TOP24 Overview



TOP24 Overview

The following slides are intended to give an overview of our TOP24 performance, focusing on the following:

- Percentage of works included in the TOP24 baseline that were complete, and reasons for the works that were incomplete.
- A review of slides presented on this topic back in February, detailing which works proceeded as planned or not.
- A look at additional works completed throughout the year.



TOP24 Performance Overview

TOP24 baseline programme included 810 outage weeks, which is higher than in previous years.

74% of the works planned within TOP24 were complete, which is also higher than previous years.

Of the 26% of incomplete works, our initial analysis shows the following, high level reasons for incompletion:

- Outage availability (e.g. Generator FO's, unplanned FO's) 4.6%
- On-site / early project delays 12.3%
- Alternative project plan 6.0%
- Land access 1.7%
- Customer programme 1.4%



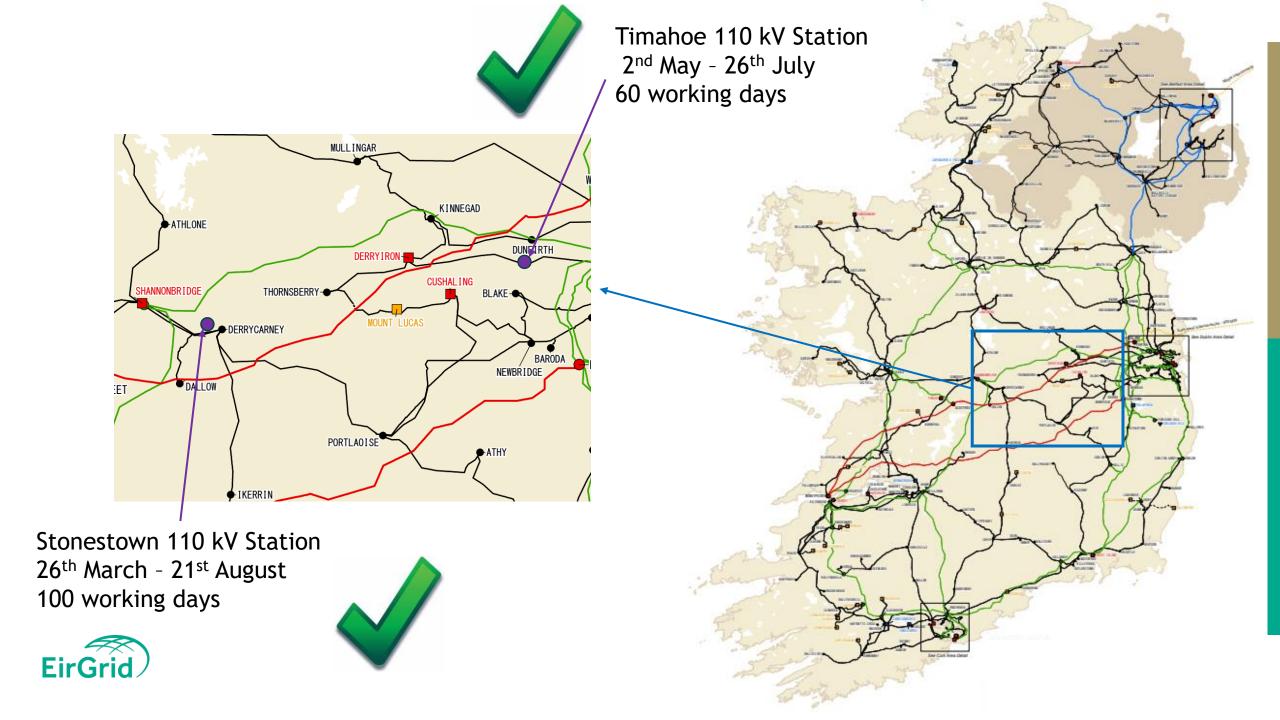
New Connections

- CP1272 Derryiron Busbar Uprate Complete/ongoing
- CP1041 Timahoe 110 kV Station Timahoe 70 MW Solar Farm Complete
- CP1329 Stonestown 110 kV Station Derrinlough 105 MW Wind Farm Complete
- CP1145 Rathnaskilloge 110 kV Station Rathnaskilloge 95 MW Solar Farm Complete
- CP1136 Deenes 110 kV Station Gaskinstown 85 MW Solar Farm Ongoing
- CP1088 Greenlink Loughtown 220 kV Station & Campile Convertor Station- Complete
- CP1293 Oldpier 220 kV Station Tarbert TEG Phase 2 Complete

