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Workforce requirements of the UK's electricity transmission and distribution industry (2024 to 2038)

13th November 2023

Version 1

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NSAP

Workforce requirements of the UK's electricity transmission and distribution industry (2024 to 2038)

1. Introduction

1.1 Purpose

1.1.1 The aim of this exercise is to provide NSAP's Transmission and Distribution Group with an updated assessment of the industry's collective workforce requirements over the next 15 years – reported in three five-year blocks from 2024 to 2038.

1.2 Scope and coverage

1.2.1 This report is based on current workforce data and applied assumptions provided by members of the NSAP Transmission and Distribution Group.

1.2.2 From a workforce perspective, we have focussed exclusively on the principal technical/engineering and data/digital job roles. Non-technical roles such as strategic management, HR, finance, retail, etc. are outside the scope of this study. See Annex 2 for the full list of job roles.

2. Executive summary

2.1 Workforce supply – The current workforce

2.1.1 In 2022, total employment across the UK in the electricity transmission and distribution industry is estimated to be 56,000 across all occupations.

2.1.2 61% (c34,000) of this workforce are employed in "technical/operational" roles – Professional, Associate Professional, Skilled Trades, Process, Plant & Machine Operatives and Elementary occupations.

2.1.3 In total, details of 20,381 employees were provided by these companies. This represents approximately 60% of the entire "technical/operational" workforce employed in electricity transmission and distribution across the UK.

2.1.4 Trainees account for 3.4% of the current NSAP T&D workforce.

2.1.5 In 2023, 4% of the workforce are young people (aged 16-24) – unchanged from 2015.

2.1.6 This is lower than the 10% of the UK power workforce as a whole (including non-technical roles) and the 11% across all sectors of the UK economy.

- 40% of "trainees" are young people (276 of 689)
- 30% of all young people in the workforce are "trainees" (276 of 916)

2.1.7 8% of the workforce are older people (aged 60+) – unchanged from 2015. On a positive note, this does suggest that the "retirement cliff edge" is being managed.

2.1.8 This is slightly higher than the 7% of the UK power workforce as a whole (including non-technical roles), but lower than the 11% across all sectors of the UK economy.

2.1.9 There has been little, if any, progress in increasing the proportion of younger people in the workforce or in reducing the proportion of older workers.

2.1.10 In 2023, 13% of the NSAP T&D workforce were female. This is the highest proportion ever recorded by this exercise.

- Just 11% of NSAP T&D "trainees" are female (79 of 689)

2.1.11 In 2023, 5% of the NSAP T&D workforce were from an ethnic minority background.

- 9% of "trainees" were ethnically diverse (18 of 210)

2.1.12 Although there appears to have been little progress since we started collecting this data in 2019, the Annual Population Survey reports that the proportion of the UK power workforce that are from an ethnic diverse background (including those employed in non-technical roles) increased from 6% in 2015 to 12% in 2022. So, any increase in ethnic diversity in the industry appears to be concentrated in non-technical roles.

2.1.13 Insufficient data was submitted to be able to analyse the level and range of disabilities in the NSAP T&D workforce.

2.1.14 2% of the NSAP T&D workforce were non-UK nationals[1], which is significantly lower than the 8% across the power workforce as a whole (including non-technical roles) and 12% across the UK adult population[2].

2.1.15 The average current length of service is 13.8 years.

2.1.16 As one would expect, the average current length of service generally increases (i) as you go up the pay grades and (ii) with age. This suggests that the industry both retains its workforce well and that employees progress up the skill levels as they gain experience.

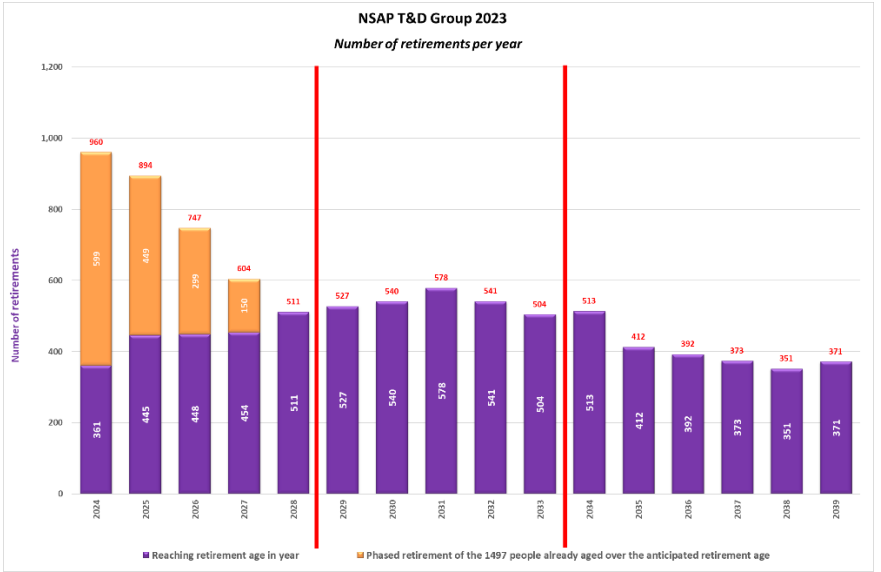
2.1.17 The current average length of service for employees aged 60+ years is 29.4 years.

2.2 Predicting future vacancies

2.2.1 It is estimated that 3,716 people will retire over the next five years – equivalent to 18% of the current workforce.

2.2.2 This includes 1,497 people who are already aged over their anticipated retirement age.

Figure 1: Estimated number of retirement per year



[1] Data relating to ethnic diversity was provided for 36% (7,348) of the 20,381 employees.

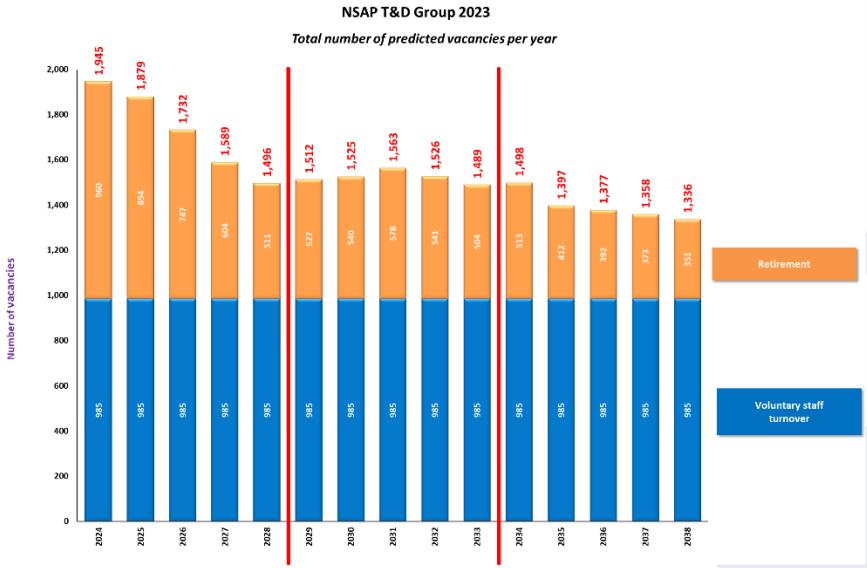
[2] Annual Population Survey, 2022, ONS.

2.2.3 Based on the average length of service of those currently aged 60 years and older – 29.4 years – an aggregate of 109,250 years' experience could be lost over the next five years through retirements.

2.2.4 Based on the assumption of 5% staff turnover per year, 4,925 vacancies are projected to be created in each of the next three five-year periods (equivalent to 24% of the current workforce).

2.2.5 In total, some 8,641 vacancies are projected to be created by 2030 (averaging 1,728 per year) – equivalent to replacing 42% of the current workforce.

Figure 2: Projected vacancies by year and cause



2.3 Occupational heat map

2.3.1 Using the data from this analysis and an initial estimate of the perceived level of difficulty in acquiring relevant skills from the external labour market, an occupational heat map has been developed.

2.3.2 The output of this is that the following job families should be regarded as priority areas in terms of action to avoid future skills shortages:

- L3 - IT/Cyber Technician
- L3 - Multi-Skilled Craftsperson
- L3 - Overhead Linesperson
- L3 - Telecoms Technician
- L4 - Business/Data Analyst
- L5 - Engineer
- L5 - IT/Software/Cyber Engineer
- L5 - Specialist
- L6 - IT/Software/Cyber Technical Lead
- L6 - Senior Business/Data Analyst
- L6 - Specialist/Engineer

2.4 The external labour market

2.4.1 In the **North East**, **Northern Ireland** and **West Midlands**, it is more likely that attracting and retaining the right skills could prove to be a challenge than in other, better performing, areas.

2.4.2 Conversely, **South East** and **South West** regions have relatively well-performing skills/labour markets, but also have relatively high levels of vacancies in the transmission and distribution industry.

2.4.3 As can be seen from the colouring in the table below, there is a clear correlation between poor performance in economic status, educational attainment & progression and levels of deprivation (coloured red) – and vice versa (good performance is coloured green).

2.4.4 In theory, in those regions which are ranked lower than the median (1-6), the more likely it is that attracting and retaining the right skills could prove to be a challenge.

2.4.5 Conversely, in those local areas which are ranked higher than the median (7-12), the more likely it is that attracting and retaining the right skills could be easier.

