

Annex 1.4

KEY TARGETS AND MEASURES

STAKEHOLDER ENGAGEMENT

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Stakeholder satisfaction	%	85%	85%	86%	87%	88%	89%	90%	SE4
AA1000 - stakeholder Standard	Hit/Miss	✓	✓	✓	✓	✓	✓	✓	SE4
Independent assessment of inclusion and reach	Hit/Miss	-	-	✓	✓	✓	✓	✓	SE1
INDICATIVE INPUTS									
Regional engagement	Count	6	6	12	14	15	16	18	SE1.1
Community energy engagement	Count	7	7	8	9	12	12	12	SE1.2
Community and customer capacity programmes	Count	2	2	4	4	5	6	6	SE2.1
Cross-utility forums	Count	1	1	3	3	3	3	3	SE2.2
Industrial representative meetings	Count	1	1	4	4	4	4	4	SE2.3
GDN/DNO bilateral	Count	2	2	4	4	4	4	4	SE2.4
LAEP forums	Count	2	2	4	4	4	4	4	SE3.1
Formal local authority consultations	%	-	-	100%	100%	100%	100%	100%	SE3.2

Glossary

KPI	Definition
OUTPUTS	
Stakeholder satisfaction	To achieve an overall rating through an assessment of satisfaction from events held and a quarterly satisfaction assessment exercise undertaken by a research organisation with a proportion of stakeholders.
AA1000 - Stakeholder Standard	To achieve the AA1000 audit on an annual basis through assessment against the standard by an accredited AA1000 auditor.
Independent assessment of inclusion and reach	An annual audit undertaken by an industry leading research body to assess our approach against best practice as to whether the engagement planned, undertaken or acted upon was fully representative including (but not limited to) diversity, vulnerability, industrial and commercial, hard to reach, future and seldom heard groups.
INDICATIVE INPUTS	
Regional engagement	The count of engagement activity equally spread across the region's geography to ensure inclusivity and representation. Engagement will include assemblies, panels, forums and bi-lateral meetings.
Community Energy engagement	The count of engagement specific to community energy events, conferences, forums and panels.
Community and customer capacity programmes sponsored	The count of engagement aimed to equip stakeholders with the skills, knowledge and development they have requested to advance, set up, mobilise or grow their organisations and / or projects within defined areas including (but not limited to) decarbonisation, energy efficiency, education, low carbon technologies, community energy enterprises and sustainability practices.
Cross-utility forums	The count of engagement activities held in collaboration with utility partners and regional bodies including (but not limited to) gas, hydrogen, water, electricity, data, transport, and health.
Industrial representative meetings	The count of engagement sessions either bilateral / forums / workshops/co-creation events that engage industrial stakeholders and major energy users in horizon scanning, enabling decarbonisation and business development.
GDN/DNO bilateral	The count of specific engagement activities held in collaboration with the Gas Distribution Network Operator (Northern Gas Networks).
LAEP forums	The count of engagement, co-creation and capacity building sessions with Local Authorities and partners developing a local area energy plan or equivalent.
Formal local authority consultations	The proportion of Local Authorities (LAs) with which we formally consulted on our current and future investment programmes and shared priorities. This is a new measure for the ED2 period, as we currently engage with LAs but do not follow a formal consultation process.

1. 2020/21 actual performance
2. 2022/23 forecast performance

WHOLE SYSTEMS

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Fixed microgrids rolled out on low voltage (LV) networks	Count ¹	0	2	0	5	15	25	30	W3.1
large scale sites with voltage optimisation to manage energy efficiency	Count ¹	0	3	0	49	98	147	196	W3.2
INDICATIVE INPUTS									
Energy matchmaking scheme go-live	Hit/Miss	-	-	-	-	✓	-	-	WS1.2
Cross-vector innovation projects across the period	Count ¹	-	-	-	-	1	-	2	WS2.4
No. low carbon equipment supplier consultations in period	Count ¹	1	5	10	20	30	40	50	W4.2

Glossary

KPI	Definition
OUTPUTS	
Fixed microgrids rolled out on low voltage (LV) networks	Fixed power electronics installations capable of asynchronously connecting and disconnecting a low voltage network from the wider network together with the associated storage and/or generation and control systems to maintain supplies to customers fed from the low voltage network. The storage and generation may be either DSO owned or contracted from customers.
Large scale sites with voltage optimisation to manage energy efficiency	A primary substation – typically with a lower voltage of 11kV or 20kV and a higher voltage between 33kV and 132kV – and data flows and remotely configurable voltage control scheme to dynamically alter the voltage set point based on voltages experienced at smart meters or other sensing devices on the low voltage network fed from the primary.
INDICATIVE INPUTS	
Energy matchmaking scheme go-live	A database which allows customers to leave details of their connection or connection application and an indication their willingness to share that connection with other users. Potentially complimentary uses, storage and generation, or generation with non-concurrent peak output, and flexible load have the potential to reduce connection costs and accelerate connection timescales.
Cross-vector innovation projects across the period	Innovation considering both more than one energy type in meeting the customers' needs. For example a mix of gas and electricity for heat, a mixture of transport and IT for commuting.
No. low carbon equipment supplier consultations in period	Discussions with specifiers and manufacturers of low carbon equipment (e.g. heat pumps, electric vehicles, storage and generation) with a view to building understanding of how to balance equipment costs and infrastructure costs, and accelerate decarbonisation at optimum overall cost.