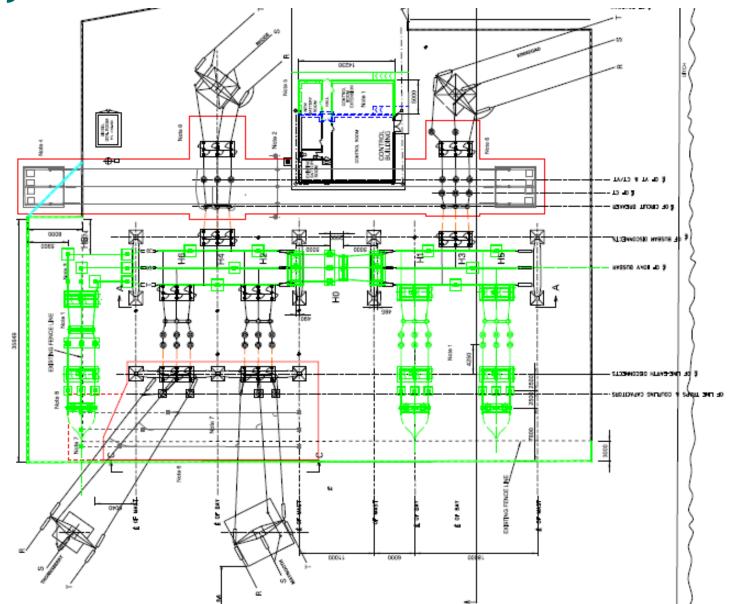








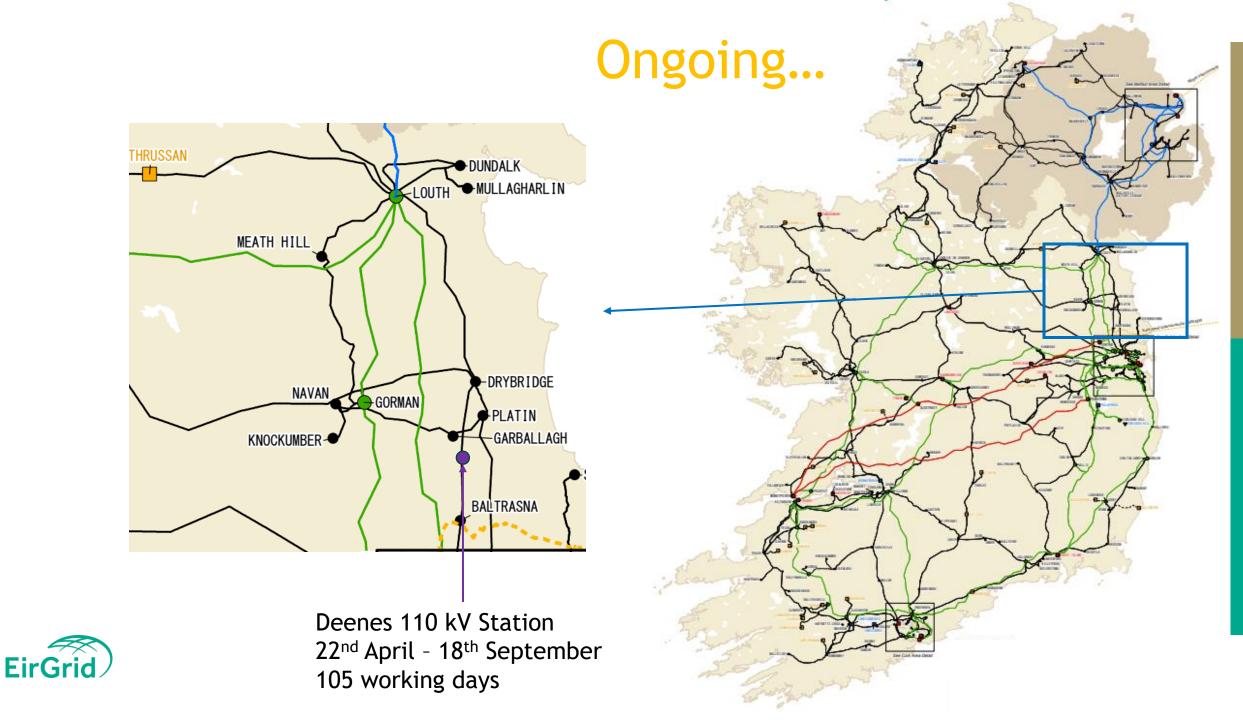
CP1272 Derryiron Busbar

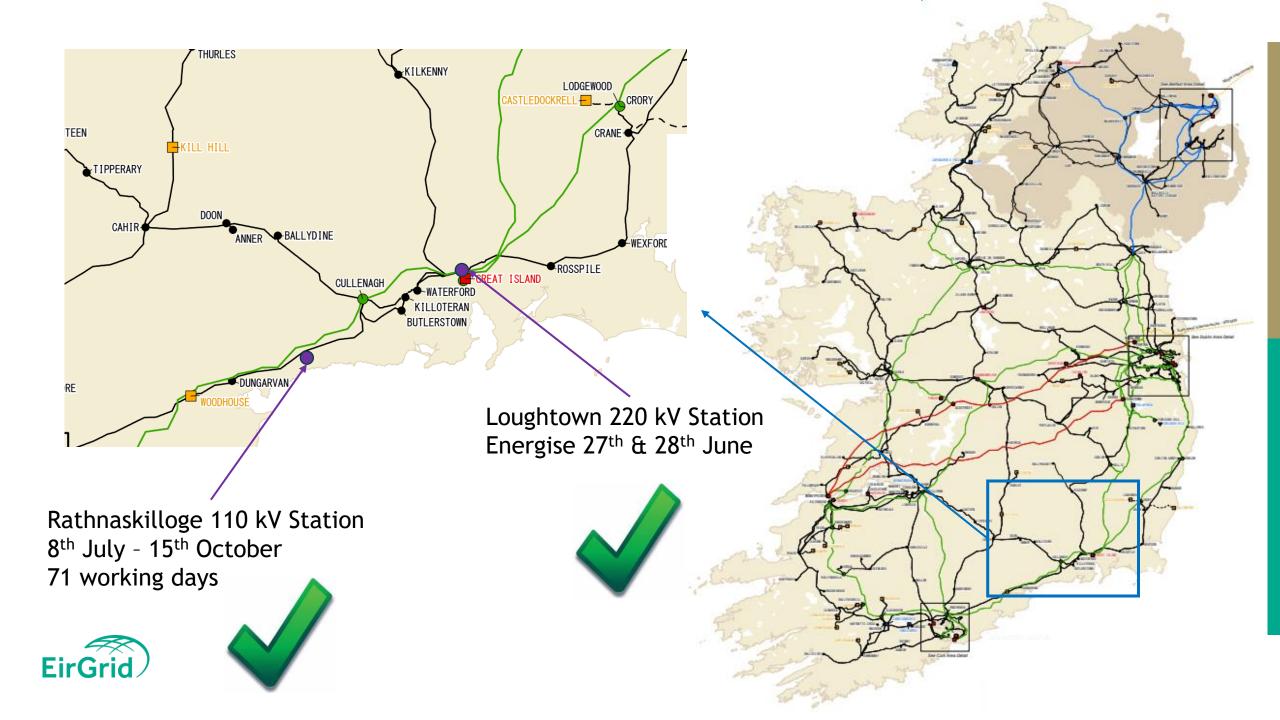


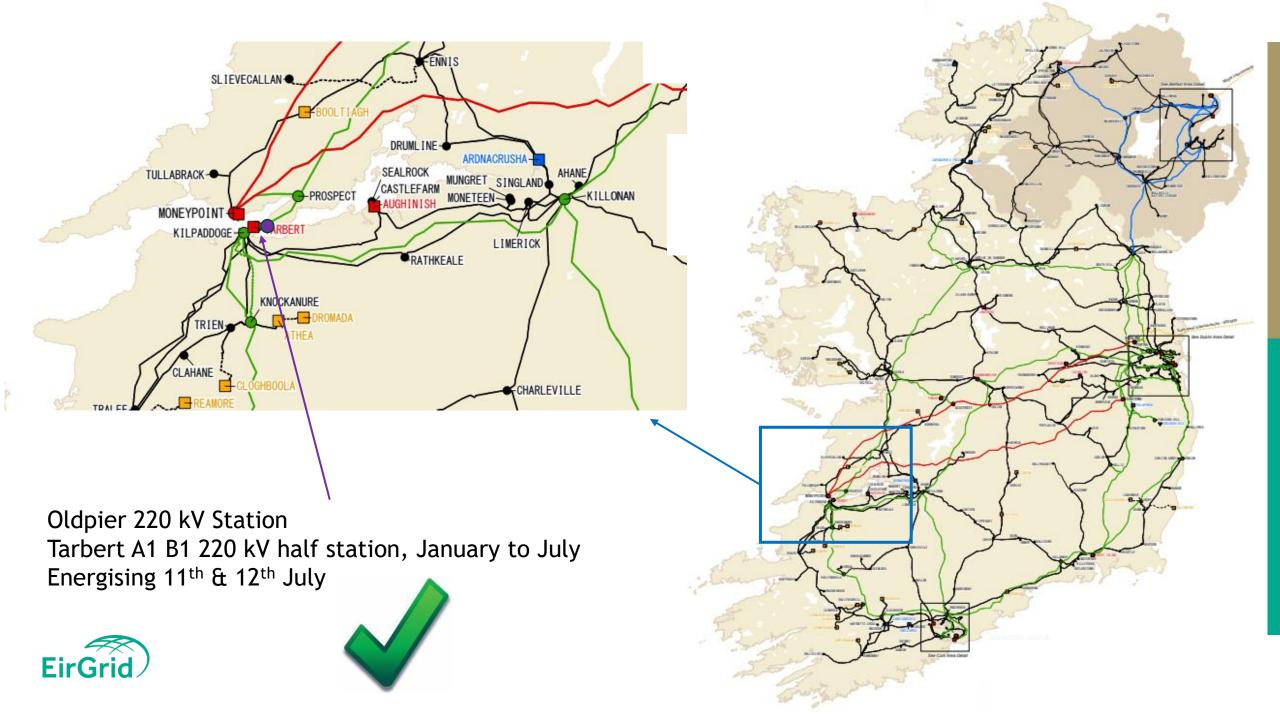




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Network Upgrades

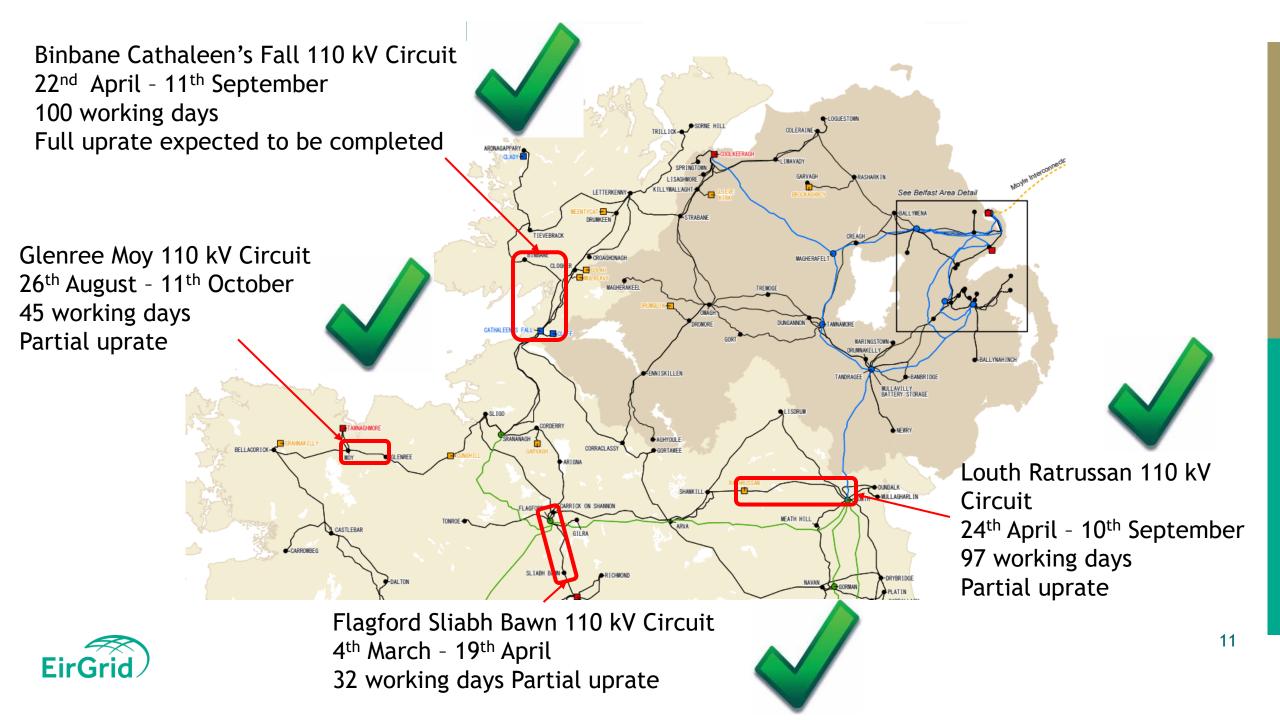
Line Uprates

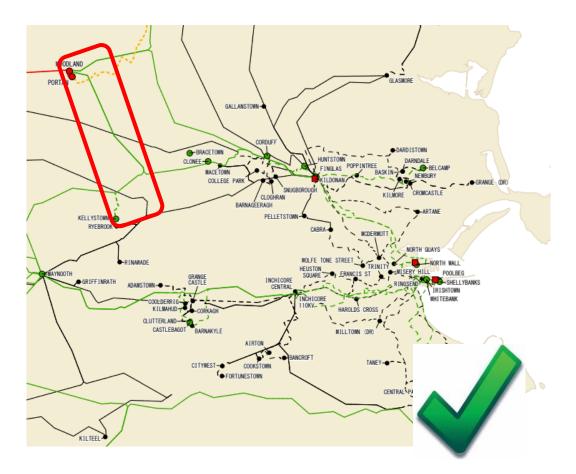
- CP0817 Flagford Sliabh Bawn 110 kV Circuit (partial) Complete (not full uprate)
- CP1079 Binbane Cathaleen's Fall Circuit Complete
- CP0905 Louth Ratrussan 110 kV Circuit (partial) Complete (not full uprate)
- CP1155 Glenree Moy 110 kV Circuit (partial) Complete (not full uprate)
- CP0869 Kellystown Woodland 220 kV Circuit Complete
- CP1172 Crane Wexford 110 kV Circuit (partial) Complete (not full uprate)