Figure 3: Overall ranking of each region and nation in terms of their performance against a range of labour market measures

Rank	Region	Overall average ranking	Average ranking of economic status	Average ranking of education attainment & progression	Average ranking of deprivation score
1	North East	**2.7**	1.3	4.0	1
2	Northern Ireland	**4.1**	4.8	3.4	N/A
3	West Midlands	**4.4**	4.2	4.6	5
4	Yorkshire and The Humber	**4.8**	5.5	4.0	3
5	North West	**5.8**	5.2	6.4	2
6	East Midlands	**6.0**	7.3	4.6	6
7	Wales	**6.0**	5.7	6.4	N/A
8	Scotland	**6.9**	5.3	8.4	N/A
9	London	**7.8**	6.8	8.8	4
10	East	**8.7**	9.8	7.6	8
11	South West	**9.5**	11.0	8.0	7
12	South East	**9.9**	9.5	10.2	9

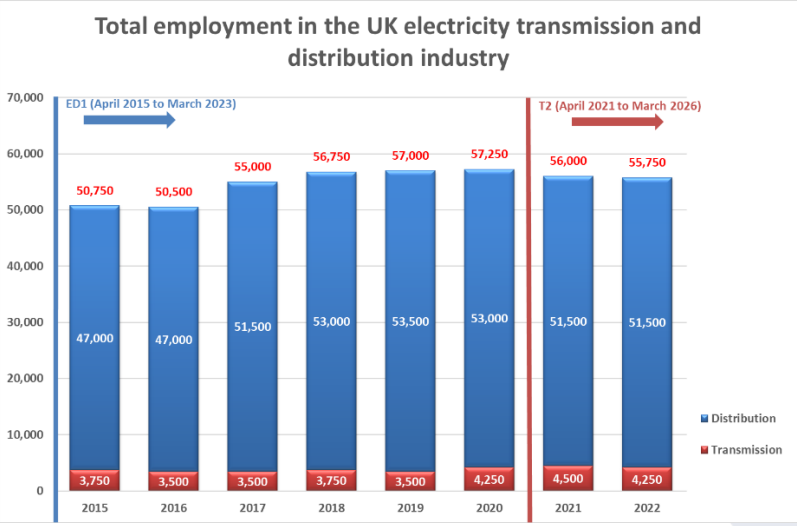
3. The current workforce

3.1 Total industry employment

3.1.1 In 2022, total employment across the UK in the electricity transmission and distribution industry is estimated to be 56,000 across all occupations.

3.1.2 61% (c34,000) of this workforce are employed in "technical/operational" roles – Professional, Associate Professional, Skilled Trades, Process, Plant & Machine Operatives and Elementary occupations.

Figure 4: Total employment in the electricity transmission and distribution industry (UK), 2022



Source: Business Register and Employment Survey, 2022 (ONS & NISRA).

3.2 Workforce structure

3.2.1 Current workforce data was sought from all NSAP T&D members.

3.2.2 Data submissions were received from:

- Freedom Group
- National Grid
- Northern Powergrid
- Scottish Power
- SSE Networks
- UK Power Networks

3.2.3 In total, details of 20,381 employees were provided by these companies. This represents approximately 60% of the entire "technical/operational" workforce employed in electricity transmission and distribution across the UK.

3.2.4 The dataset of 20,381 employees included 689 "trainees" (e.g. apprentices and graduates).

Figure 5: Total workforce by skill level and job family

Skill Level & Job Family	Current workforce
Trainee	689
Skill Level 1 (SCQF 4)	**1,145**
General Technical Support	1,145

Skill Level & Job Family	Current workforce
Skill Level 2 (SCQF 5)	**2,421**
Cable Jointer	352
Electrical Fitter	131
General Technical Support	1,595
Overhead Linesperson	343
Skill Level 3 (SCQF 6)	**6,936**
Cable Jointer	1,914
Electrical Fitter	872
IT/Cyber Technician	13
Multi-Skilled Craftsperson	734
Overhead Linesperson	1,567
Technical/Supervisory	1,824
Telecoms Technician	12
Skill Level 4 (SCQF 7)	**3,031**
Business/Data Analyst	213
Engineer	670
Managerial	320
Project Manager	1,074
Specialist	754
Skill Level 5 (SCQF 8-9)	**4,475**
Engineer	1,669
IT/Software/Cyber Engineer	18
Managerial	1,531
Project Manager	619
Specialist	638
Skill Level 6 to 8 (SCQF 10-12)	**1,684**
Director	2
IT/Software/Cyber Technical Lead	4
Managerial	708
Senior Business/Data Analyst	122
Specialist/Engineer	848
NSAP T&D workforce - 2023	**20,381**

Apprentices and Graduate trainees

3.2.5 Trainees account for 3.4% of the current NSAP T&D workforce.

3.2.6 A benchmark figure to aim for in this respect would be c5%.

- In 2022, Apprentices accounted for 4.8% of *Procurement Skills Accord*[3] signatories' operational/technical workforces
- Members of *The 5% Club*[4] aspire to achieve 5% of their workforce in "earn and learn" positions (including apprentices, sponsored students and graduates on formalised training schemes) within five years of joining

3.2.7 If the NSAP T&D membership were to have an ambition of having at least 5% of its workforce being on an Apprenticeship or Graduate Trainee programme, this would mean increasing the number of trainees from 689 to 1,019 (and increase of 48%).

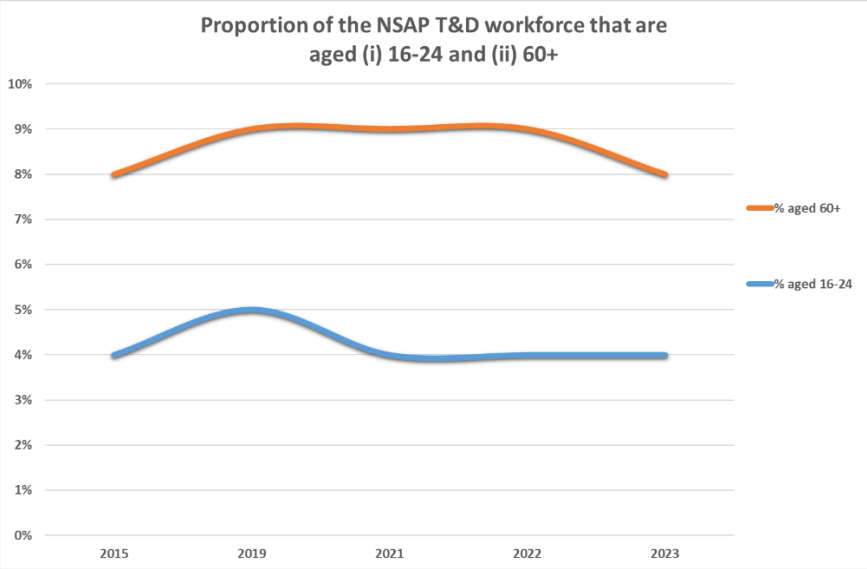
[3] https://www.euskills.co.uk/about/energy-utilities-skills-partnership/skills-accord/

[4] https://www.5percentclub.org.uk/about/

3.3 Age profile

3.3.1 The table below shows the proportion of the NSAP T&D workforce (based on the datasets received by employers) that were aged (i) 16-24 and (ii) 60+ since 2015.

Figure 6: Age profile of the workforce – 2015 to 2023



Source: NSAP workforce planning data submissions, 2015 to 2023.
Note: 2015, 2021 and 2022 only contained data from TOs and DNOs. Data for 2023 includes data and digital roles.

3.3.2 The chart shows that there has been little, if any, progress in increasing the proportion of younger people in the workforce or in reducing the proportion of older workers. This lack of progress is confirmed by data from the Annual Population Survey.

3.3.3 In 2023, 4% of the workforce are young people (aged 16-24) – unchanged from 2015.

3.3.4 This is lower than the 10% of the UK power workforce as a whole (including non-technical roles) and the 11% across all sectors of the UK economy[5].

- 40% of "trainees" are young people (276 of 689)
- 30% of all young people in the workforce are "trainees" (276 of 916)

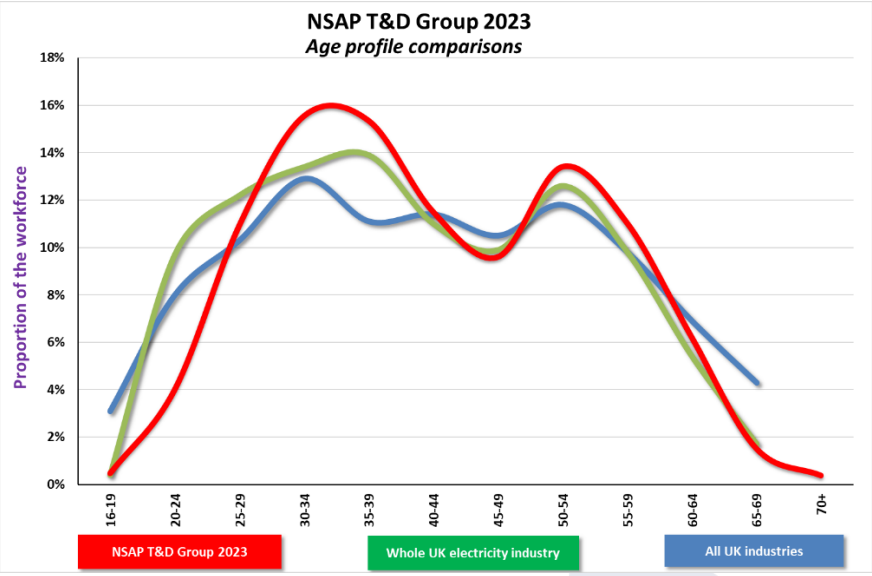
3.3.5 8% of the workforce are older people (aged 60+) – unchanged from 2015. On a positive note, this does suggest that the "retirement cliff edge" is being managed.