1. Cumulative, in price control

SCENARIOS AND INVESTMENT

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Network utilisation - major substations > LI3	%	0.5%	2.5%	2.1%	1.5%	1.3%	1.0%	0.7%	SI1
INDICATIVE INPUTS									
Investment in creating capacity	£m	£17.5m	£19.5m	£117.7m	£117.7m	£117.7m	£117.7m	£117.7m	SI1
EVs accommodated	Count	31,000	110,000	215,000	352,000	525,000	718,000	941,000	SI1
Heat pumps accommodated	Count ¹	34,000	58,000	77,000	97,000	149,000	220,000	309,000	SI1
OTHER SUPPORTING KPIS									
Total generation connected	GW ¹	5.3	5.8	6.2	6.4	6.7	7.0	7.3	-

CROSS REFERENCE									
3.1.3 DSO (Mapping to SI2)									
EHV substation areas in flexibility market evaluation	Count ¹	23	25	35	40	63	67	80	DSO5.2
Flexibility provider registration acceptance time <30 days	%	-	-	-	-	-	-	>95%	DSO5.3
Local flexibility stakeholder engagement	Count	-	-	-	-	-	-	120	DSO5.3

Glossary

KPI	Definition
OUTPUTS	
Network utilisation - major substations > LI3	The proportion of substations where the loading is >99%
INDICATIVE INPUTS	
Investment in creating capacity	The investment (£m) in each year where the driver is load related reinforcement and the output is creating additional capacity for customers to connect
EVs accommodated	The cumulative count of Electric Vehicles that are connected in our region
Heat Pumps accommodated	The cumulative count of heat pumps that are connected in our region
OTHER SUPPORTING KPIS	
Total generation connected	The total generation that is connected (or due to be connected in future years) for renewable, non-renewable and storage

1. Cumulative

DSO STRATEGY

Key measures ¹		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Ground mounted substation networks directly monitored	% ²	4%	10%	18%	26%	34%	42%	50%	DSO1
LV load monitors installed	Count ²	1,250	2,700	4,700	6,700	8,700	10,700	12,700	DSO1.3
Historical; operational and outage planning data ESO/DSO	%	-	-	>90%	>90%	>90%	>90%	>90%	DSO2.5
New Open Data products and services - increase	%	-	14%	21%	43%	57%	64%	70%	DSO3.1
New network data self service	Hit/Miss	-	-	-	-	-	✓	-	DSO3.1
Error corrections issued for dispatch	%	-	-	<10%	<10%	<10%	<10%	<10%	DSO4.1
Late issuance of dispatch data	%	-	-	<10%	<10%	<10%	<10%	<10%	DSO4.1
Operational data exchange ESO-DSO	%	-	-	>90%	>90%	>90%	>90%	>90%	DSO4.4
Constrained data exchange ESO-DSO	%	-	-	>90%	>90%	>90%	>90%	>90%	DSO4.4
EHV substation areas in flexibility market evaluation	Count ²	23	25	35	40	63	67	80	DSO5.2
Flexibility provider registration acceptance time <30 days	%	-	-	>95%	>95%	>95%	>95%	>95%	DSO5.3
Procurement events response time <3 months	%	-	-	>95%	>95%	>95%	>95%	>95%	DSO5.3
INDICATIVE INPUTS									
Local flexibility stakeholder engagement	Count ²	-	-	24	48	72	96	120	DSO5.3

Glossary

KPI	Definition
OUTPUTS	
Low Voltage (LV) Monitoring	Percentage of ground mounted substation networks directly monitored
LV load monitors installed	Count of LV load monitors installed
Historic operational and outage planning data ESO/DSO	Historic operational and outage planning data to be shared with stakeholders (e.g. monthly)
New Open Data products and services - increase	Through a data catalogue, APIs and a dedicated portal we will increase our data and service availability to our customers and stakeholders (further detail in the summary)
New network data self service	Enhanced open data through implementing a set of free analytical tools to help processing data and enhanced self-service, such as dynamic heat maps and Autodesign
Count of error corrections issued for dispatch	The count of error corrections related to dispatch instructions and/or information which results in incorrect delivery that are issued to market participants
Count of late issuance of dispatch data	The count of late issuance of dispatch data (ex-post)
Operational data exchange ESO-DSO	The "up time" for exchanging real-time operational data with 90% reliability.
Constrained data exchange ESO-DSO	System "up-time" for exchange of network constraint data via the new ICCP link in the Common Information Model (CIM) format (daily)
Number of EHV substation areas in flexibility market evaluation	A report detailing the cumulative volume of EHV substations in flexibility evaluation exercises involving our stakeholders
Flexibility provider registration acceptance time	Time taken for a response to be provided to new customers who apply to become a flexibility provider
Procurement events response time	Time taken for a response to be provided to customers who participate in our flexibility tenders
INDICATIVE INPUTS	
Local flexibility stakeholder engagement	The total number of stakeholder engagements to promote flexibility

1. We have provided a view of phased targets where available, however in most cases, these is still uncertainty given that our DSO function is still in the developmental phase.

2. Cumulative

ENVIRONMENT

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	Ref
OUTPUTS									
Business carbon footprint (DNO)	tCO ₂ e	14,722	14,300	13,720	13,150	12,580	12,010	11,430	EP1
Buildings energy usage	tCO ₂ e	7,312	6,480	6,300	6,120	5,940	5,720	5,520	EP1
Operational transport	tCO ₂ e	4,186	4,110	3,870	3,650	3,370	3,070	2,750	EP1
Business transport	tCO ₂ e	1,558 ³	2,560	2,420	2,280	2,200	2,180	2,160	EP1
Fugitive emissions	tCO ₂ e	1,666	1,150	1,130	1,100	1,070	1,040	1,000	EP1
Science-based target Scope 1 and 2 emissions (excluding losses)	tCO ₂ e	12,866	11,740	11,180	10,610	10,050	9,490	8,920	EP1.2
Science-based target Scope 1 and 2 emissions (including losses)	tCO ₂ e	539,775	492,450	468,790	445,120	421,460	397,790	374,130	EP1.2
SF ₆ lost	Kg	73.1	50.3	48.7	47.2	45.7	44.2	42.7	EP1.5
Responsible procurement charter	%	-	-	90%	90%	90%	90%	90%	EP3.1
Oil/fluid lost	Litres	28,055	27,300	26,500	25,700	24,900	24,100	23,200	EP4
Overhead lines removed from AONB and national parks	km ⁴	74.9	120.0	12.2	24.5	36.7	49.0	61.2	EP6.1
Biodiversity - improvement/facilitated on site	Count ⁴	0	8	40	80	120	160	200	EP6.2
Waste - diversion from landfill	%	75%	80%	82%	84%	86%	88%	90%	EP6.3
Waste - recycled and re-used materials	%	75%	78%	79%	80%	82%	84%	85%	EP6.3
Noise pollution – interventions	Count	28	39	6	12	19	26	33	EP6.4
INDICATIVE INPUTS									
Losses - low loss (LV and HV) cable	km ⁴	1,582	2,240	280	560	840	1,120	1,400	EP2.3
FFC – replacement	km ⁴	176.5	224.4	8	16	24	32	40	EP4.1
FFC - dosing (PFT)	km ⁴	81.9	109.2	53.4	106.8	160.2	213.6	267.0	EP4.2
PCB - pole mounted transformers	Count ⁴	0	415 ⁵	3,200	6,500	8,400	8,400	8,400	EP5.1
PCB - ground mounted transformers	Count ⁴	0	12	163	326	449	449	449	EP5.1