Kellystown Woodland 220 kV Circuit Uprate Clonee Woodland 220 kV Circuit proximity 17th May - 9th September : 80 working days Full uprate works expected to be completed



DUNSTOWN OLLAPHICS -TURLOUGH HILL TURLOUGH HILL PORTLAC -BALLYBEG TRATFORD CARLO SHELTON ABBEY ARKLOW BALL YRAGGE -KELLI BANOGE LIKENNY LODGEWOOD H LEYMATER BALLYDINE AT ISLAND CULLENAGH

Crane Wexford 110 kV Circuit Uprate 16th September 25th November : 50 working days Partial uprate

Network Upgrades

Line Refurbishments

• Knockraha Raffeen 220 kV Circuit - Complete



- Kilbarry Marina 1 ONE and Kilbarry Marina 2 TWO 110 kV Circuits- Complete (not full refurb)
- Dunstown Moneypoint 400 kV Circuit Not complete



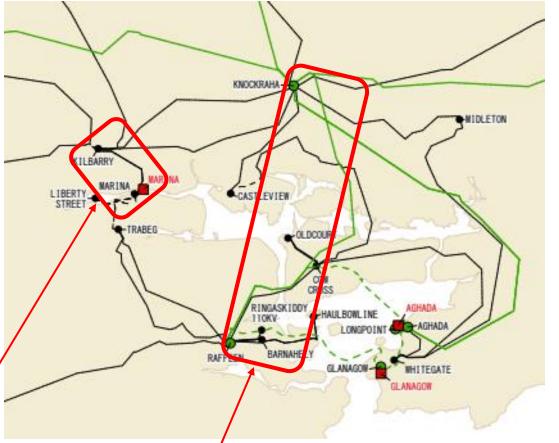




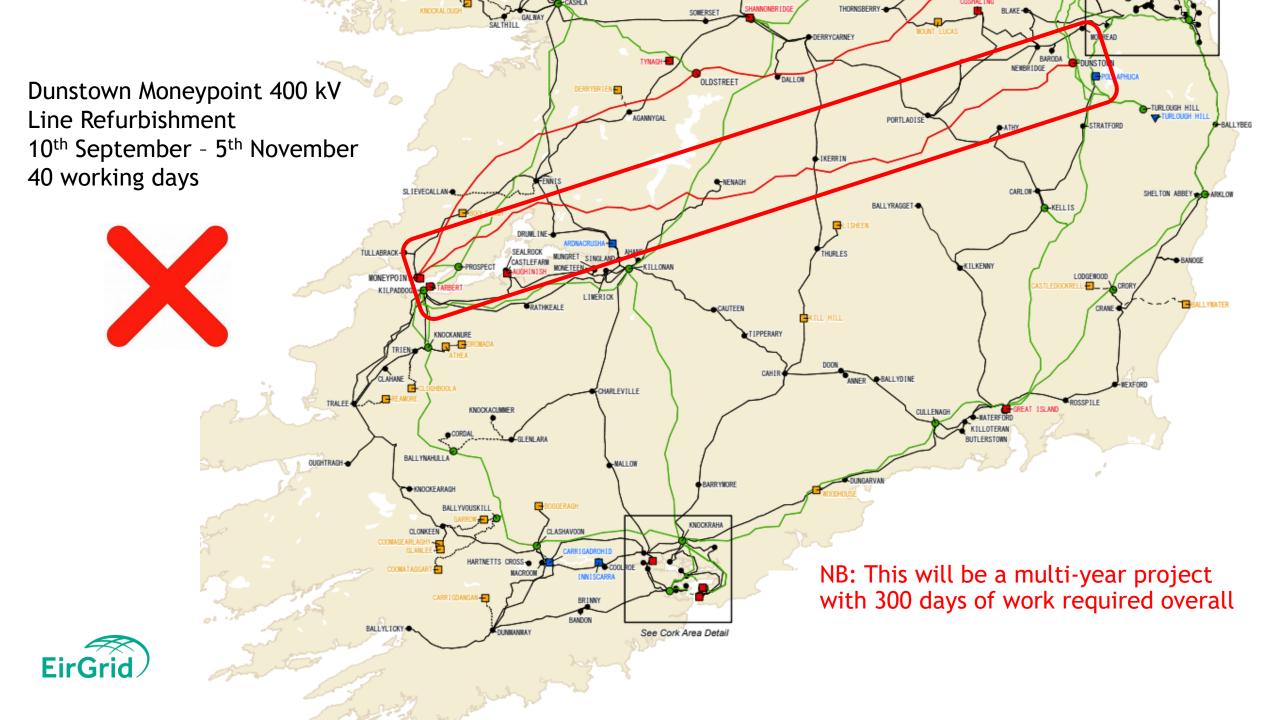
Kilbarry Marina 1 & 2 110 kV Double Circuit 27th May 10th September : 75 working days Partial refurbishment







Knockraha Raffeen 220 kV Circuit Refurbishment Expected to be completed this year 15th April - 1st May : 13 working days (within a longer outage for network reconfiguration) Cullenagh Knockraha 220 kV Circuit proximity 18th September - 26th September : 7 working days Aghada Knockraha 220 kV Circuit proximity