3.3.6 This is slightly higher than the 7% of the UK power workforce as a whole (including non-technical roles), but lower than the 11% across all sectors of the UK economy[6].

[5] Annual Population Survey, ONS, 2022.

[6] Annual Population Survey, ONS, 2022.

Figure 7: Age profile of the workforce



3.3.7 The table below shows how the proportion of young and older people various by skill level and job family.

Figure 8: Age profile of the workforce

Skill Level & Job Family	Current workforce	% aged 16-24	% aged 60+
Trainee	689	40%	0%
Skill Level 1 (SCQF 4)	**1,145**	**4%**	**12%**
General Technical Support	1,145	4%	12%
Skill Level 2 (SCQF 5)	**2,421**	**6%**	**11%**
Cable Jointer	352	11%	13%
Electrical Fitter	131	6%	9%
General Technical Support	1,595	5%	13%
Overhead Linesperson	343	4%	6%
Skill Level 3 (SCQF 6)	**6,936**	**5%**	**9%**
Cable Jointer	1,914	6%	10%
Electrical Fitter	872	9%	11%
IT/Cyber Technician	13	8%	0%
Multi-Skilled Craftsperson	734	4%	13%
Overhead Linesperson	1,567	5%	8%
Technical/Supervisory	1,824	1%	7%
Telecoms Technician	12	0%	42%
Skill Level 4 (SCQF 7)	**3,031**	**2%**	**6%**
Business/Data Analyst	213	11%	4%
Engineer	670	1%	6%
Managerial	320	0%	11%
Project Manager	1,074	3%	5%
Specialist	754	1%	7%
Skill Level 5 (SCQF 8-9)	**4,475**	**1%**	**6%**
Engineer	1,669	1%	7%
IT/Software/Cyber Engineer	18	0%	6%
Managerial	1,531	1%	6%
Project Manager	619	0%	5%
Specialist	638	1%	5%
Skill Level 6 to 8 (SCQF 10-12)	**1,684**	**0%**	**7%**
Director	2	0%	0%
IT/Software/Cyber Technical Lead	4	0%	0%
Managerial	708	0%	8%
Senior Business/Data Analyst	122	2%	1%
Specialist/Engineer	848	1%	8%
NSAP T&D workforce - 2023	**20,381**	**4%**	**8%**

3.3.8 Not surprisingly, the higher skill levels/job families employ very low levels of young people, reflecting the need for experience in addition to higher level qualifications.

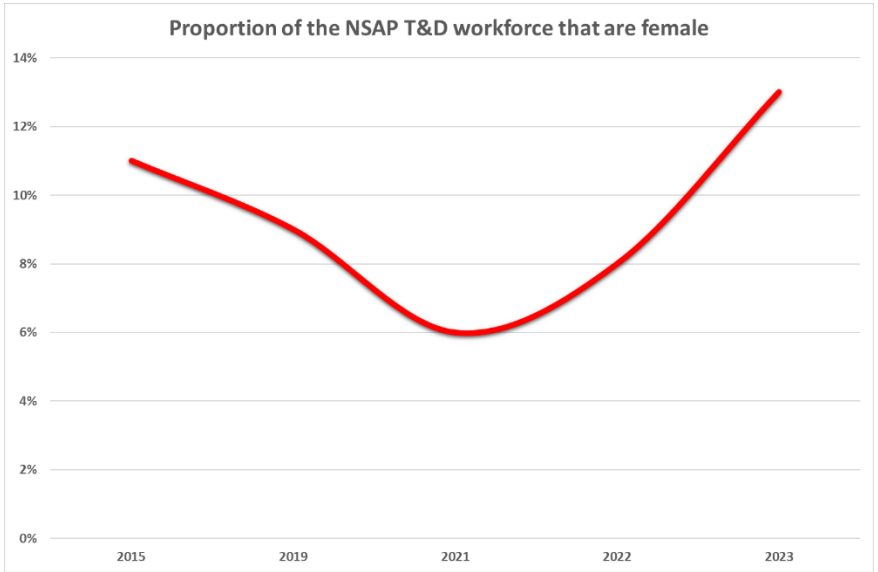
3.3.9 The higher skill levels/job families also employ low levels of older people, presumably reflecting the average retirement age in these roles being lower than 60 years.

3.3.10 Higher levels of older people can be found generally at skill levels 1 and 2.

3.4 Gender

3.4.1 The table below shows the proportion of the NSAP T&D workforce (based on the datasets received by employers) that were female since 2015.

Figure 9: Proportion of the NSAP T&D workforce that are female – 2015 to 2023



Source: NSAP workforce planning data submissions, 2015 to 2023.
Note: 2015, 2021 and 2022 only contained data from TOs and DNOs. Data for 2023 includes data and digital roles.

3.4.2 In 2023, 13% of the NSAP T&D workforce were female[7]. This is the highest proportion ever recorded by this exercise.

- Just 11% of NSAP T&D "trainees" are female (79 of 689).

3.4.3 This positive progress is confirmed by data from the Annual Population Survey which reports the proportion of females across the whole of the UK power sector (including non-technical roles) increasing from 24% in 2015 to 30% in 2022[8].

3.4.4 48% of the UK workforce across all sectors of the UK economy are female.

Figure 10: Gender of the workforce

Skill Level & Job Family	Current workforce	% female
Trainee	689	11%
Skill Level 1 (SCQF 4)	**1,145**	**18%**
General Technical Support	1,145	18%
Skill Level 2 (SCQF 5)	**2,421**	**18%**
Cable Jointer	352	0%
Electrical Fitter	131	0%
General Technical Support	1,595	28%
Overhead Linesperson	343	0%
Skill Level 3 (SCQF 6)	**6,936**	**5%**
Cable Jointer	1,914	1%
Electrical Fitter	872	1%
IT/Cyber Technician	13	69%
Multi-Skilled Craftsperson	734	2%
Overhead Linesperson	1,567	0%
Technical/Supervisory	1,824	15%
Telecoms Technician	12	0%
Skill Level 4 (SCQF 7)	**3,031**	**25%**
Business/Data Analyst	213	56%
Engineer	670	8%
Managerial	320	33%
Project Manager	1,074	24%
Specialist	754	27%
Skill Level 5 (SCQF 8-9)	**4,475**	**13%**
Engineer	1,669	8%
IT/Software/Cyber Engineer	18	33%
Managerial	1,531	16%
Project Manager	619	17%
Specialist	638	12%
Skill Level 6 to 8 (SCQF 10-12)	**1,684**	**16%**
Director	2	0%
IT/Software/Cyber Technical Lead	4	25%
Managerial	708	14%
Senior Business/Data Analyst	122	47%
Specialist/Engineer	848	12%
NSAP T&D workforce - 2023	**20,381**	**13%**

[7] In 2023, gender was known for 82% (16,730) of the 20,381 employees.

[8] Annual Population Survey, ONS, 2022.

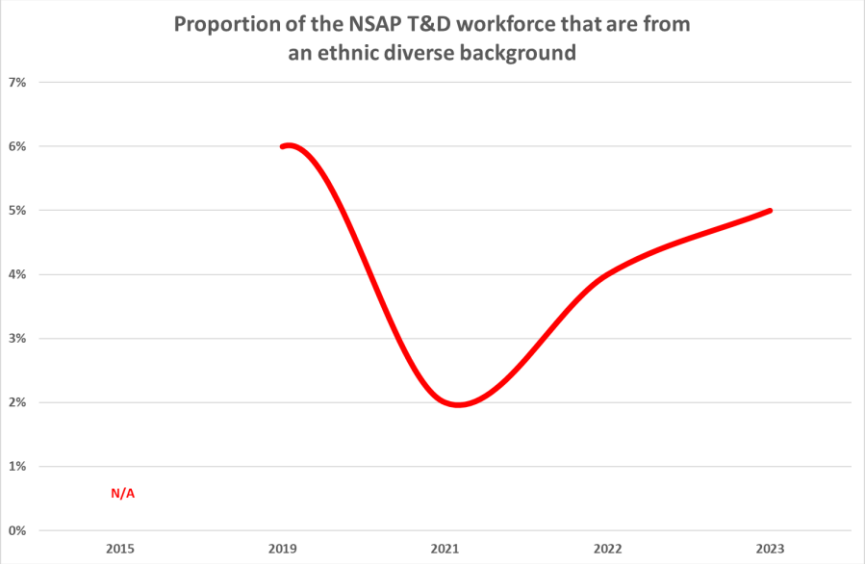
3.4.5 In 2021/22, just 4% of starts on such Apprenticeship Frameworks and Standards relevant to the sector were female[9].

3.4.6 It is a different picture within Higher Education, where the proportion of first Degree starts on sector-relevant STEM courses in 2020/21 that were female was 29%)[10].

3.5 Ethnicity

3.5.1 The table below shows the proportion of the NSAP T&D workforce (based on the datasets received by employers) that were from an ethnic minority background since 2015.