Glossary

KPI	Definition
OUTPUTS	
Business Carbon Footprint (DNO)	The total Greenhouse Gas Emissions tCO ₂ e (tonnes of CO ₂ equivalent) from the operations of our distribution business.
Buildings Energy Usage	The total tCO ₂ e from energy use at our depots and substations – including gas and electricity.
Operational Transport	The total tCO ₂ e from our fleet fuel use.
Business Transport	The total tCO ₂ e from business travel – including road, rail and air.
Fugitive Emissions	The total tCO ₂ e from emission relative to sulphur hexafluoride gas (SF ₆) lost.
Science-based target Scope 1 and 2 (excluding losses)	Targets are considered 'science-based' if they are in line with the goals of the Paris Agreement – limiting global warming to well-below 2°C and pursuing efforts to limit warming to 1.5°C.
Science-based target Scope 1 and 2 emissions (including losses)	Losses are the difference between the amount of energy entering the network and the amount of energy drawn out of it.
SF ₆ lost	The total amount of sulphur hexafluoride gas (SF ₆) lost
Responsible procurement charter	Sets out the requirements that suppliers must adhere to from an environmental, regulatory, health and Safety and compliance perspective. Supports Northern Powergrid's Responsible Procurement Policy.
Oil/Fluid lost	The total discharge of insulating oil into the environment as a result of operational activities.

1. 2020/21 actual performance

2. 2022/23 forecast performance

3. This number is lower than the ED1 forecast and ED2 volumes as a result of minimal travel during the COVID-19 pandemic

4. Cumulative, in price control

5. These are not being replaced as part of the PCB programme but as part of our reinforcement programme due to high levels of utilisation

Overhead lines removed from AONB and national parks	The length of overhead lines removed from areas of outstanding natural beauty and national parks.
Biodiversity - improvement/facilitated on site	Biodiversity is the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.
Waste - Diversion from landfill	The proportion of total waste that is not sent to landfill (landfill is the process of burying waste material).
Waste - Recycled and re-used materials	The proportion of total waste that is returned to a previous stage in its life cycle and either re-used for its original purpose or converted into other usable material.
Noise pollution - interventions	The number of remedial works required to rectify noise complaints that are above the levels of normal operating characteristics of electrical assets.
INDICATIVE INPUTS	
Losses - low loss (LV and HV) cable	The length of cable installation relative to Low voltage and High voltage circuits. The cable being installed results in a reduction of electrical losses.
FFC - replacement	The length of fluid filled cable replaced.
FFC - dosing (PFT)	The length of circuits dosed with Perfluorocarbon (PFT) tracers. PFT tracers are an additive put into fluid-filled cables which can detect leaks by 'sniffing' the specific chemical structure of the additive in the ground above the leak, locating leakage from above the ground to target repair.
PCB - Pole Mounted Transformers	A high voltage electrical transformer located on a pole that contains Polychlorinated Biphenyls (PCBs). PCBs are organic chemicals that were manufactured with a thermal and chemical stability making them an excellent insulating material.
PCB - Ground Mounted Transformers	A high voltage electrical transformer located at ground level that contains PCBs.

SAFETY

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
OSHA rate (DNO)	Rate ¹	0.27	0.19	0.15	0.15	0.14	0.13	0.12	S1
RIDDOR rate (DNO)	Rate ¹	0.07	0.03	0.02	0.03	0.02	0.02	0.01	S1
HSE compliance	Hit/Miss	✓	✓	✓	✓	✓	✓	✓	S1
OSHA rate (contractor)	Rate ¹	0.73	0.55	0.43	0.53 ¹	0.45 ¹	0.42 ¹	0.37 ¹	S2
Overhead line contacts	Count ¹	43	41	37	35	34	32	31	S4.3
INDICATIVE INPUTS									
Training: behavioural safety	Count	-	-	-	450	900	1,350	1,800	S1.2
Training: driver awareness	Count ¹	112	120	143	151	180	200	200	S1.5
Safety audits (contractor)	Count ¹	1,047	1,340	1,490	1,560	1,610	1,610	1,610	S2.4
ISO45003 accreditation	Achieve	-	-	Achieve	Maintain	Maintain	Maintain	Maintain	S3.1
Safety awareness programme	Count ¹	43,473	43,400	42,200	42,600	49,800	52,600	55,000	S4