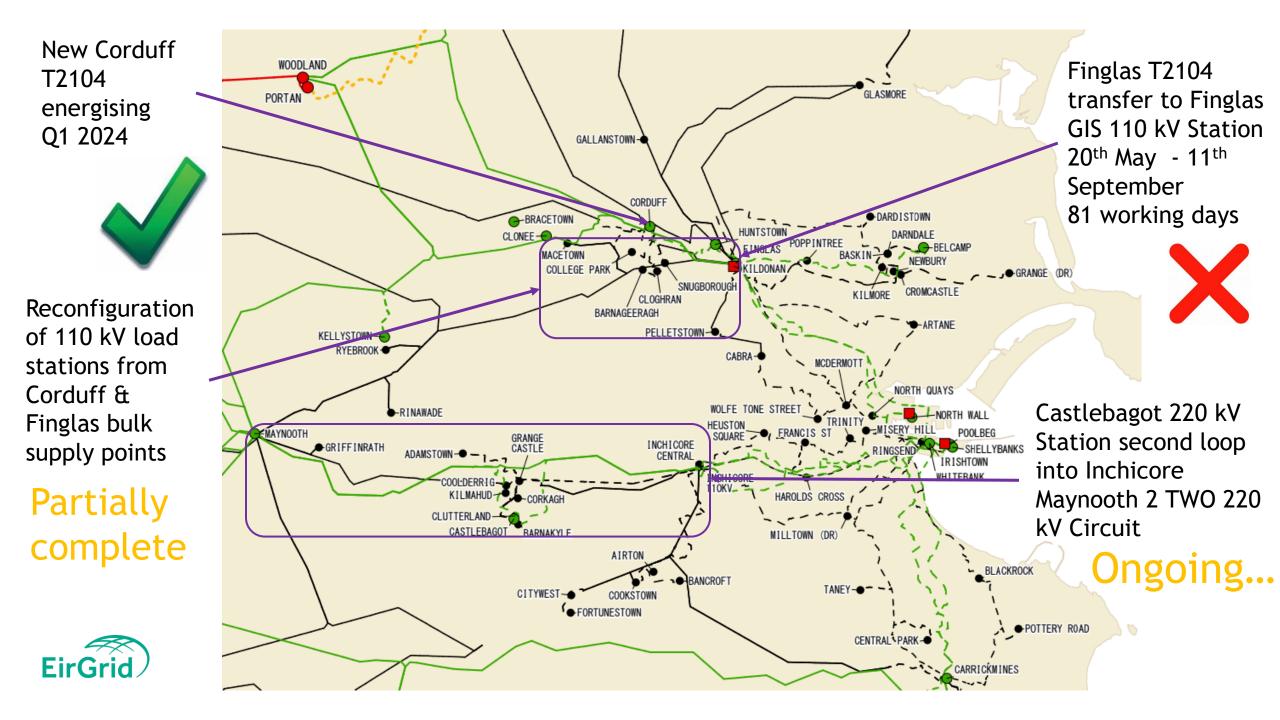


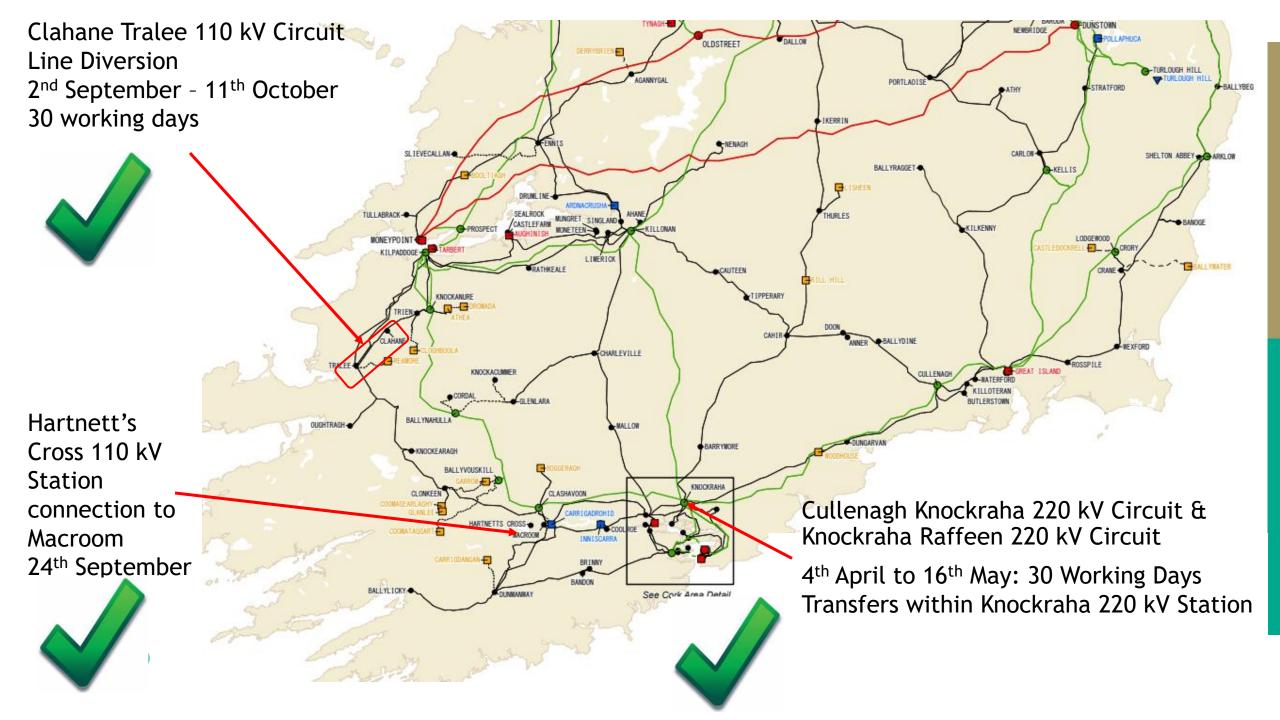
Network Upgrades

Network Reconfigurations

- CP1113 Corduff 220 kV Station new Corduff T2104 tie transformer Complete
- CP0872 Castlebagot 220 kV Station second loop in Ongoing
- CP0646 Finglas 110 kV GIS Finglas T2103 110 kV transfer Not complete
- CP1093 Barnageeragh 110 kV network reconfiguration Partially complete
- CP0796 Knockraha 220 kV Station Reconfiguration A4 B4 Busbars circuit transfers Complete
- Hartnett's Cross 110 kV Station New distribution 110 kV load station Complete
- CP1437 Clahane Tralee 110 kV Line Diversion Complete







Network Upgrades

Station Refurbishment

- Arteche CT Replacements Ratrussan, Agannygal, Clonkeen, & Coomagearlahy Complete
- CP0799 Louth 220 kV new SB1-2 disconnect Complete
- CP0799 In Louth Station new Ratrussan and Mullagharlin 110 kV Cubicle refurbishments Complete
- CP1031 & CP1032 Sprecher & Schuh CB Replacements Cashla & Flagford Complete



Arteche CT Replacements





Ratrussan Week 17 - Week 21

- 24th April 22nd May
- CT replacements on all 110 kV Bays

Agannygal Week 10 - Week 13

- 4th March 25th March
- CT replacements on all 110 kV Bays

Clonkeen, Coomagearlahy Week 24 - Week 33

- 22nd April 10th May
- CT replacement on impacted bays



Flagford

Carrick on Shannon Flagford 1 ONE 110 kV Circuit 22nd April - 18th June : 40 working days Relay replacement in Carrick on Shannon



Carrick on Shannon Flagford 2 TWO 110 kV Circuit 30th September - 25th November : 40 working days Relay replacement in Carrick on Shannon

Cashla

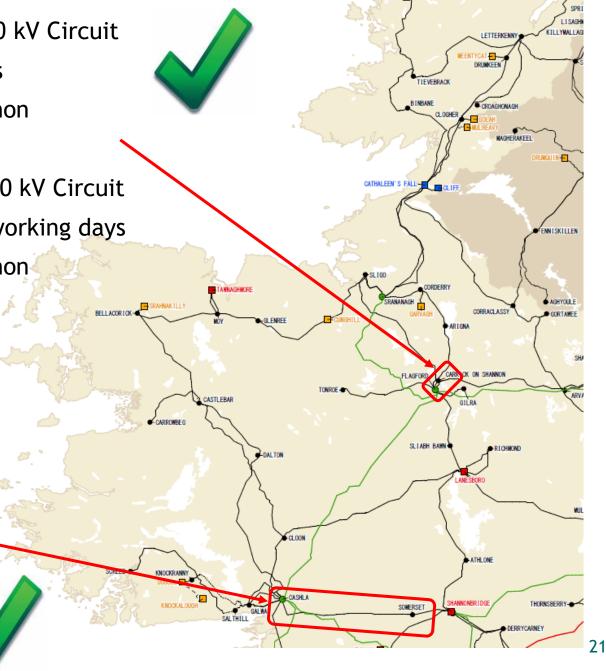
Cashla T2102, both 220 kV & 110 kV CB

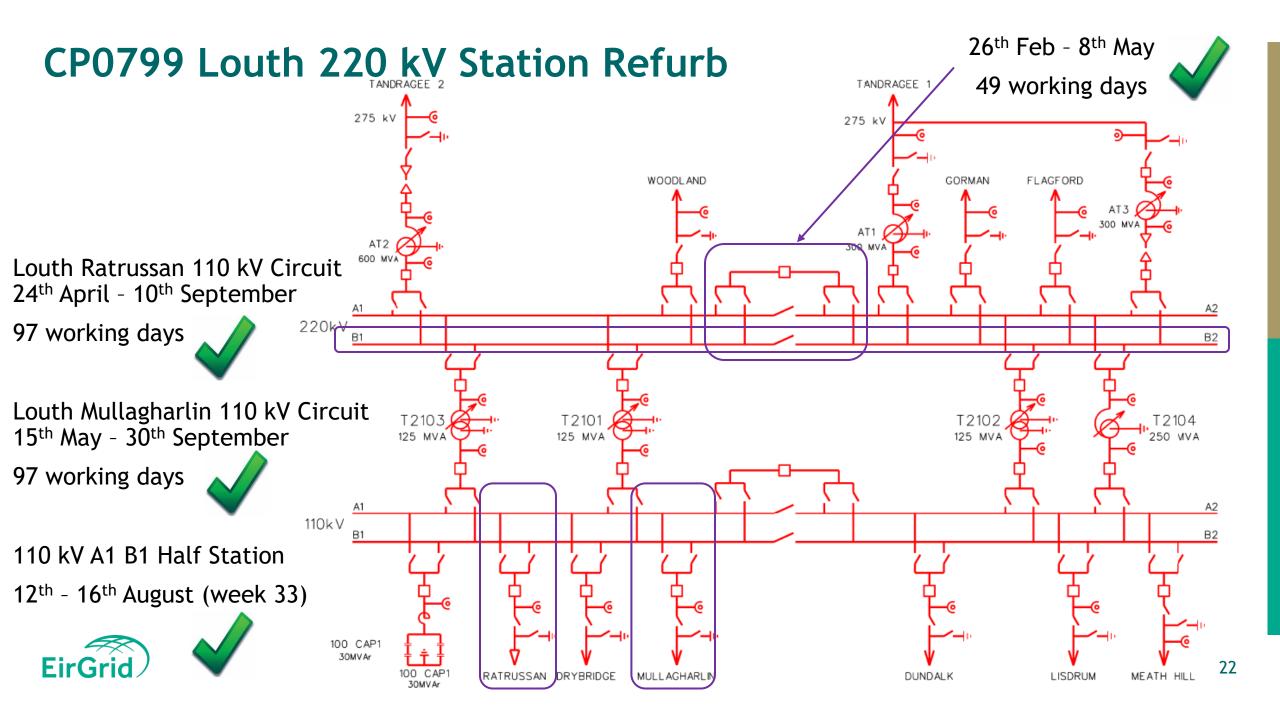
2nd May - 19th July : 55 working days

Relay replacements also to be completed during this outage

Cashla Shannonbridge Somerset Tee 110 kV Circuit 9th September - 13th November : 40 working days plus days for breaking and remaking tee and EI