Figure 11: Proportion of the NSAP T&D workforce that are from an ethnic minority background – 2015 to 2023



Source: NSAP workforce planning data submissions, 2015 to 2023.
Note: 2015, 2021 and 2022 only contained data from TOs and DNOs. Data for 2023 includes data and digital roles.

[9] Skills Funding Agency.

[10] HESA Student Record, 2020/21.

3.5.2 In 2023, 5% of the NSAP T&D workforce were from an ethnic minority background[11].

- 9% of "trainees" were ethnically diverse (18 of 210)

3.5.3 Although there appears to have been little progress since we started collecting this data in 2019, the Annual Population Survey reports that the proportion of the UK power workforce that are from an ethnic diverse background (including those employed in non-technical roles) increased from 6% in 2015 to 12% in 2022[12]. So, it is interesting to note that any increase in ethnic diversity in the industry appears to be concentrated in non-technical roles.

3.5.4 14% of the workforce across all sectors of the UK economy are an ethnic diverse background.

Figure 12: Ethnicity profile of the workforce

Skill Level & Job Family	Current workforce	% ethnically diverse
Trainee	689	9%
Skill Level 1 (SCQF 4)	**1,145**	**2%**
General Technical Support	1,145	2%
Skill Level 2 (SCQF 5)	**2,421**	**3%**
Cable Jointer	352	2%
Electrical Fitter	131	0%
General Technical Support	1,595	3%
Overhead Linesperson	343	0%
Skill Level 3 (SCQF 6)	**6,936**	**2%**
Cable Jointer	1,914	1%
Electrical Fitter	872	1%
IT/Cyber Technician	13	N/A
Multi-Skilled Craftsperson	734	4%
Overhead Linesperson	1,567	1%
Technical/Supervisory	1,824	3%
Telecoms Technician	12	0%
Skill Level 4 (SCQF 7)	**3,031**	**11%**
Business/Data Analyst	213	15%
Engineer	670	17%
Managerial	320	0%
Project Manager	1,074	6%
Specialist	754	9%
Skill Level 5 (SCQF 8-9)	**4,475**	**6%**
Engineer	1,669	6%
IT/Software/Cyber Engineer	18	0%
Managerial	1,531	5%
Project Manager	619	7%
Specialist	638	10%
Skill Level 6 to 8 (SCQF 10-12)	**1,684**	**18%**
Director	2	0%
IT/Software/Cyber Technical Lead	4	N/A
Managerial	708	3%
Senior Business/Data Analyst	122	33%
Specialist/Engineer	848	31%
NSAP T&D workforce - 2023	**20,381**	**5%**

[11] In 2023, ethnic background was known for 39% (7,846) of the 20,381 employees.

[12] Annual Population Survey, ONS, 2022.

3.5.5 There is a higher proportion of ethnic diversity in (i) the "trainee" category and (ii) in higher skill level roles. This reflects the greater levels of ethnic diversity amongst (i) the younger population in general and (ii) amongst higher education students.

3.5.6 Low ethnic minority representation continues to be evident across the range of utilities-relevant technical Apprenticeship Frameworks and Standards. In 2021/22, just 6% of starts on such Standards were from an ethnic minority background[13].

3.5.7 It is a different picture within Higher Education, where the proportion of first Degree starts on sector-relevant STEM courses in 2020/21 that were from an ethnic minority was 29%[14].

3.5.8 Ethnic diversity of the population varies significantly by age, with younger age groups being more ethnically diverse and older generations – this is also true for the NSAP T&D workforce.

Figure 13: Proportion of the resident population (by age group) that are from an ethnic minority (2021)

DNO/TO	Workforce/ Nation/ Region	All ages	0-24	25-34	35-49	50-64	65+
National Grid	England	19%	27%	22%	22%	13%	7%
	West Midlands	23%	33%	26%	27%	15%	8%
	East Midlands	14%	21%	17%	17%	10%	5%
	South West	7%	11%	9%	9%	4%	2%
	Wales	6%	10%	8%	8%	4%	1%
UK Power Networks	London	46%	57%	42%	46%	43%	31%
	East of England	14%	20%	16%	17%	9%	4%
	South East	14%	20%	16%	17%	9%	4%
Electricity North West	North West	14%	22%	17%	17%	8%	4%
Scottish & Southern Electricity Networks	South East	14%	20%	16%	17%	9%	4%
	South West	7%	11%	9%	9%	4%	2%
	Scotland	7%	9%	10%		2%	
Scottish Power Energy Networks	Scotland	7%	9%	10%		2%	
	Wales	6%	10%	8%		8%	

[13] Starts in 2021/22. National Statistics.

[14] HESA Student Record, 2020/21.

DNO/TO	Workforce/ Nation/ Region	All ages	0-24	25-34	35-49	50-64	65+
Northern Powergrid	Yorkshire and The Humber	15%	23%	18%	18%	8%	4%
	North East	7%	11%	10%	9%	4%	1%
Northern Ireland Electricity	Northern Ireland	3%	5%	5%	3%		1%
Jersey Electricity Company	Jersey	4%	N/A				
UK population	**--**	**18%**	**26%**	**21%**	**22%**	**13%**	**6%**
NSAP T&D workforce - 2023	**9%**	**12%**	**11%**	**9%**	**6%**	**6%**	**9%**

Source: Census of Population, 2021. Scotland: Annual Population Survey, 2021.

3.5.9 The data contained in this table should be used as the benchmark in terms the ethnic diversity of their workforce.

3.6 Disability

3.6.1 Confirmed data relating to the workforce's disability status (i.e. having a positive yes/no (or similar) statement) was only provided by one company. The disability field in all other submissions were either blank or "N/A".

3.6.2 Across the whole of the UK power workforce (including non-technical job roles), 16% of the workforce have some form of disability – up from 10% in 2015. Across the UK working age population, 24% report having some form of disability[15].

3.6.3 The proportion of the workforce that are affected by physical or learning disabilities should, ideally, reflect that of the resident population of which it serves and recruits from – accepting that this is less likely within the craft, technical and engineering workforce.

3.6.4 The table below shows the proportion of the working age population that have some form of physical or learning condition using the following definitions:

- The Equality Act 2010 (EA) core definition, includes people of working age (16-64) who have a long-term physical or mental health condition that affects their day-to-day activities
- Work-limiting disabled includes those who have a long-term disability which affects the kind/amount of work they might do

[15] Annual Population Survey, ONS, 2022.

Figure 14: Proportion of the working age (16-64) resident population that classifies itself as EA core or work-limiting disabled

DNO/TO	Workforce/ Nation/ Region	EA core or work-limiting disabled
National Grid	England	25%
	West Midlands	25%
	East Midlands	26%
	South West	25%
	Wales	29%
UK Power Networks	London	19%
	East of England	23%
	South East	22%
Electricity North West	North West	27%
Scottish & Southern Electricity Networks	South East	22%
	South West	25%
	Scotland	27%
Scottish Power Energy Networks	Scotland	27%
	Wales	29%
Northern Powergrid	Yorkshire and The Humber	26%
	North East	29%
Northern Ireland Electricity	Northern Ireland	23%
Jersey Electricity	Jersey	19%[16]
UK population		**24%**

Source: Annual Population Survey, January to December 2022, ONS.

[16] Proportion of 16-64-year-olds with a physical or mental health condition or illness, lasting or expecting to last 12 months or more (Census 2021, Jersey Statistics).

3.7 Nationality

3.7.1 2% of the NSAP T&D workforce were non-UK nationals[17], which is significantly lower than the 8% across the power workforce as a whole (including non-technical roles) and 12% across the UK adult population[18].

3.7.2 0.7% of the NSAP T&D workforce are nationals of EU countries (unchanged from 2022), while 1.1% are nationals from outside of the EU.

3.7.3 The number of people in the NSAP T&D workforce who are not UK or EU nationals has increased from 20 of 4,463 with a known nationality in 2022 (0.4%) to 78 of 7,348 with a known nationality in 2023 (1.1%).

3.7.4 Across the whole of the UK power workforce (including non-technical job roles), 8% of the workforce are non-UK nationals – unchanged from 2015. Across the UK working age population, 12% are non-UK nationals[19].

Figure 15: UK, EU and non-EU nationals in the workforce

Skill Level & Job Role	Current workforce	UK	EU	Rest of the world
Trainee	689	97%	0%	3%
Skill Level 1 (SCQF 4)	**1,145**	**100%**	**0%**	**0%**
General Technical Support	1,145	100%	0%	0%
Skill Level 2 (SCQF 5)	**2,421**	**99%**	**0%**	**1%**
Cable Jointer	352	100%	0%	0%
Electrical Fitter	131	50%	50%	0%
General Technical Support	1,595	99%	0%	1%
Overhead Linesperson	343	100%	0%	0%
Skill Level 3 (SCQF 6)	**6,936**	**99%**	**1%**	**0%**
Cable Jointer	1,914	100%	0%	0%
Electrical Fitter	872	98%	2%	0%
IT/Cyber Technician	13	100%	0%	0%
Multi-Skilled Craftsperson	734	97%	3%	0%
Overhead Linesperson	1,567	99%	1%	0%
Technical/Supervisory	1,824	99%	1%	0%
Telecoms Technician	12	N/A	N/A	N/A
Skill Level 4 (SCQF 7)	**3,031**	**97%**	**1%**	**2%**
Business/Data Analyst	213	98%	0%	2%
Engineer	670	95%	0%	5%
Managerial	320	96%	1%	3%
Project Manager	1,074	99%	1%	1%
Specialist	754	95%	2%	3%

[17] Data relating to ethnic diversity was provided for 36% (7,348) of the 20,381 employees.