Glossary

KPI	Definition
OUTPUTS	
OSHA rate (DNO)	The OSHA accident rate of injuries and illnesses applicable to our employees, which is calculated from the formula Number of injuries and illnesses X 200,000 / Employee hours worked. In this instance. In this case, we have considered a 5 year rolling average. OSHA - The Occupational Safety and Health Administration, more commonly known by its acronym OSHA, is a regulatory agency the United States Department of Labor, which is responsible for protecting worker health and safety in the United States.
RIDDOR rate (DNO)	The RIDDOR incident rate, which is calculated by dividing the number of reportable incidents by the number of employees then multiplied by 100. In this case, we have considered a 5 year rolling average. RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013. RIDDOR puts duties on employers, the self-employed and people in control of work premises (the Responsible Person) to report certain serious workplace accidents, occupational diseases and specified dangerous occurrences (near misses).
HSE Compliance	Achieving compliance means no penalties or notices are received from the Health and Safety Executive.
OSHA rate (Contractor)	The OSHA accident rate of injuries and illnesses applicable to our contractors.
Overhead line contacts	Number of overhead line contacts by a third party that resulted in a power failure/fault.
INDICATIVE INPUTS	
Training: Behavioural safety	Number of our colleagues who completed behavioural safety training programme.
Training: Driver awareness	Number of our colleagues who completed training to ensure ongoing competence.
Safety audits (Contractor)	Audits of contractors undertaken by our safety auditors.
ISO45003 accreditation	ISO45003 is a global standard giving practical guidance on managing psychological health in the workplace. It provides guidance on the management of psychosocial risk as part of an occupational health and safety management system.
Safety awareness programme	The number of people receiving a safety education message. This includes face-to face lessons, lesson downloads and video views/downloads.

1. Rolling five-year average – reflecting length of ED2 period

ASSET RESILIENCE

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Delivery of plan target (NOMs ED1 target)	%	79.0%	100%	-	-	-	-	-	AR2
Delivery of plan target (NARMS ED2 target)	%	-	-	20%	40%	60%	80%	100%	AR2
Impact of interventions on whole life risk	%	-	-	-	-	-	-	24%	AR2
INDICATIVE INPUTS									
NOMs (ED1) monetised risk	£m	15.8	20	-	-	-	-	-	AR2
NARMs (ED2) monetised risk	£m ^{1,2}	-	-	149.5	299.0	448.5	598.0	747.5	AR2
High risk substations replaced	Count ²	168	190	20	40	60	80	100	AR2.1
Innovative transformer monitoring	Count ²	-	-	6	12	18	24	29	AR2.4
Risk mapping (partial discharge)	Circuits ²	-	-	20	40	60	80	100	AR2.5

Glossary

KPI	Definition
OUTPUTS	
% delivery of plan target (NOMs ED1)	The Network Output Measures (NOMs) refers to the outputs (or Network Asset Secondary Deliverables, NASD) related to asset health, criticality and risk, as defined for the RIIO-ED1 period in Standard Condition 51 of the electricity distribution licence. They allow the level of risk to be quantified consistently across asset categories and DNOs in accordance with the requirements of the v1.1 of the Common Networks Asset Indices Methodology (CNAIM), by determining the Health Index and Criticality Index for individual assets before and after an intervention.
% delivery of plan target NARMS target	Network Asset Risk Metric (NARM) is the equivalent measure to NOMs by which Ofgem will measure the effectiveness of the asset intervention programmes as directed in its RIIO-ED2 price control determination and is governed by v2.1 of CNAIM.
Impact of interventions on whole life risk	The improvement in as a result of the asset intervention programmes completed in the ED2 period compared to a scenario where we did not complete said activity.
INDICATIVE INPUTS	
NOMs (ED1) Monetised risk	Relates to the Risk Index which is a monetised risk measure, determined from the combination of the Health Index and Criticality Index, in accordance with the requirements of CNAIM v1.1.
NARMs (ED2) Monetised risk	Relates to the Risk Index which is a monetised risk measure, determined from the combination of the Health Index and Criticality Index, in accordance with the requirements of CNAIM v2.1.
Count of high risk substations replaced	The count of high risk outdoor substations replaced with indoor substations.
Innovative transformer monitoring	Online dissolved gas analysis of the transformer main tank and tap changer.
Risk Mapping (Partial discharge)	The gathering of asset intelligence/information relating to HV cables through the use of partial discharge surveys by portable installations.

1. Whole life risk, in line with the new Ofgem definition for the 2023-28 period.
2. Cumulative, in price control

RELIABILITY AND AVAILABILITY

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Customer interruptions (CI)	CI ³	48.6	47.4	46.5	45.2	44.0	42.7	42.0	RA1
CI - Northeast	CI ³	44.1	43.6	43.1	42.4	41.6	40.9	40.5	RA1
CI - Yorkshire	CI ³	51.7	50.0	48.9	47.2	45.6	43.9	43.1	RA1
Customer minutes lost (CML)	CML ³	37.2	34.0	32.8	31.5	30.2	28.9	28.3	RA2
CML – Northeast	CML ³	35.0	32.0	31.8	31.0	30.2	29.5	29.1	RA2
CML - Yorkshire	CML ³	38.8	35.4	33.6	31.9	30.2	28.6	27.7	RA2
Power cuts > 12 hour (pre-clock)	Count	3,943	3,600	3,500	3,300	3,100	2,900	2,700	RA3
Power cuts > 6 hours	Count ⁴	87,001	82,500	80,000	78,500	77,000	75,500	74,000	RA4
Power cuts ≥ 5 interruptions	Count ⁴	30,174	26,000	25,000	24,500	24,000	23,500	23,000	RA5
Worst served customers addressed	Count ⁵	-	-	282	454	1,762	2,150	2,400	RA6
10 days' notice given for planned power cuts	%	63.5%	70.0%	72.0%	74.0%	76.0%	78.0%	80.0%	RA7
INDICATIVE INPUTS									
HV restoration time	Mins	51	50	49	48	47	46	45	RA2
LV restoration time	Mins	174	165	163	161	159	157	155	RA2
OTHER SUPPORTING KPIS									
HV Automation investment	£m	£27.4m	£34.1m	£16.1m	£32.1m	£48.1m	£64.2m	£64.2m	RA1
Northeast	£m	£18.9m	£21.1m	£2.2m	£4.3m	£6.4m	£8.6m	£8.6m	RA1
Yorkshire	£m	£8.5m	£13.0m	£13.9m	£27.8m	£41.7m	£55.6m	£55.6m	RA1
HV Automation deployment	Count	3,201	3,419	2,150	4,300	6,450	8,600	8,600	RA1
Northeast	Count	1,541	2,300	287	574	861	1,148	1,148	RA1
Yorkshire	Count	4,742	5,719	1,863	3,726	5,589	7,452	7,452	RA1

