Voltage Switching UG	2496
094	High Voltage Switching Substations	2497
095	High Voltage Switching OHL	2498
096	High Voltage Protection	2499
097	Diagnostic Fault Finding	2500

Underground Cabling Craftsperson Industry Standard

Undertaking work in excavations at differing depths on underground power cables showing the ability to:

- Adhere to safety practices and procedures, carry out risk assessments, check the condition of excavations and install and maintain barrier systems to protect the work area
- Carry out excavations by hand and by the use of mechanical equipment to install cables in trenches
- Use electrical / mechanical knowledge to joint and terminate a range of cable sizes and types of joints using cable connectors across both low and high voltage cables networks to design specifications
- Install and remove excavation shuttering to support the sides of excavations and maintain a safe work environment
- Use technical knowledge to operate electronic location equipment to identify and locate underground cables
- Use electrical theories and principles to carry out fault diagnosis on underground cable networks
- Drive vehicles equipped with tools and materials to job sites and operate powered ground breakers
- Carry out electrical switching procedures on low voltage networks, operating switchgear, links and making and breaking live conductor connections
- Organise and control the resources required to carry out the installation of cables, joints and link boxes

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023	Excavator Banks person	2435
024	Remove, Test and Insert Cut-Out Fuses	2436
025	Utilities Drum and Winch	2437
026	Safe Driving	2438
027	Wayleaves	
028	4 x 4 Off Road Driving Skills	2440
029	Abrasive Cutting Equipment	2441
030	Vehicle Marshalling	2442
031	Slinger and Rigging	2443
032	Use of Liquefied Petroleum Gas (LPG)	2444
033	Traffic Management	2445
034	Electrical Testing Procedures	2446
035	Confined Space Awareness	2447
036	Hydraulics and Pneumatics	2448
037	Power Regulation Awareness	2449

Cable Jointing – Group C - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 1) - MUST include 060 OR 061

Unit Code	Title	Internal Ref
060	LV Cable Jointing	2450
061	HV Cable Jointing	2451
062	Pilot Cable Jointing	2452
063	EHV Cable Jointing	
064	Cable Jointers Mate	2454

Group D - (if delivering Power Network Craftsperson apprenticeship standard, you must select a minimum of 2) - MUST include 090

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091	Receipt of Documents	2494
092	Low Voltage Switching OHL	2495
093	Low Voltage Switching UG	2496
094	High Voltage Switching Substations	2497
095	High Voltage Switching OHL	2498
096	High Voltage Protection	2499
097	Diagnostic Fault Finding	2500