[18] Annual Population Survey, 2022, ONS.

[19] Annual Population Survey, ONS, 2022.

Skill Level & Job Role	Current workforce	UK	EU	Rest of the world
Skill Level 5 (SCQF 8-9)	**4,475**	**97%**	**1%**	**2%**
Engineer	1,669	95%	3%	2%
IT/Software/Cyber Engineer	18	100%	0%	0%
Managerial	1,531	99%	0%	1%
Project Manager	619	94%	2%	5%
Specialist	638	96%	0%	3%
Skill Level 6 to 8 (SCQF 10-12)	**1,684**	**96%**	**1%**	**3%**
Director	2	100%	0%	0%
IT/Software/Cyber Technical Lead	4	100%	0%	0%
Managerial	708	97%	2%	1%
Senior Business/Data Analyst	122	95%	0%	5%
Specialist/Engineer	848	96%	0%	4%
NSAP T&D workforce - 2023	**20,381**	**98.2%**	**0.7%**	**1.1%**

3.7.5 The table below shows the proportion of the population that are non-UK nationals within each English region and devolved nation.

3.7.6 The data in this table should be taken as a benchmark for NSAP T&D members in terms of the proportion of their workforces that are non-UK nationals.

Figure 16: Proportion of the population that are non-UK nationals

DNO/TO	Workforce/ Nation/ Region	% non-UK nationals
National Grid	England	12%
	West Midlands	13%
	East Midlands	12%
	South West	8%
	Wales	6%
UK Power Networks	London	26%
	East of England	12%
	South East	11%
Electricity North West	North West	10%
Scottish & Southern Electricity Networks	South East	11%
	South West	8%
	Scotland	11%
Scottish Power Energy Networks	Scotland	11%
	Wales	6%
Northern Powergrid	Yorkshire and The Humber	9%
	North East	5%
Northern Ireland Electricity	Northern Ireland	9%
Jersey Electricity	Jersey	21%[20]
UK population		**12%**
NSAP T&D workforce - 2023		**2%**

Source: Annual Population Survey, 2022, ONS.

[20] Proportion of the Jersey population that was not born in Jersey or the British Isles (Census 2021, Jersey Statistics).

3.8 Length of service

3.8.1 Current length of service was provided for 20,373 of the 20,381 employees (99.9%).

3.8.2 The average current length of service is 13.8 years.

Figure 17: Average current length of service by business unit

Skill Level & Job Role	Current workforce	Average current length of service
Trainee	689	2.0
Skill Level 1 (SCQF 4)	**1,145**	**9.5**
General Technical Support	1,145	9.5
Skill Level 2 (SCQF 5)	**2,421**	**11.0**
Cable Jointer	352	10.0
Electrical Fitter	131	9.5
General Technical Support	1,595	11.1
Overhead Linesperson	343	12.4
Skill Level 3 (SCQF 6)	**6,936**	**15.7**
Cable Jointer	1,914	15.9
Electrical Fitter	872	14.4
IT/Cyber Technician	13	6.0
Multi-Skilled Craftsperson	734	14.7
Overhead Linesperson	1,567	15.2
Technical/Supervisory	1,824	16.8
Telecoms Technician	12	20.0
Skill Level 4 (SCQF 7)	**3,031**	**12.3**
Business/Data Analyst	213	8.3
Engineer	670	12.0
Managerial	320	10.6
Project Manager	1,074	13.6
Specialist	754	12.7
Skill Level 5 (SCQF 8-9)	**4,475**	**15.2**
Engineer	1,669	15.1
IT/Software/Cyber Engineer	18	8.5
Managerial	1,531	17.0
Project Manager	619	11.8
Specialist	638	14.7
Skill Level 6 to 8 (SCQF 10-12)	**1,684**	**16.6**
Director	2	4.5
IT/Software/Cyber Technical Lead	4	15.2
Managerial	708	19.4
Senior Business/Data Analyst	122	9.5
Specialist/Engineer	848	15.3
NSAP T&D workforce - 2023	**20,381**	**13.8**

3.8.3 As one would expect, the average current length of service generally increases (i) as you go up the pay grades and (ii) with age.

3.8.4 This data suggests that the industry both retains its workforce well and that employees progress well up the skill levels as they gain experience/age.

3.8.5 The current average length of service for employees aged 60+ years is 29.4 years.

Figure 18: Average current length of service and aggregate number of years by age group

Age group	Average years' service	Aggregate years' service
16-24	2.5	2,281
25-34	5.9	32,057
35-44	10.1	55,231
45-54	19.2	90,120
55-64	25.5	89,601
65+	29.4	11,456
NSAP T&D workforce - 2023	**13.8**	**280,745**

4 Predicted number of vacancies

4.0.1 In order to predict the demand for people over the coming years, a number of assumptions have been applied to the workforce data detailed above. These relate to:

- The anticipated retirement age of the workforce
- The anticipated rate of annual staff turnover
- Any predicted changes in headcount

4.0.2 For the purposes of the following analysis, it is assumed that no retirements or staff turnover will occur within the “trainee” job family.

4.1 Retirements

4.1.1 Predicting when employees may retire is a complex and uncertain art. With no statutory retirement age, higher life expectancy (currently 85 for a man and 87 for a woman), improved health and a range of economic factors, it is likely that the recent trend of people working for longer will continue (particularly as the “Final Salary” workforce diminishes).

4.1.2 The following retirement ages have been applied to the data model:

- Level 1 = 60
- Level 2 = 60
- Level 3 = 60
- Level 4 = 59
- Level 5 = 59
- Level 6-8 = 58

4.1.3 Assuming that the current workforce retires at these ages, 3,716 people will retire over the next five years – equivalent to 18% of the current workforce.

4.1.4 This includes 1,497 people who are already aged over this anticipated retirement age. These have been phased out over the next four years on the basis of 599 in 2024, 449 in 2025, 299 in 2026 and 150 in 2027.

4.1.5 The table below shows the number and proportion of each skill level's and job family's workforce that are expected to retire in each of the next three five-year periods.

4.1.6 Those job families which are expected to lose more than 20% of their workforce within a five-year period are highlighted in red.

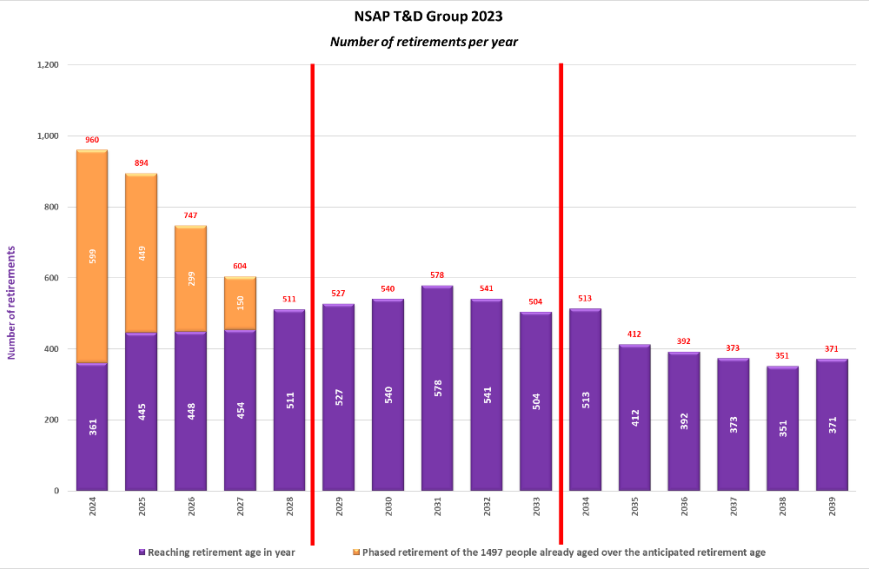
Figure 19: Projected retirements by five-year period

Skill Level & Job Family	2024 to 2028		2029 to 2033		2034 to 2038	
	Number	% of workforce	Number	% of workforce	Number	% of workforce
Trainee	0	0%	0	0%	2	0%
Skill Level 1 (SCQF 4)	**248**	**22%**	**163**	**14%**	**106**	**9%**
General Technical Support	248	22%	163	14%	106	9%
Skill Level 2 (SCQF 5)	**517**	**21%**	**313**	**13%**	**233**	**10%**
Cable Jointer	78	22%	34	10%	31	9%
Electrical Fitter	20	15%	18	14%	9	7%
General Technical Support	380	24%	225	14%	159	10%
Overhead Linesperson	39	11%	36	10%	34	10%
Skill Level 3 (SCQF 6)	**1,279**	**18%**	**793**	**11%**	**680**	**10%**
Cable Jointer	359	19%	209	11%	158	8%
Electrical Fitter	167	19%	64	7%	75	9%
IT/Cyber Technician	1	8%	1	8%	0	0%
Multi-Skilled Craftsperson	174	24%	89	12%	65	9%
Overhead Linesperson	246	16%	149	10%	138	9%
Technical/Supervisory	325	18%	280	15%	243	13%
Telecoms Technician	7	58%	1	8%	1	8%