Glossary

KPI	Definition
OUTPUTS	
Customer Interruptions	The proportion of total customers in a year that were affected by a power cut that lasted for three minutes or longer i.e. the number of customers affected by a power cut that lasted for three minutes or longer, multiplied by 100 and divided by the total number of customers.
Customer Minutes Lost	The average number of minutes lost per customer per year where a power cut lasts for three minutes or longer.
Power Cuts > 12hrs (pre-clock)	The number of customers who are off supply for more than 12 hours under normal operating conditions per year.
Power Cuts > 6 hrs	The number of customers who are off supply for more than 6 hours under normal operating conditions per year. Actual and forecast performance is set on the basis of a 4 year average due to the 'volatility' of these numbers.
Power Cuts ≥ 5 interruptions	Number of customers who experience 5 or more unplanned power cuts lasting more than 3 minutes in a year. Actual and forecast performance is set on the basis of a 4 year average due to the 'volatility' of these numbers.
Worst Served Customers addressed	In ED1 a worst served customers is a customer experiencing on average at least four higher voltage interruptions per year over a three year period (ie 12 or more over three years), with a minimum of three higher voltage interruptions in each year. In ED2 a worst served customer is a customer experiencing on average at least four higher voltage power cuts per year, over a three year period (i.e. 12 or more over three years), with a minimum of two power cuts per year.
10 days' notice given for planned power cuts	The proportion of planned power cuts where we give at least 10 working days' notice.
INDICATIVE INPUTS	
HV Restoration Time	The average time a customer is off supply during a high voltage unplanned power cut.
LV Restoration Time	The average time a customer is off supply during a low voltage unplanned power cut.

1. 2020/21 actual performance

2. 2022/23 forecast performance

3. Unplanned, excluding exceptional events

4. Four-year average

5. In line with the Ofgem definition (See Glossary) – the classification of customers that fall into this category is changing in RIIO-ED2

CLIMATE RESILIENCE

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
High risk sites protected to flooding (ETR138)	%	93%	99%	100%	100%	100%	100%	100%	CR1.1
HV network resilient to high winds (ETR132)	%	42%	60%	63%	66%	69%	72%	75%	CR2.1
INDICATIVE INPUTS									
Total sites resilient to flooding	Count ¹	255	271	12	21	30	39	48	CR1.1, 1.2
Major substation flood defences installed	Count ¹	73	84	5	7	9	11	13	CR1.1, 1.2
High criticality distribution substations with increased resilience	Count ¹	-	-	7	14	21	28	35	CR1.2
ETR132: Network clearance	km	889 ²	1,295 ²	844	844	844	844	844	CR2.1
ENATS 43-8: VM clearance	Spans	24,813 ²	25,700 ²	24,100	24,100	24,100	24,100	24,100	CR2.2
LiDAR network surveys	Count	-	1	-	-	1	-	1	CR2.5

Glossary

KPI	Definition
OUTPUTS	
High risk sites protected from flooding (ETR138)	<p>The number of sites that have been protected from flooding to ETR 138 – Electricity Substation Resilience to Flooding:</p> <ul style="list-style-type: none"> Level 1: most important grid substations (typically supplying 50,000 to 500,000 customers) - likelihood of flooding should be no more than 1 in 1,000 years. Level 2: other primary substations (typically supplying 5,000 to 30,000 customers) - likelihood of fluvial flooding should be no more than 1 in 100 years and of sea flooding no more than 1 in 200 years. Level 3: for sites where level 1 or 2 cannot be justified – other flood resilience measures.
HV network resilient to high winds (ETR132)	The number of kilometres of overhead lines which have undergone enhanced vegetation clearance works in line with ETR 132 – Improving resilience of overhead networks under abnormal weather conditions using a risk based methodology.
INDICATIVE INPUTS	
Total sites resilient to flooding	<p>The count of sites where work has been done to increase their resilience to flooding. This includes major works (i.e. construction of a wall around the perimeter or relocation of the assets), minor works (i.e. installation of flood protection to door openings, raising ventilation holes and sealing cable troughs) and remedials (i.e. works to improve site drainage or rectify issues with existing flood mitigation measures)</p> <p>This also includes where we have conducted a survey and deemed that no work was required as the site was sufficiently protected.</p>
Major substation flood defences installed	The count of flood defences installations at major substations.
High criticality distribution substations with increased resilience	Substations which provide supplies to other infrastructure providers or services or where the general topography means that it is beneficial to implement flood mitigation measures.
ETR132: Network clearance	The length (in kilometres) of network which has undergone enhanced vegetation clearance as set out in ETR132 guidelines.
ENATS43-8: VM clearance	The number of spans of overhead networks which have undergone works to ensure compliance with ENATS43-8 – Overhead Line Clearances.
LiDAR network surveys	Complete surveys of the network using LiDAR (Light Detection and Ranging) technology.

1. Cumulative, in price control

2. ED1 annual average

PHYSICAL AND CYBER RESILIENCE

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Loss of information (cyber)	Count	0	0	0	0	0	0	0	PC1
Employee phishing test success	%	97.08% ¹	99.95%	99.96%	99.97%	99.97%	99.97%	99.97%	PC1
Loss of supply (physical or Cyber)	Count	0	0	0	0	0	0	0	PC2, 3
INDICATIVE INPUTS									
Training: cyber (1. basic)	%	100%	100%	100%	100%	100%	100%	100%	PC1
Training: cyber (2. advanced)	%	-	2%	5%	10%	50%	100%	100%	PC1.2, 2.2
Mobile resilience system	Go live	-	-	-	-	✓	-	-	PC4.1
Mobile resilience vehicles	Count	-	-	-	4	-	-	-	PC4.2
Intelligent perimeter upgrades	Count	-	-	31	62	93	124	155	PC3.2
OTHER SUPPORTING KPIS									
NCSC CAF principles met	Count	20	21	22	25	27	30	35	PC1
NCSC CAF principles met	%	51%	54%	56%	64%	69%	77%	90%	PC1