- CP1153 Cashla Tynagh 220 kV Circuit, 21st June 23rd August : 45 working days Not complete
- CP1161 Cathaleen's Fall Srananagh 1 ONE 110 kV Circuit, 5th June 30th July : 40 working days Complete
- CP1114 Platin T101/2/3/4 1st February 16th April : 50 working days- Complete
- CP1114 Gallanstown Platin 110 kV Circuit, 7th October 11th October : 5 working days Not complete
- CP1114 Garballagh Platin 110 kV Circuit , 14th October 18th October : 5 working days Not complete
- CP1114 Oldbridge Platin 110 kV Circuit, 21st October 25th October : 5 working days Not complete
- CP1159 Cullenagh 220 kV K1-2 and Cullenagh 110 kV K1-2 Couplers, 25th September 20th November : 40 working days Complete
- CP1116 Cahir Tipperary 110 kV Circuit, 25th September 20th November : 40 working days Complete



- CP1141 Kellis 220 kV Coupler Protection upgrade, 13th May 8th July : 40 working days Complete
- Half Station on both sides to get PI from K1-2 coupler DA1 & DA2
 - 27th May 31st May 220 kV A1 Complete
 - 4th June 10th June 220 kV A2- Complete
- CP1160 Coolroe 110 kV A1 Busbar, 8th April 12th April : 5 working days Complete
- CP1160 Coolroe 110 kV A2 Busbar, 15th April 19th April : 5 working days Complete
- CP1160 Inniscarra 110 kV A1 Busbar, 13th May 17th May : 5 working days Complete
- CP1160 Coolroe T121, 20th May 22nd July :45 working days Complete
- CP1160 Coolroe T122, 23rd July 24th September :45 working days Complete
- CP1164 Clashavoon 220 kV K1-2 Coupler, 17th July 28th August : 30 working days Complete
- CP1164 Clashavoon Macroom 2 110 kV Circuit, 16th Sept 18th Nov : 45 working days Ongoing



- CP1152 Arva Shankill 1 ONE 110 kV Circuit, 9th Feb 23rd April : 50 working days Complete
- CP1109 Navan T141 2nd April 18th May : 40 working days T142 complete instead
- CP1109 Gorman Navan 2 TWO 110 kV Circuit, 4th June 29th July : 40 working days Complete
- CP1109 Gorman Navan 1 ONE110 kV Circuit, 6th August 30th September : 40 working days Complete
- CP1186 Drumline Ennis 110 kV Circuit, 10th June 12th August : 45 Working days Complete
- CP1186 Drumline T141, 12th August 11th November : 60 Working days Complete
- CP1227 Cashla T2104, 26th February 1st May : 45 Working Days Complete
- CP1227 Cashla T2101, 22nd July 23rd September : 45 Working Days Complete



Substantial works completed additional to baseline

The below works were not included in the TOP24 baseline, however due to various reasons outage slots became available to get the works done:

CP No.	Title / Description	Duration (WD's)
CP0837	Bellacorrick T141 Uprate	5
CP0850	Cable sheath fault repair works on Bellacorrick-Sranhakilly	15
CP1231	Temporary connection of Knockdrin 110kV Station	15
CP1248	Connection of Harlockstown Solar	3
CP1285	Barnahely/Ringaskiddy circuit diversions in Knocraha	155
CP1321	Installation of DLR's on Cashla-Dalton	10
CP0871	Additional transformers transferred to new Galway GIS	60



December 2024

TOP25 Overview





Agenda





New Connections

Line Uprates

Line Refurbishments

Network Reconfigurations

New Connections

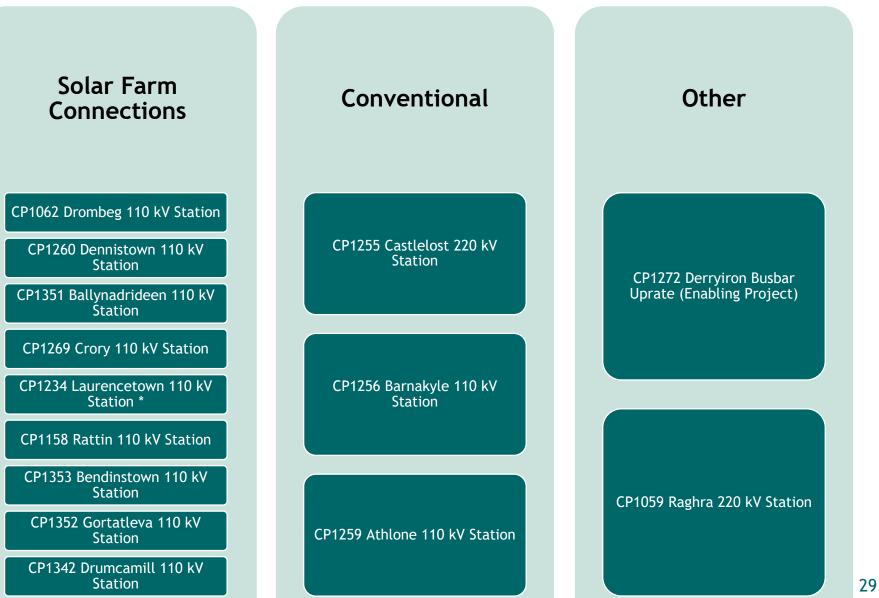
CP1217 Philipstown 110 kV

Station

Wind Farm

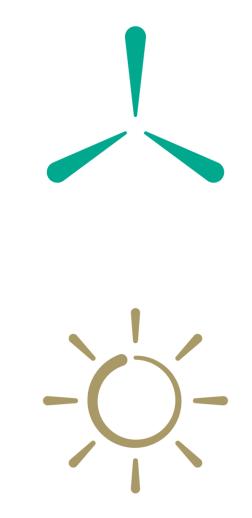
Connections

CP1231 Knockdrin 110 kV Station *

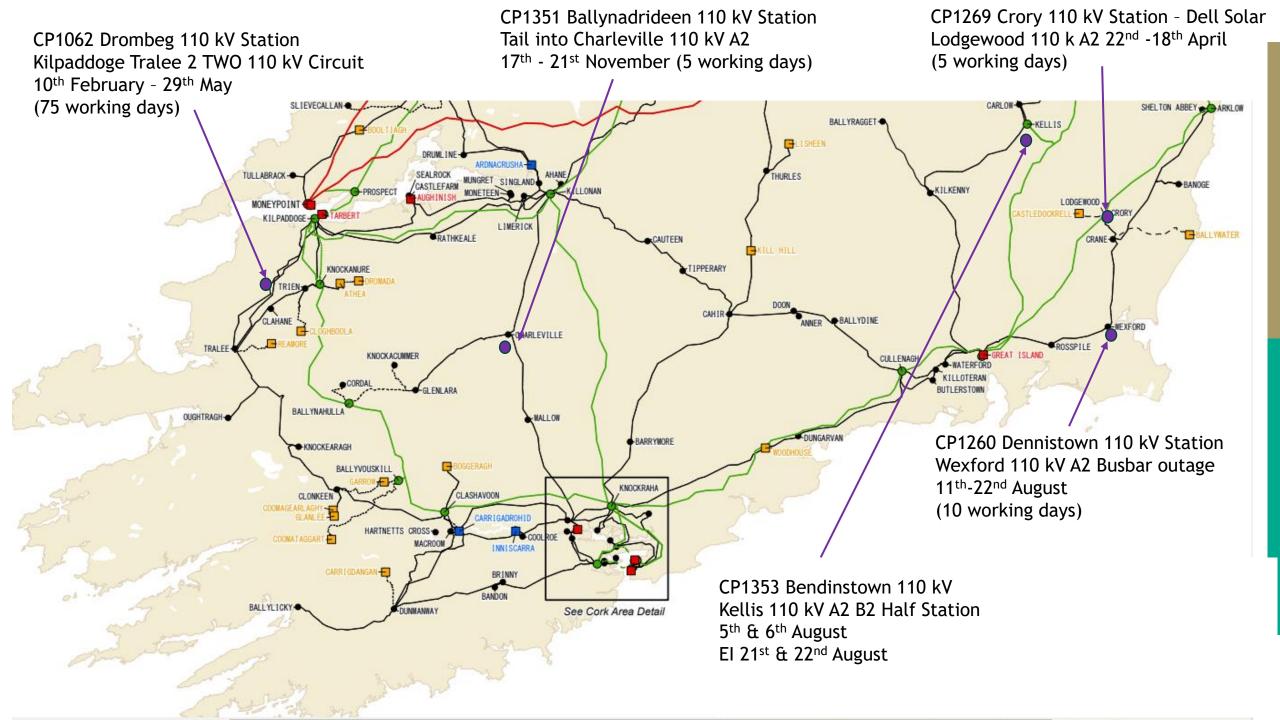


New Connections - Renewable South

- CP1062 Drombeg 110 kV Station : Drombeg Solar Farm 50 MW
- CP1260 Dennistown 110 kV Station : Tracystown Solar Farm 101 MW
- CP1269 Crory 110 kV Station : The Dell Solar Farm 20 MW (DSO Connection)
- CP1351 Ballynadrideen 110 kV Station : Ballyroe Solar Farm 120 MW
- CP1353 Bendinstown 110 kV Station : Garreenleen Solar Farm 81 MW