Skill Level & Job Family	2024 to 2028		2029 to 2033		2034 to 2038	
	Number	% of workforce	Number	% of workforce	Number	% of workforce
Skill Level 4 (SCQF 7)	**474**	**16%**	**392**	**13%**	**350**	**12%**
Business/Data Analyst	19	9%	24	11%	17	8%
Engineer	104	16%	73	11%	74	11%
Managerial	71	22%	47	15%	44	14%
Project Manager	137	13%	133	12%	139	13%
Specialist	143	19%	115	15%	76	10%
Skill Level 5 (SCQF 8-9)	**790**	**18%**	**720**	**16%**	**465**	**10%**
Engineer	288	17%	224	13%	143	9%
IT/Software/Cyber Engineer	1	6%	4	22%	3	17%
Managerial	290	19%	276	18%	173	11%
Project Manager	105	17%	96	16%	75	12%
Specialist	106	17%	120	19%	71	11%
Skill Level 6 to 8 (SCQF 10-12)	**408**	**24%**	**309**	**18%**	**205**	**12%**
Director	1	50%	0	0%	1	50%
IT/Software/Cyber Technical Lead	1	25%	2	50%	0	0%
Managerial	203	29%	171	24%	108	15%
Senior Business/Data Analyst	11	9%	9	7%	15	12%
Specialist/Engineer	192	23%	127	15%	81	10%
NSAP T&D workforce - 2023	**3,716**	**18%**	**2,690**	**13%**	**2,041**	**10%**

4.1.7 The figure below shows the number of retirements predicted during each year through to 2040.

Figure 20: Projected number of retirements per year



4.1.8 Based on the average length of service of those currently aged 60 years and older – 29.4 years – an aggregate of 109,250 years' experience could be lost over the next five years through retirements.

4.2 Staff turnover

4.2.1 The following rates of annual voluntary staff turnover have been applied to the data model:

- Level 1 = 5%
- Level 2 = 5%
- Level 3 = 5%
- Level 4 = 5%
- Level 5 = 5%
- Level 6-8 = 5%

4.2.2 The average rate of voluntary resignations across the UK are reported as[21]:

- All sectors = 14.6%
- 8.8% within the "Engineering" occupation

4.2.3 Based on this assumption, 4,925 vacancies are projected to be created in each of the next three five-year periods as a result of staff turnover (equivalent to 24% of the current workforce).

[21] Labour turnover rates: XpertHR survey 2019.

4.3 Total number of predicted vacancies

4.3.1 In this analysis, it is assumed that the NSAP T&D workforce will remain at current levels throughout the next three five-year periods.

4.3.2 In total, some 8,641 vacancies are projected to be created by 2030 (averaging 1,728 per year) – equivalent to replacing 42% of the current workforce.

4.3.3 In the table below, those job families that are predicted to lose 100% or more of their current workforce by 2030 are highlighted in red.

Figure 21: Total number of predicted vacancies by 2030 (remainder of GD2 and GD3)

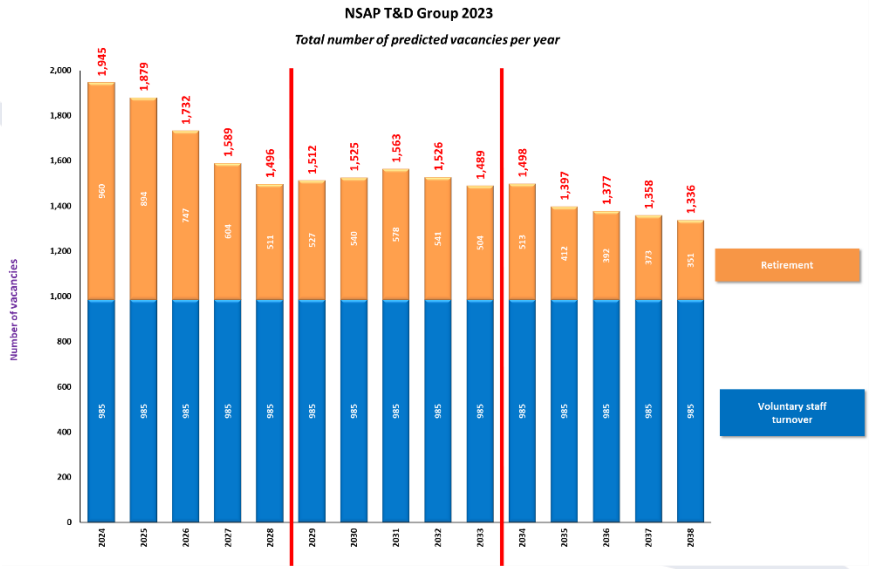
Job Family	Retirements	Staff turnover	Additional headcount	Total vacancies	% of workforce	Average annual requirement
Trainee	0	0	**0**	0	0%	0
Skill Level 1 (SCQF 4)	**248**	**286**	**0**	**534**	**47%**	**107**
General Technical Support	248	286	0	534	47%	107
Skill Level 2 (SCQF 5)	**517**	**605**	**0**	**1,122**	**46%**	**224**
Cable Jointer	78	90	**0**	168	48%	34
Electrical Fitter	20	30	0	50	38%	10
General Technical Support	380	400	0	780	49%	156
Overhead Linesperson	39	85	0	124	36%	25
Skill Level 3 (SCQF 6)	**1,279**	**1,728**	**0**	**3,007**	**43%**	**601**
Cable Jointer	359	477	0	836	44%	167
Electrical Fitter	167	214	**0**	381	44%	76
IT/Cyber Technician	1	3	0	4	31%	1
Multi-Skilled Craftsperson	174	186	0	360	49%	72
Overhead Linesperson	246	394	0	640	41%	128
Technical/Supervisory	325	451	0	776	43%	155
Telecoms Technician	7	3	0	10	83%	2

Figure 22: Total number of predicted vacancies by 2030 (remainder of GD2 and GD3)

Job Family	Retirements	Staff turnover	Additional headcount	Total vacancies	% of workforce	Average annual requirement
Skill Level 4 (SCQF 7)	**474**	**762**	**0**	**1,236**	**41%**	**247**
Business/Data Analyst	19	50	0	69	32%	14
Engineer	104	168	0	272	41%	54
Managerial	71	79	0	150	47%	30
Project Manager	137	274	**0**	411	38%	82
Specialist	143	191	0	334	44%	67
Skill Level 5 (SCQF 8-9)	**790**	**1,116**	**0**	**1,906**	**43%**	**381**
Engineer	288	418	0	706	42%	141
IT/Software/Cyber Engineer	1	4	0	5	28%	1
Managerial	290	373	0	663	43%	133
Project Manager	105	165	**0**	270	44%	54
Specialist	106	156	0	262	41%	52
Skill Level 6 to 8 (SCQF 10-12)	**408**	**428**	**0**	**836**	**50%**	**167**
Director	1	0	**0**	1	50%	0
IT/Software/Cyber Technical Lead	1	1	**0**	2	50%	0
Managerial	203	181	**0**	384	54%	77
Senior Business/Data Analyst	11	33	**0**	44	36%	9
Specialist/Engineer	192	213	**0**	405	48%	81
NSAP T&D workforce - 2023	**3,716**	**4,925**	**0**	**8,641**	**42%**	**1,728**

4.3.4 The following figure shows the total number of vacancies forecast to be created in each of the next 20 years.

Figure 23: Projected vacancies by year and cause



4.3.5 The following table shows the number predicted vacancies during each of the next three five-year periods.

Figure 24: Total number of predicted vacancies by five-year period

Skill Level & Job Family	2024 to 2028		2029 to 2033		2034 to 2038	
	Number	% of workforce	Number	% of workforce	Number	% of workforce
Trainee	0	0%	0	0%	2	0%
Skill Level 1 (SCQF 4)	**534**	**47%**	**450**	**39%**	**392**	**34%**
General Technical Support	534	47%	450	39%	392	34%
Skill Level 2 (SCQF 5)	**1,122**	**46%**	**918**	**38%**	**839**	**35%**
Cable Jointer	168	48%	122	35%	120	34%
Electrical Fitter	50	38%	51	39%	39	30%
General Technical Support	780	49%	622	39%	559	35%
Overhead Linesperson	124	36%	123	36%	121	35%
Skill Level 3 (SCQF 6)	**3,007**	**43%**	**2,520**	**36%**	**2,407**	**35%**
Cable Jointer	836	44%	683	36%	634	33%
Electrical Fitter	381	44%	280	32%	289	33%
IT/Cyber Technician	4	31%	4	31%	3	23%
Multi-Skilled Craftsperson	360	49%	274	37%	252	34%
Overhead Linesperson	640	41%	545	35%	532	34%
Technical/ Supervisory	776	43%	729	40%	694	38%
Telecoms Technician	10	83%	5	42%	3	25%

Skill Level & Job Family	2024 to 2028		2029 to 2033		2034 to 2038	
	Number	% of workforce	Number	% of workforce	Number	% of workforce
Skill Level 4 (SCQF 7)	**1,236**	**41%**	**1,159**	**38%**	**1,116**	**37%**
Business/Data Analyst	69	32%	76	36%	69	32%
Engineer	272	41%	243	36%	243	36%
Managerial	150	47%	126	39%	122	38%
Project Manager	411	38%	404	38%	413	38%
Specialist	334	44%	310	41%	269	36%
Skill Level 5 (SCQF 8-9)	**1,906**	**43%**	**1,832**	**41%**	**1,579**	**35%**
Engineer	706	42%	639	38%	560	34%
IT/Software/Cyber Engineer	5	28%	7	39%	8	44%
Managerial	663	43%	653	43%	545	36%
Project Manager	270	44%	252	41%	239	39%
Specialist	262	41%	281	44%	227	36%

Skill Level & Job Family	2024 to 2028		2029 to 2033		2034 to 2038	
	Number	% of workforce	Number	% of workforce	Number	% of workforce
Skill Level 6 to 8 (SCQF 10-12)	**836**	**50%**	**736**	**44%**	**631**	**37%**
Director	1	50%	1	50%	1	50%
IT/Software/Cyber Technical Lead	2	50%	3	75%	1	25%
Managerial	384	54%	348	49%	288	41%
Senior Business/Data Analyst	44	36%	42	34%	47	39%
Specialist/ Engineer	405	48%	342	40%	294	35%
NSAP T&D workforce - 2023	**8,641**	**42%**	**7,615**	**37%**	**6,966**	**34%**

5 Occupational Heat Map

The purpose of this heat map is to graphically present a quantitative summary of the challenge facing the transmission and distribution industry in relation to occupational “hotspots” in demand and skills shortages.