Glossary

KPI	Definition
OUTPUTS	
Loss of Information (Cyber)	A power cut that occurs as a direct result of a cyber-breach and affects >50,000 customers.
Employee phishing test success	The success rate of raising employee cyber awareness in terms of the ability to identify malicious emails. The success rate is calculated by Failed tests/Total tests issued.
Loss of Supply (Physical)	A physical breach at a permanent site (substation intrusion or interference) that results directly in the loss of customer supplies.
INDICATIVE INPUTS	
Training: Cyber (1. Basic)	The proportion of colleagues who complete the basic cyber training programme. This is applicable to all colleagues who use or support any form of IT/OT equipment
Training: Cyber (2. Advanced)	The proportion of colleagues who complete advanced cyber training. This is limited to those colleagues who work on higher risk systems or have a need for more advanced knowledge to carry out their roles.
Mobile resilience System	The availability of a power resilient mobile radio communication system for use by field colleagues in place of the current 'Airwave' solution.
Mobile resilience vehicles	The number of vehicles that are readily deployable to provide emergency fixed communications in circumstances such as a failure of a key communication site or communication link.
Intelligent perimeter upgrades	Sites with perimeter security upgrades applied that go beyond the base standard of fencing, security doors, CCTV and intruder alarms. These sites will include all CNI and other targeted sites for installation of intelligent detective controls, which includes CCTV that can recognise human intrusion and the ability to remotely address the intruder.
OTHER SUPPORTING KPIS	
NCSC CAF Principles met	Areas in which the National Cyber Security Centre (NCSC) Cyber Assessment Framework (CAF) targets are met or exceeded. In total, 39 Principles are defined in the CAF.

1. Five-year average

CUSTOMER SERVICE

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
BMCS score: overall	%	90.5%	92.0%	92.3%	92.6%	92.9%	93.2%	93.5%	CS1
Complaints resolved within day+1	%	83.3%	88.0%	88.0%	89.0%	90.0%	≥90.0%	≥90.0%	CS2
Complaints resolved within day+31	%	96.4%	98.0%	98.1%	98.2%	98.3%	98.4%	98.5%	CS2
Complaints metric	Score	2.8	1.8	1.8	1.7	1.6	1.5	1.4	CS2
INDICATIVE INPUTS									
Digital contact channels	Count ³	5	5	6	7	8	8	8	CS1.1
OTHER SUPPORTING KPIS									
BMCS score: powercuts	%	90.7%	91.8%	92.1%	92.3%	92.6%	92.8%	93.1%	CS1
BMCS score: connections	%	88.9%	91.2%	91.5%	91.7%	92.0%	92.2%	92.5%	CS1
BMCS score: general enquiries	%	94.0%	94.2%	94.7%	95.1%	95.6%	96.0%	96.5%	CS1

Glossary

KPI	Definition
OUTPUTS	
BMCS score: Overall	The Broad Measure of Customer Service (BMCS). The overall score is a weighted average score for the three main BMCS service lines. The weighting applied is: Power cuts (30%), Connections (50%) and General Enquiries (20%).
Complaints resolved within day+1	The percentage of complaints resolved within one day (the day of receipt is counted as day 0).
Complaints resolved within day+31	The percentage of complaints resolved within 31 days of receipt.
Complaints metric	The complaints metric measures performance against four key indicators to assess the quality of our complaints handling procedures. Performance against each indicator is weighted to calculate an overall complaints metric score. The weighting applied is: % of complaints outstanding after one day (10%), % of complaints outstanding after 31 days (30%), % of complaints that are repeat complaints (50%), and number of Ombudsman decisions against Northern Powergrid as a % of the total complaints (10%).
INDICATIVE INPUTS	
Digital contact channels	Number of inbound contact channels we operate to allow customers to get in touch with us.
OTHER SUPPORTING KPIS	
BMCS score: Power cuts	Average customer satisfaction score (out of 10) for customers surveyed under the Power cuts service type for BMCS.
BMCS score: Connections	Average customer satisfaction score (out of 10) for customers surveyed under the Connections service type for BMCS.
BMCS score: General Enquiries	Average customer satisfaction score (out of 10) for customers surveyed under the General Enquiry service type for BMCS.

1. 2021/22 actual performance
2. 2022/23 forecast performance
3. Cumulative

VULNERABILITY

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
High risk customers recruited to PSM	%	48%	54%	57%	61%	64%	67%	70%	VN1
Proactive contact for data cleanse every 24 months (PSM customers)	%	100%	100%	100%	100%	100%	100%	100%	VN1
BMCS: overall (PSM customers)	%	N/a ³	N/a ³	92.3%	92.6%	92.9%	93.2%	93.5%	VN1
BMCS: power cuts (PSM customers)	%	91.4%	91.8%	92.1%	92.3%	92.6%	92.8%	93.1%	VN2
Proactive contact of high risk (P1) customers within 1 hour	%	-	-	100%	100%	100%	100%	100%	VN2
proactive contact of all PSM customers within 3 hours	%	-	-	95%	95%	95%	95%	95%	VN2
Customers offered enhanced support on site for >6hr power cuts	%	7%	14%	17%	35%	55%	65%	75%	VN2
Fuel poverty interventions	Count ⁴	4,356	6,320	20,000	20,000	20,000	20,000	20,000	VN4
Customers engaged via 'No one left behind' programme	Count ⁴	-	-	5,000	5,000	5,000	5,000	5,000	VN5
INDICATIVE INPUTS									
PSM sign-ups from referrals	%	8%	13%	15%	18%	20%	23%	25%	VN1
Front-line staff trained in rolling 24 month programme	%	N/a ⁵	N/a ⁵	100%	100%	100%	100%	100%	VN6.1