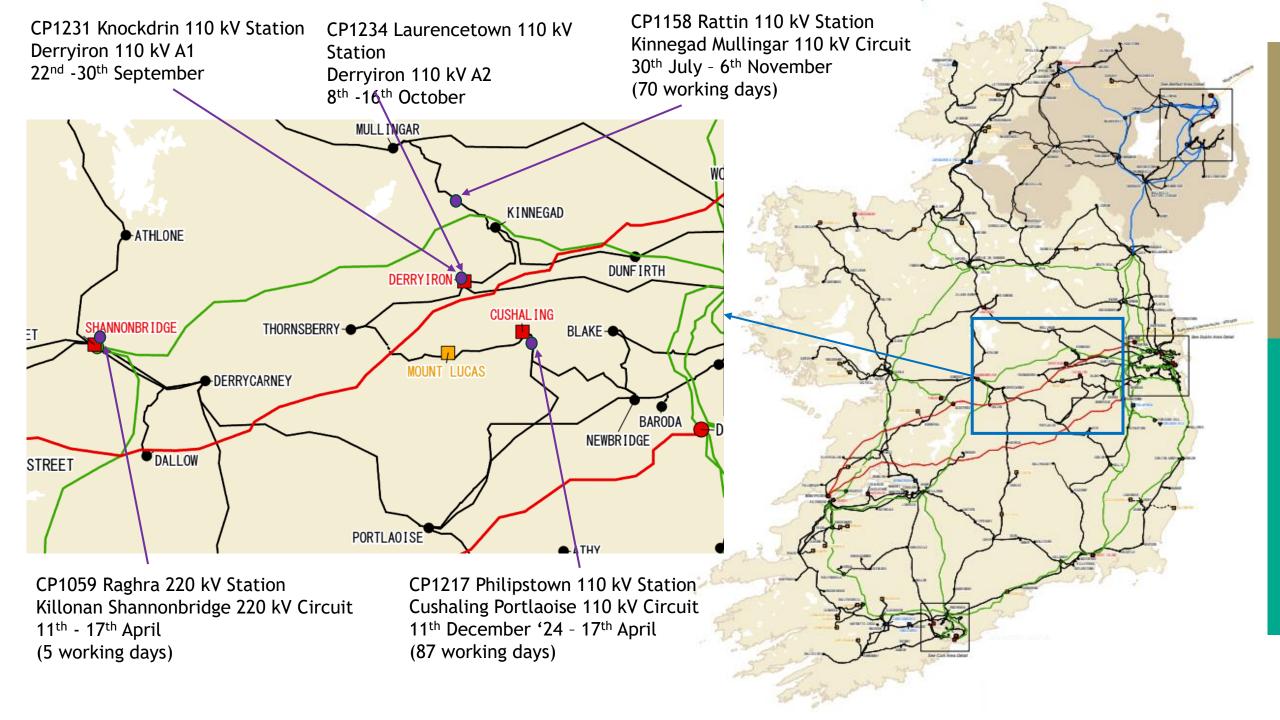




New Connections - Renewable Central

- CP1272 Derryiron Busbar Uprate (Enabling Project)
- CP1217 Philipstown 110 kV Station: Cushaling Wind Farm 50 MW 😑
- CP1231 Knockdrin 110 kV Station : Yellow River Wind Farm 101 MW (Permanent Connection)
- CP1234 Laurencetown 110 kV Station : Clonin North Solar Farm 50 MW
- CP1158 Rattin 110 kV Station : Clonfad Solar Farm 100 MW 😑
- CP1059 Raghra 220 kV Station : Shannonbridge B BESS 63 MW Battery





New Connections - Renewable North & West

- CP1352 Gortatleva 110 kV Station : Ballymoneen Solar Farm 80 MW
- CP1342 Drumcamill 110 kV Station : Monvallet Solar Farm 50 MW



CP1352 Gortatleva 110 kV Station Multiple Cashla 110 kV A1 & B1 outages 16th June to 8th October



CP1342 Drumcamill 110 kV Station Multiple Louth 110 kV A2 & B2 outages 16th June to 8th October



CP1272 Derryiron Busbar Uprate

- Temporary bypass arrangements have been installed in Derryiron 110 kV Station since early 2024
- This allows works to replace the old busbar with a new higher rated busbar with significantly reduced system impact
- Significant benefit allowing peaking generation at Rhode Station
- This is an enabling project for both :
 - CP1231 Knockdrin 110 kV Station



CP1234 Laurencetown 110 kV Station



New Connections - Conventional

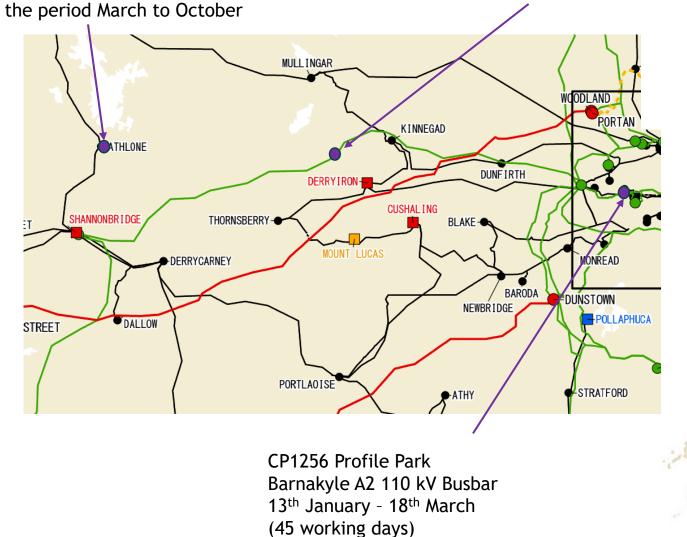
- CP1255 Castlelost 220 kV Station : Castlelost OCGT 275 MW 😑
- CP1256 Barnakyle 110 kV Station : Profile Park OCGT 100 MW
- CP1259 Athlone 110 kV Station : Cuilleen OCGT 100 MW







CP1259 Athlone 110 kV Station : Multiple outages 10-15-day outages in Athlone Station during CP1255 Castlelost 220 kV Station Maynooth Shannonbridge 220 kV Circuit 22nd April - 5th September (96 working days)



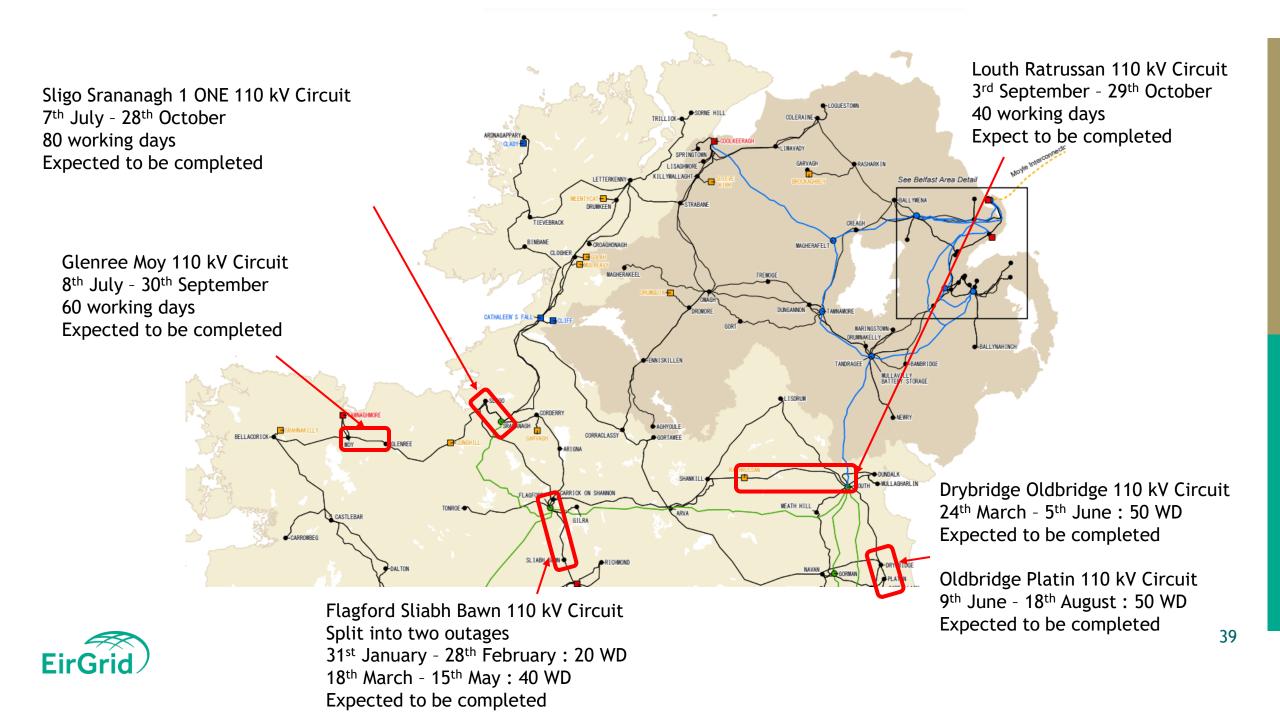
Line Uprates

- CP0817 Flagford Sliabh Bawn 110 kV Circuit 🥚
- CP0905 Louth Ratrussan 110 kV Circuit 🦳
- CP1155 Glenree Moy 110 kV Circuit
- CP1172 Crane Wexford 110 kV Circuit
- CP1167 Drybridge Oldbridge 110 kV Circuit & Oldbridge Platin 110 kV Circuit