The heat map is based on:

- Horizontal axis – Average annual demand expressed as a percentage of the total workforce

  This data is taken from the 2023 NSAP T&D workforce planning data analysis covering the period from 2024 to 2030 (i.e. seven years)

  Note that currently, no additional headcount in future years has been included (i.e. the demand data relates to the replacement of leavers only)

- Vertical axis – The perceived level of difficulty in acquiring the required skills, in the required volume, from the external labour market

  This is subjective value on a scale of 1 to 10 (1 being easy to recruit; 10 being very difficult/impossible) based on feedback gained from the NSAP T&D Group

5.1.3 Those job families highlighted in red in the chart and table below should be considered as priority areas for action on the basis that they have both:

- An average annual demand of at least 5% per year
- A high perceived level of difficulty in acquiring the required skills (of at least 8 out of 10)

Figure 25: Electricity transmission and distribution occupational heat map – 2024 to 2030

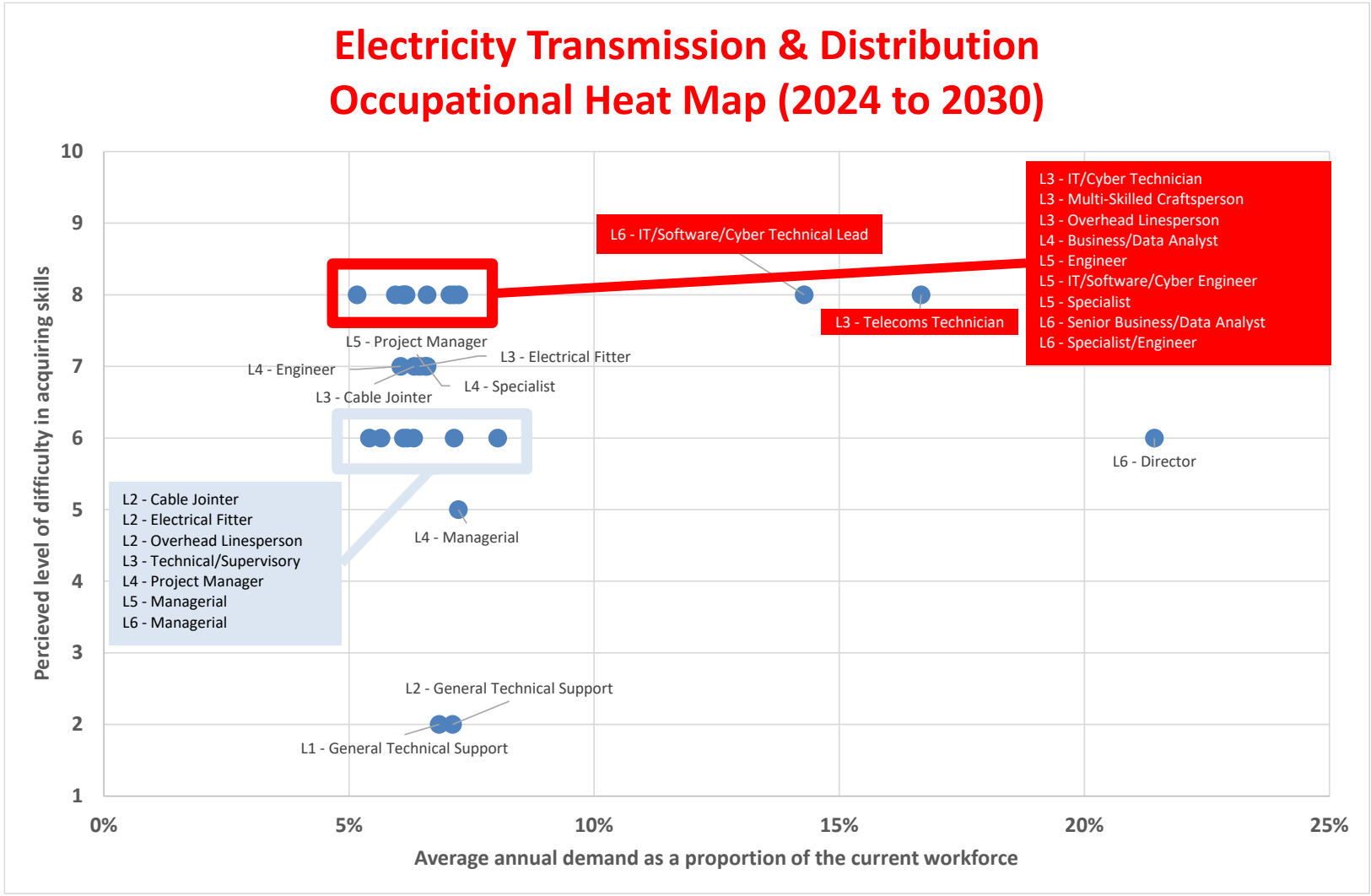


Figure 26: Data on which the occupational heat map is based

Skill level	Job Family	Replacement Demand by 2024-30	Expansion Demand by 2024-30	Total Demand by 2024-30	Average annual demand by 2030 n	Average annual demand by 2030 %	Perceived level of difficulty in acquiring skills
1	General Technical Support	946	0	946	135	6.8%	2
2	Cable Jointer	304	0	304	43	7.1%	6
2	Electrical Fitter	97	0	97	14	6.1%	6
2	General Technical Support	1,371	0	1,371	196	7.1%	2
2	Overhead Linesperson	224	0	224	32	5.4%	6
3	Cable Jointer	1,464	0	1,464	209	6.3%	7
3	Electrical Fitter	679	0	679	97	6.4%	7
3	IT/Cyber Technician	10	0	10	1	6.6%	8
3	Multi-Skilled Craftsperson	642	0	642	92	7.2%	8
3	Overhead Linesperson	1,126	0	1,126	161	5.9%	8
3	Technical/Supervisory	1,364	0	1,364	195	6.2%	6
3	Telecoms Technician	24	0	24	3	16.7%	8
4	Business/Data Analyst	133	0	133	19	5.2%	8
4	Engineer	490	0	490	70	6.1%	7
4	Managerial	280	0	280	40	7.2%	5
4	Project Manager	734	0	734	105	5.7%	6
4	Specialist	601	0	601	86	6.6%	7

Skill level	Job Family	Replacement Demand by 2024-30	Expansion Demand by 2024-30	Total Demand by 2024-30	Average annual demand by 2030 n	Average annual demand by 2030 %	Perceived level of difficulty in acquiring skills
5	Engineer	1,243	0	1,243	178	6.2%	8
5	IT/Software/Cyber Engineer	16	0	16	2	7.1%	8
5	Managerial	1,169	0	1,169	167	6.3%	6
5	Project Manager	490	0	490	70	6.6%	7
5	Specialist	473	0	473	68	6.1%	8
6	Director	5	0	5	1	21.4%	6
6	IT/Software/Cyber Technical Lead	7	0	7	1	14.3%	8
6	Managerial	687	0	687	98	8.0%	6
6	Senior Business/Data Analyst	90	0	90	13	6.1%	8
6	Specialist/Engineer	723	0	723	103	7.1%	8
	Total T&D workforce	**15,393**	**0**	**15,393**	**2,200**	**6.5%**	

6 Issues for discussion

It is recommended that the NSAP T&D Group consider the following issues:

6.1.1 **Trainees** account for 3.4% of the current NSAP T&D workforce. A benchmark figure to aim for in this respect would be c5%. This would mean increasing the number of trainees from 689 to 1,019 (an increase of 48%).

6.1.2 There has been little, if any, progress in increasing the proportion of **younger people** in the workforce or in reducing the proportion of older workers.

6.1.3 While **female** representation in the workforce has been on an upward trajectory over the past two years, just 11% of current "trainees" are female (79 of 689).

6.1.4 While **ethnic minority** representation in the workforce has been on an upward trajectory over the past two years, just 5% of current workforce are from an ethnic diverse background, compared to 14% of workforce across all sectors of the economy.

6.1.5 Insufficient data was submitted to be able to analyse the level and range of **disabilities** in the NSAP T&D workforce. Members should consider their strategy for understanding in more detail the physical and learning disabilities of their employees.

6.1.6 NSAP members should also consider whether they are making the most of the skills available to them in their regional labour markets, including from people from all **nationalities**.