Glossary

KPI	Definition
OUTPUTS	
High risk customers recruited to PSM	The proportion of eligible high risk vulnerable customers to be recruited to Priority Service Membership (PSM) during ED2 (utilising social indicator data). High-risk customers are defined as those who are medically dependent on electricity, have a severe physical disability, chronic serious illness or have mental health needs.
Proactive contact for data cleanse every 24 months (PSM customers)	The proportion of PSM customers contacted every two years to update their PSM record.
BMCS: Overall (PSM customers)	The average overall customer satisfaction score (out of 10) for PSM customers surveyed as part of the Broad Measure of Customer Service. This is not currently measured in RIIO-ED1.
BMCS: Power cuts (PSM customers)	The average customer satisfaction score (out of 10) for PSM customers surveyed under the Power cuts service type for BMCS.
Proactive contact of high risk (P1) customers within 1 hour	The proportion of high risk PSM customers proactively contacted within 1 hour to notify them of an unplanned power cut. This is applicable where we have a contact number.
proactive contact of all PSM customers within 3 hours	The proportion of all PSM customers proactively contacted within 3 hours to notify them of an unplanned power cut. This is applicable where we have a contact number.
Customers offered enhanced support on site for >6hr power cuts	The proportion of PSM customers who receive on-site, enhanced welfare support when an unplanned power cut exceeds 6 hours. This includes face to face response, enhanced customer support vehicles and capacity to install more mobile generators.
Fuel poverty interventions	The number of customers directly supported through one of our affordability programmes. These include programmes that are aimed at supporting customers impacted by fuel poverty.
Customers engaged via 'No one left behind' programme	The number of customers directly supported through one of our no-one left behind programmes. This includes programmes that support vulnerable customers on their journey to net zero.
INDICATIVE INPUTS	
PSM sign-ups from referrals	The number of new PSM registrations that have resulted from referrals from our colleagues, partners and campaigns.
Front-line staff trained in rolling 24 month programme	The target percentage for training colleagues on vulnerability and support services.

1. 2020/21 actual performance

2. 2022/23 forecast performance

3. Only the power cuts element of BMCS is measured in RIIO-ED1.

4. Performance reflects the annual average within the price control period.

5. ED1 performance is not comparable as this is currently on a three year cycle – we currently train 100% of colleagues on this basis.

COMMUNITIES

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date	ED1 forecast	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Major schemes with social impact scheme attached	%	15%	17%	20%	25%	30%	45%	50%	CO1.1
INDICATIVE INPUTS									
Investment in social programmes	£m ¹	£0.3m	£0.4m	£0.2m	£0.4m	£0.6m	£1.0m	£1.4m	CO1.1
STEM pupils supported in deprived areas	Count	245 ²	450	600	650	700	750	800	CO2.1
Hours volunteered	Hours ²	616	770	805	875	945	1,015	1,130	CO2.2
No. schemes supported through community energy advisors	Count ¹	-	-	5	12	21	31	45	CO3.2
OTHER SUPPORTING KPIS									
Customer supported – affordability support schemes	Count	16,560	18,000	20,000	20,000	20,000	20,000	20,000	-

Glossary

KPI	Definition
OUTPUTS	
% of major schemes with social impact scheme attached	The number of social initiatives (community projects aligned to our sustainability objectives of social, environmental and financial) attached to our investment schemes
INDICATIVE INPUTS	
Investment in social programmes	The value of funding for community based social initiatives aligned to our investment programmes
STEM pupils supported in deprived areas	The number of pupils in our region who are engaging in learning about decarbonisation, STEM and energy efficiency through school based initiatives and online channels
Hours volunteered	The number of hours our colleagues volunteer in community based engagement through in work time volunteering
No. schemes supported through community energy advisors	The number of local community energy projects supported by our social initiatives aligned to our sustainability objectives
OTHER SUPPORTING KPIS	
Customer supported – affordability support schemes	The number of customers directly supported through one of our affordability programmes. These include programmes that are aimed at supporting customers impacted by fuel poverty.

1. Cumulative total, in price control

2. ED1 Annual average used due to COVID-19 impact on figures.

CONNECTIONS

Key measures		ED1 performance		ED2 performance Phased targets					Outcome / deliverable
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	ref
OUTPUTS									
SMALL WORKS									
BMCS connections – overall	%	88.9%	91.2%	91.5%	91.7%	92.0%	92.2%	92.5%	CN1
Time to quote LVSSA	Days	6.7	3.4	2.7	2.7	2.7	2.7	2.7	CN1
Time to quote LVSSB	Days	14.2	5.5	4.4	4.4	4.4	4.4	4.4	CN1
Time to deliver LVSSA	Days	48.7	28.3	22.7	22.7	22.7	22.7	22.7	CN1
Time to deliver LVSSB	Days	78.5	36.5	29.2	29.2	29.2	29.2	29.2	CN1
Average connections lead time – small works	Days	71.2	36.2	29.0	29.0	29.0	29.0	29.0	CN1
Guaranteed standards met	%	98.9% ³	99.0%	99.1%	99.2%	99.3%	99.4%	99.5%	CN1
MAJOR WORKS									
Major connections satisfaction (overall)	%	84.3%	85.0%	86.0%	87.0%	88.0%	89.0%	90.0%	CN2
Major connections satisfaction (pre-application services)	%	-	-	86.0%	87.0%	88.0%	89.0%	90.0%	CN2
Major connections satisfaction (quotations)	%	-	-	86.0%	87.0%	88.0%	89.0%	90.0%	CN2
Major connections satisfaction (delivery)	%	-	-	86.0%	87.0%	88.0%	89.0%	90.0%	CN2
Guaranteed standards met	%	99.8% ³	99.8%	99.8%	99.8%	99.8%	99.9%	99.9%	CN5
Time to deliver - unmetered	Days	13.2 ³	13.2	13.2	13.2	13.1	13.0	13.0	CN5
Appointments met	%	99.3%	99.5%	99.7%	99.7%	99.7%	99.7%	99.7%	CN5
SUPPORTING MEASURES									
SMALL WORKS									
Auto design budgets issued (<55kVA)	%	70%	76%	79%	81%	83%	87%	90%	CN2.2
Auto design customers registered	Count	430	1,040	1,450	1,890	2,270	2,500	2,500	CN2.1
MAJOR WORKS									
Provision/self-service of network data	Count	33,850	41,830	44,520	47,310	50,120	52,890	55,530	CN3, CN4