- CP1235 Louth Woodland 220 kV Circuit (Partial) 🔴
- MC0383 Corduff Finglas 1 & 2 220 kV Bay Conductor Uprate
- CP1156 Sligo Srananagh 1 ONE Bay Conductor Uprate 🔴







Progress in 2024

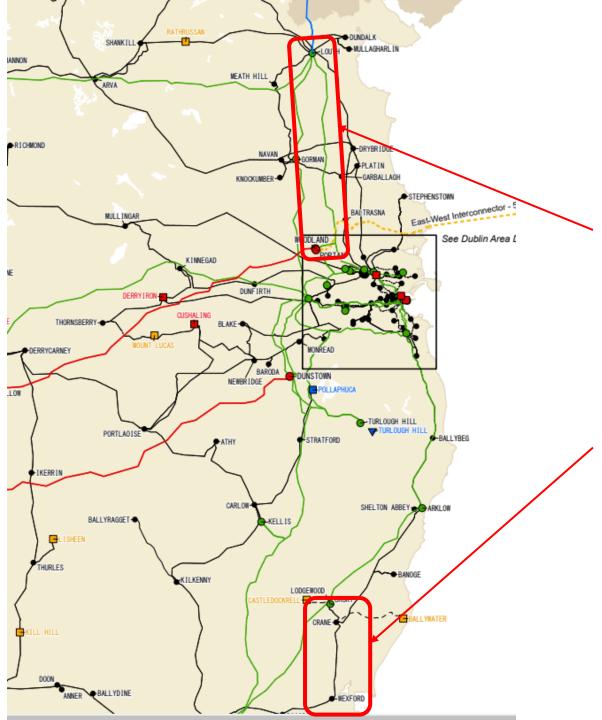
CP0817 Flagford Sliabh Bawn



CP1155 Glenree Moy







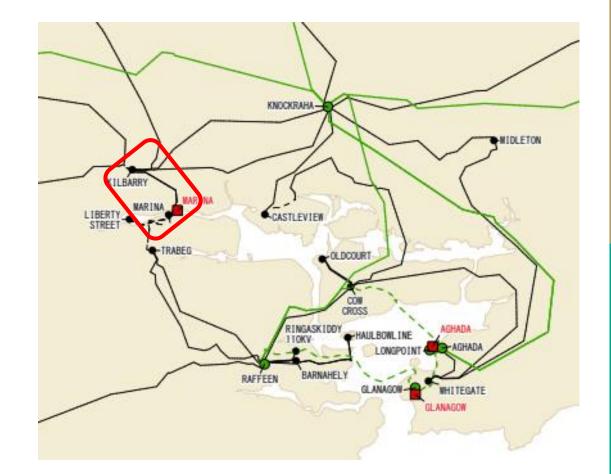
Louth Woodland 220 kV Circuit Uprate 8th September - 10th October: 25 working days Partial Outage, opportunistic to align with CP0799 works

Crane Wexford 110 kV Circuit Uprate 29th April - 18th September : 100 working days Expected to be completed

Line Refurbishments

CP0857 Kilbarry Marina 1 & 2 Double Circuit

- Tower painting and replacement of tower members
- 3rd March 22nd September (140 working days)
- 20th October 8th December (35 working days)





- CP0624 Killonan GIS 💛
- CP0984 Belcamp Shellybanks Phase 2
- CP0646 Finglas 110 kV GIS Transfers T2104
- CP0585 Laois Kilkenny (Coolnabacky) 😑
- CP0644 Bracklone 110 kV Station
- CP0799 Louth 220 kV Station Refurbishment
- MC0398 Aghada Knockraha Additional Tower
- CP0973 Knockraha Short Circuit Rating Mitigation

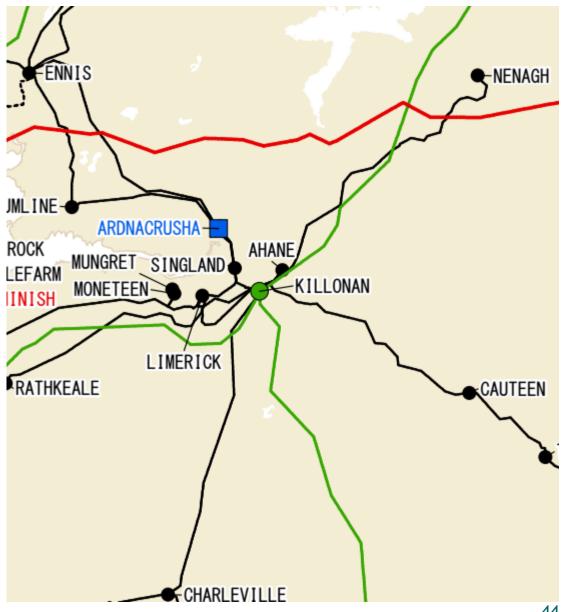




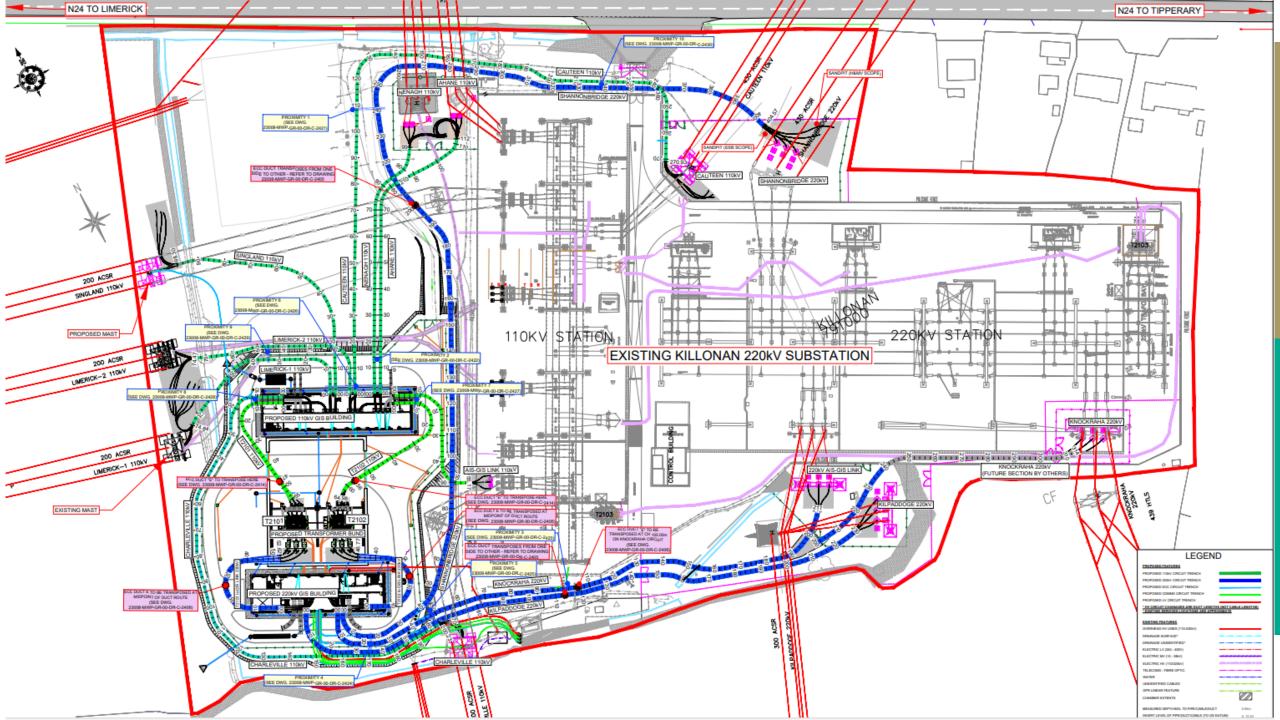


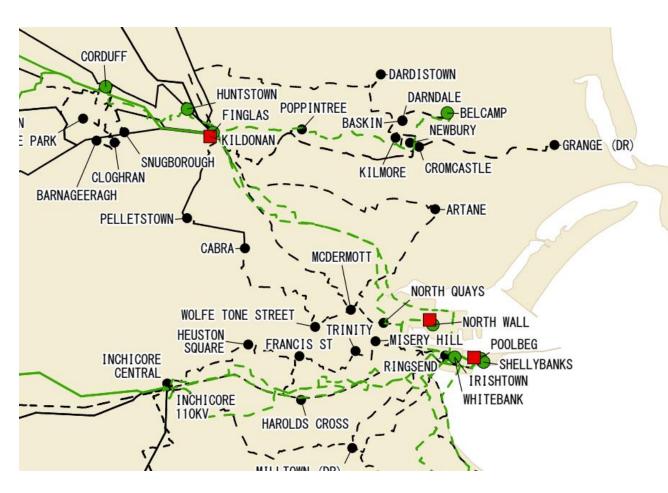
CP0624 Killonan GIS

Circuit	Date	Duration
Kilpaddoge Killonan	13 th January - 10 th	60 working
220 kV	April	days
Charleville Killonan	13 th January - 10 th	60 working
110 kV	April	days
Cauteen Killonan 110	14 th April - 26 th	50 working
kV	June	days
Killonan Singland 110	30 th June - 9 th	50 working
kV	September	days
Killonan	29 th September -	50 working
Shannonbridge 220 kV	8 th December	days