6.1.7 In readiness for the 2024 exercise, NSAP T&D members should consider refining the assumptions which the outputs are based on:

- **Retirement age**
- **Voluntary staff turnover**
- The group should consider whether/how it wants to include **additional future headcount** as a result of increased investment levels and major policy announcements. This could be achieved by either:
  - Group members providing their planned headcounts for future years, or
  - One or more scenarios being developed based on a set of broader, industry-level assumptions

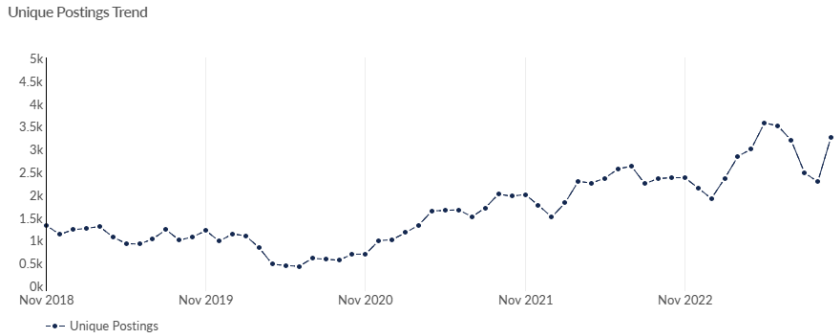
6.1.8 In relation to the **occupational heat map**, group members should review the perceived level of difficulty in acquiring the skills values given to each job family (the vertical axis) to ensure they are as accurate as possible.

6.1.9 For the job families highlighted in Figures 19 and 22 above, and those highlighted in the occupational heat map in Annex 2 below, NSAP T&D members should consider what specific actions/solutions may be necessary to head off future **skills shortages**.

Annex 1 – Summary of regional labour market conditions

A1.1.1 In terms of recent trends in advertised vacancies in the electricity transmission and distribution industry, there has been a strong post-COVID recovery (a situation which is mirrored across all sectors of the UK economy).

Figure 27: Number of job postings in the electricity transmission and distribution industry by month



Source: Lightcast™, 2023.

A1.1.2 At a sub-national level, labour markets are extremely complicated concepts and rarely conform to a statistical summary based on a wide range of factors. Therefore, the following analysis should be treated with a degree of caution.

A1.1.3 Each of the three devolved nations and nine English regions have been ranked from “worse” (1) to “best” (12) based on their relative performance against 18 labour market measures.

A1.1.4 Where a nation or region ranks poorly overall (e.g. **North East**, **Northern Ireland** and **West Midlands**), it is more likely that attracting and retaining the right skills could prove to be a challenge than in other, better performing, areas.

A1.1.5 Conversely, **South East** and **South West** regions have relatively well-performing skills/labour markets, but also have relatively high levels of vacancies in the transmission and distribution industry.

Figure 28: Overall ranking of each nation and region in terms of labour market performance (1 being the worst-performing area and 12 being the best-performing) and the number of electricity transmission and distribution vacancies

Region	Distribution network operator(s)	Overall ranking	Number of job postings[1]	Employment Concentration[2]
North East	Northern Powergrid	**1**	128	0.60
Northern Ireland	Northern Ireland Electricity	**2**	312	0.67
West Midlands	National Grid	**3**	1,061	1.34
Yorkshire & Humber	Northern Powergrid	**4**	215	0.56
North West	Electricity North West	**5**	626	0.60
East Midlands	National Grid	**6**	141	2.07
Wales	National Grid Scottish Power Energy Networks	**7**	177	1.73
Scotland	Scottish Power Energy Networks Scottish & Southern Electricity Networks	**8**	5,704	1.79
London	UK Power Networks	**9**	799	0.70
East of England	UK Power Networks	**10**	376	0.59
South West	National Grid Scottish & Southern Electricity Networks	**11**	515	0.88
South East	Scottish & Southern Electricity Networks UK Power Networks	**12**	2,280	1.06

1 Lightcast™, 2023.

2 Employment Concentration quantifies the concentration of workers in a region relative to the national average. A concentration of greater than 1.2 equates to a high concentration of electricity transmission and distribution workers in that region compared to the national average. Lightcast™, 2023.

Annex 2 – List of skill levels and job families

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
1 ***(4 in Scotland)*** *Equivalent to GCSE grades D-G*	**General Technical Support**	Arborist/Tree Cutter Craft Attendant Driver Mechanic Mate Operator Operator - Asset Inspection Street Works Assistant	*821 Road Transport Drivers* *912 Elementary Construction Occupations* *913 Elementary Process Plant Occupations*
2 ***(5 in Scotland)*** *Equivalent to GCSE grades A*-C*	**General Technical Support**	Arborist Surveyor Construction Assistant Control Support Assistant Craft Attendant Craft Mate Inspector Land Assistant Project Assistant Team Member Tree Cutter Surveyor	*813 Plant and Machine Operatives*
	Cable Jointer	Cable Jointers Mate Jointer's Mate	
	Electrical Fitter	Electrical Fitter's Mate	
	Overhead Linesperson	Overhead Lines Worker (entry level – LE2 or equivalent)	
	Telecoms Operative	Telecoms fitter	

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
3 ***(6 in Scotland)*** *Equivalent to A Level*	**Cable Jointer**	Cable Jointer Craftperson (Jointing) Supervising / Enhanced Jointer	*524 Electrical and Electronic Trades*
	Electrical Fitter	Craftsperson (Fitter) Electrician Protection Fitter	
	Overhead Linesperson	Craftsperson (Lines) Enhanced Craftsman Overhead Lines Transmission Overhead Lines Supervising / Enhanced Linesperson (LE1)	
	Multi-skilled Craftsperson	Civil Operative Multi Utility Craftsperson (Fitter/Jointing) Enhanced Fitter Multi-skilled Craftsperson Technical Craftsperson	
	Telecoms Technician	Radio Technician Telecoms Craftsperson Telemetry Craftsperson/ Technician	
	Technical/ Supervisory	CAD Operator/Technician Dispatcher/Scheduler Field Team Leader Field Technician Site Manager Team Leader Technical Support (Design) Technician	*525 Skilled metal, electrical and electronic trades supervisors*
	IT/Cyber Technician	IT Technician	

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
4 ***(7 or 8 in Scotland)*** *Equivalent to HNC, BTEC Advanced Diploma L4*	**Business/Data Analyst**	Business Analyst Data Scientist Data Assurance Officer	
	Engineer	3rd Engineer CAD Designer Commissioning Engineer Delivery Engineer Distribution Engineer DSO Modelling Engineer Operational Engineer Planning Engineer Project Engineer Radio Engineer Telemetry Engineer Tendering Engineer Transmission Delivery Engineer	*311 Science, Engineering and Production Technicians*
	Specialist	Quantity Surveyor Data Process Analyst Design Engineer Environmental Planner Estates Specialist Planning Engineer Land Officer Protection Engineer SCADA Engineer Surveyor Transmission Land Officer Wayleaves Specialist	

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
	Managerial	Delivery Manger Environmental Manager Operations Manager Policy Manager Project Lead Resource Manager Construction Manager Production Manager Shift Leader	*354 Business Associate Professionals*
	Project Manager	Designer Planner Project Manager Strategic Projects Manager Transmission Programme Manager Transmission Project Manager	

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
5 ***(7 or 8 in Scotland)*** *Equivalent to HND, Foundation Degree, BTEC Advanced Diploma L5*	**IT/Software/Cyber Engineer**	IT Business Support IT Infrastructure Architect IT Business Partner Software Engineer Developer Data/Database Engineer	
	Engineer	1st Engineer Civil Engineer Control Support Engineer Engineering Manager HV Planning Engineer Innovation Engineer Network Strategy Engineer Planning Engineer Primary System Design Engineer Project Engineer Senior Commissioning Engineer Senior Delivery Engineer Senior Engineer Senior Project Engineer Senior SCADA Engineer Senior Transmission Engineer	*212 Engineering Professionals* *248 Quality and Regulatory Professionals*

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
	Specialist	Civil Design Engineer Control Engineer Control Systems Specialist Design Engineer Engineering Specialist Lead Surveyor Network Specialist Senior Engineer Senior Telemetry Engineer Sustainability Specialist System Operations Engineer	
	Managerial	Contract Manager Data Process Team Leader Design Programme & Planning Manager DSO Transition Manager Engineering coordinator Project Engineer Team Manager	*244 Business and Financial Project Management Professionals* *245 Architects, Chartered Architectural Technologists, Planning Officers, Surveyors and Construction Professionals*
	Project Manager	Programme Manager Senior Project Manager Senior Planner	

Skill Level	Job Family	Example job titles	*Best Fit SOC Minor Group*
6-8 (9-12 in Scotland) *Equivalent to Bachelor's Degree (level 6), Masters (Level 7), Doctorate (Level 8)*	**Senior Business/Data Analyst**	Senior/Lead Analyst Principal Data Scientist	
	IT/Software/Cyber Technical Lead	Lead/Senior Architect Senior Software Engineer Lead Developer Lead Designer	
	Business/Data Manager	Data function manager	
	Senior IT/Software/Cyber Manager	Chief Information Officer Senior Manager - IT Senior Manager – Network Senior Manager – Support	
	Managerial	Chief Operating Officer Connections Strategy Manager Control Room Manager Delivery Centre Manager Director Distribution Manager DSO Manager Electricity System Manager Future Networks Manager Head of ……. General Manager	*112 Production Managers and Directors* *113 Functional Managers and Directors*
	Specialist/ Engineer	Lead Design Engineer Lead Engineer Senior Control Engineer Senior Engineer	

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