Glossary

KPI	Definition
OUTPUTS	
SMALL WORKS	
BMCS connections – overall	Average customer satisfaction score (out of 10) for customers surveyed under the Connections service type.
Time to Quote LVSSA	The difference in working days between the date on which a connection application is received and the date on which a quotation is issued for a LVSSA connection. LVSSA is defined in the Regulatory Instructions and Guidance.
Time to Quote LVSSB	As above for a LVSSB connection – LVSSB is defined in the Regulatory Instructions and Guidance.
Time to Deliver LVSSA	The difference in working days between the date on which a quotation is accepted and the date on which the work to provide the connection is completed for a LVSSA connection.
Time to Deliver LVSSB	As above, for a LVSSB connection.
Time to Connect	The difference between the date on which a quotation is accepted and the date on which the work to provide the connection is completed, as further defined in the Regulatory Instructions and Guidance.
Guaranteed standards met	The number of times a quotation is issued, action is taken or work is completed in accordance with the prescribed timescale required by the connections guaranteed standards or the Distributed Generation Standards Direction, as applicable, and where a failure payment is not required to be made.
MAJOR WORKS	
Major connections satisfaction (Overall)	The average customer satisfaction score (out of 10) for customers surveyed under the three major connection satisfaction survey – in line with our ODI-F proposal.
Major connections satisfaction (pre-application services)	The average customer satisfaction score (out of 10) for customers surveyed for the ‘pre-application services’ element of the major connection satisfaction survey – in line with our ODI-F proposal.
Major connections satisfaction (quotations)	The average customer satisfaction score (out of 10) for customers surveyed for the ‘quotations’ element of the major connection satisfaction survey – in line with our ODI-F proposal.

- 2020/21 actual performance
- 2022/23 forecast performance
- ED1 annual average

Major connections satisfaction (delivery)	The average customer satisfaction score (out of 10) for customers surveyed for the 'delivery' element of the major connection satisfaction survey – in line with our ODI-F proposal.
Guaranteed standards met	The number of times a quotation is issued, action is taken or work is completed in accordance with the prescribed timescale required by the connections guaranteed standards or the Distributed Generation Standards Direction, as applicable, and where a failure payment is not required to be made.
Time to Deliver - unmetered	The time taken to complete an unmetered connection in accordance with ECGS10B.
Appointments met	The number of times work commenced on site in accordance with ECGS5 or condition 4(5) of the Distributed Generation Standards Direction, as applicable.
SUPPORTING MEASURES	
Auto Design budgets issued (<55kVA)	The number of budget estimates self-served through AutoDesign as a percentage of the total number of budget estimates issued for Small Works customers i.e. <55kVA through both self-serve and the usual budget estimate process.
Auto Design Customers registered	The number of unique customers e.g. a company, a Local Authority or an individual registered to use AutoDesign.
Provision/self-service of Network data	The number of downloads by and provision of network information to customers on a self-serve basis (e.g. Contracted capacity register, Embedded Capacity register, downloads of Distribution Future Energy Scenarios (DFES), Long Term Development Statement (LTDS), Demand/Generation/Availability maps).

OPENNESS AND TRANSPARENCY

Key measures Openness and transparency		ED1 performance		ED2 performance Phased targets					Outcome / deliverable ref
KPI	Unit	ED1 to date ¹	ED1 forecast ²	2023/24	2024/25	2025/26	2026/27	2027/28	
OUTPUTS									
Responsible procurement charter (Northern Powergrid)	%	-	-	90%	90%	90%	90%	90%	OT3.4
ISO14001 accreditation (supply chain)	%	97%	97%	98%	98%	98%	98%	≥ 98%	OT3.5
ISO20400 accreditation (Northern Powergrid)	Achieve/ Maintain	-	<i>Achieve</i>	Maintain	Maintain	Maintain (+ enhanced audit)	Maintain	Maintain (+ enhanced audit)	OT3

CROSS REFERENCE									
3.1.3 DSO (Mapping to OT1.1, 2.1)									
EHV substation areas in flexibility market evaluation	Count	23	25	35	40	63	67	80	DSO5.2
Flexibility provider registration acceptance time <30 days	%	-	-	>95%	>95%	>95%	>95%	>95%	DSO5.3
Local flexibility stakeholder engagement	Count	-	-	24	48	72	96	120	DSO5.3
3.7 Physical and cyber (Mapping to OT1.1)									
Training: cyber (1. basic)	%	100%	100%	100%	100%	100%	100%	100%	PC1
Training: cyber (2. advanced)	%	-	2%	5%	10%	50%	100%	100%	PC1.2, 2.2
3.9 Connections (Mapping to OT1.1, OT4)									
Auto design budgets issued (<55kVA)	%	70%	76%	79%	81%	83%	87%	90%	CN2.2
Auto design customers registered	Count	430	1,040	1,450	1,890	2,270	2,500	2,500	CN2.1
Provision/self-service of network data	Count	33,850	41,830	44,520	47,310	50,120	52,890	55,530	CN3, CN4

Glossary

KPI	Definition
OUTPUTS	
Responsible Procurement Charter (Northern Powergrid)	Sets out the requirements that suppliers must adhere to from an environmental, regulatory, health and safety and compliance perspective. Supports Northern Powergrid's Responsible Procurement Policy.
ISO14001 accreditation (Supply chain)	ISO 14001 sets out the criteria for an environmental management system to enhance environmental performance and compliance.
ISO20400 accreditation (Northern Powergrid)	ISO20400 provides guidance on integrating sustainability within procurement.

1. 2020/21 actual performance
2. 2022/23 forecast performance