CP0984 Belcamp Shellybanks Phase 2

- Looping Belcamp 220 kV Station into Finglas Shellybanks 220 kV Circuit
- Maintenance: Week 6-9 (4th February 24th February)
- **PD Testing :** Week 14 -17 (3rd April 24th April, please note Easter weekend is 18th-21st April)
- Loop in works: commencing 19th May 50 day outage of Finglas Shellybanks 220 kV Circuit at conclusion Belcamp will be tailed from Shellybanks
- Finglas Belcamp 220 kV Circuit outage for 30 days outage Belcamp tailed to Shellybanks for this period (30th July - 10th September)
- Returns as Finglas Belcamp Shellybanks 10th September

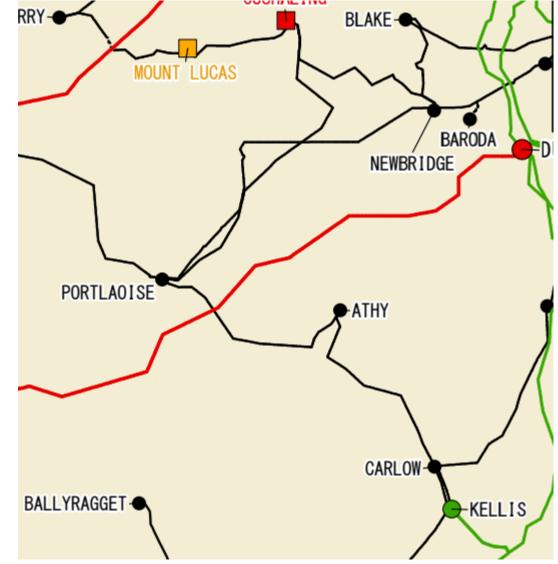


CP0585 Laois Kilkenny (Coolnabacky)

- Earth wire retrofit and partial reconductoring
- Enabling works for loop in of Coolnabacky 110 kV Station in 2026
- 23rd June 1st September (50 working days)

CP0644 Bracklone 110 kV Station

- Enabling works for Bracklone 110 kV Station (DSO Demand Station) in 2026
- Fibre wrap
- 3rd September 19th November (55 working days)





Aghada Knockraha 220 kV Double Circuit Outage 24th September - 14th October (15 working days) Entirely overlaps with Generator outage 3 projects to be completed under this outage

CP0973 Knockraha Short Circuit Mitigation

- Busbars in turn and Knockraha T2102 overlapping
- Install Busbar Spaces to increase Short Circuit Rating prerequisite of Celtic Interconnector

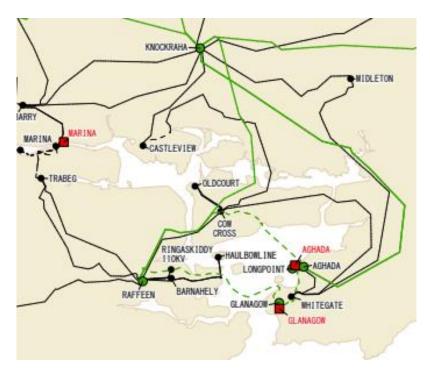
MC0390 Knockraha Lead in Droppers Aghada Station

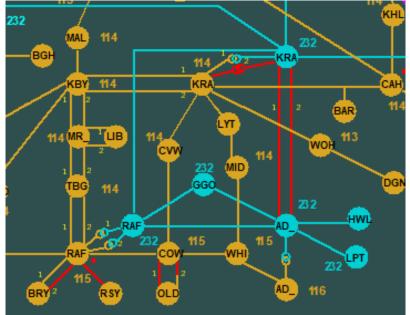
• Uprate lead in dropper in Aghada Station, increased rating and 10% overload capability once completed

MC0398 Minor Capital Project Additional Tower

• Additional tower required

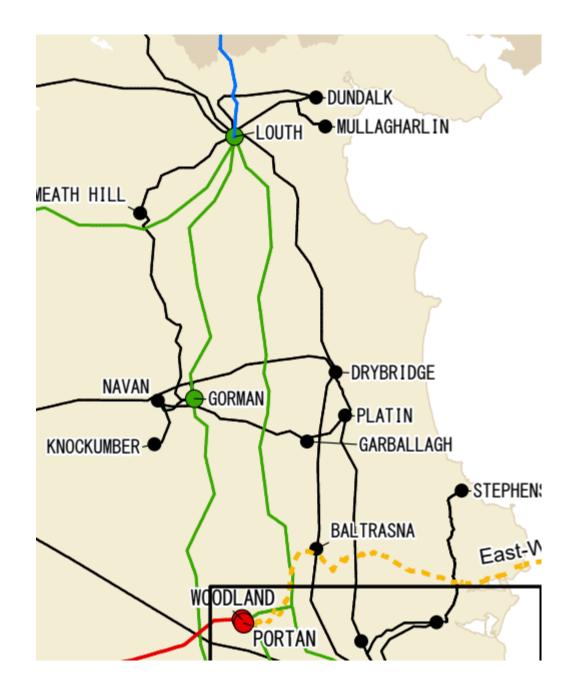






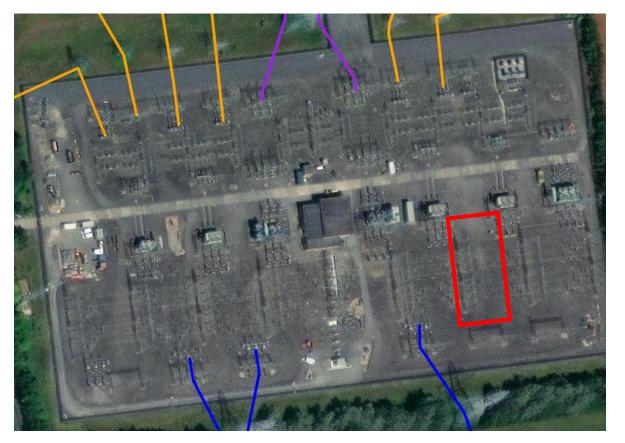
CP0799 Louth 220 kV Station Refurb

- Louth AT3
- 30th June 17th October (79 working days)
- New bay at 220 kV, new offline build
- At 275 kV new DL/DE new Circuit Breaker *
- Louth Woodland 220 kV Circuit
- 8th September 10th October (25 working day outage)
- New offline bays being built at both ends
- 10 day proximity of Corduff Woodland 220 kV Circuit (15th September - 26th September)
- Within this 5 day Woodland 220 kV A2 B2 Half Station (22nd September - 26th September





Louth 275 kV Station



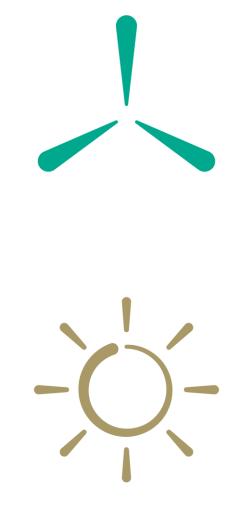
Woodland 400 kV Station





- CP1114 : Platin T105 5th February -20th March : 30 WD
- CP1152 : Ratrussan Shankill 110 kV Circuit 5th February 2nd April : 40 WD
- CP1163 : Butlerstown Killoteran 19th May 14th July : 40 WD
- CP1163 : Killoteran Waterford 110 kV Circuit 18th March 15th May : 40 WD
- MC0356 : Killoteran Waterford 110 kV Circuit 18th March 15th May : 40 WD
- CP1109 : Navan T142 2nd April 30th May : 40 WD
- CP1109 : Gorman Meath Hill 110 kV Circuit 12th May 31st May : 15 WD
- CP1109 : Gorman Meath Hill 110 kV Circuit : 9th June 27th June : 15 WD
- CP1109 : Louth Meath Hill 110 kV Circuit : 30th June 18th July : 15 WD
- CP1109 : Gorman T2101 : 21st July 15th September 40 WD





- CP1164 : Clashavoon 110 kV K1-2 Coupler 18th March 30th April : 30 WD
- CP1164 : Carrigadrohid 110 kV Full Station 1st May 15th May : 10WD
- CP1164 : Carrigadrohid Macroom 110 kV Circuit 1st May 4th July: 45 WD
- CP1164 : Dunmanway Macroom 11th August 5th September : 20 WD
- CP1228 : Shannonbridge T2102 : 7th July 22nd September : 55 WD
- CP 1115 : Drybridge Gorman 110 kV Circuit 13th October 8th December: 40 WD
- CP1137 : Carlow Kellis 1 ONE 110 kV Circuit 22nd April 18th June : 40 WD
- CP1111 : Cahir 110 kV K1-2 Coupler 28th April 10th June : 30 WD
- CP1111 : Cahir Doon 110 kV Circuit 15th September 10th November : 40 WD





- CP1140 : Athy Portlaoise 110 kV 25th June 4th July : 8 WD
- CP1140 : Athy 110 kV A2 Busbar 7th July 18th July : 10 WD
- CP1139 : Sligo Srananagh 1 ONE 110 kV Circuit 7th July 1st September : 40 WD



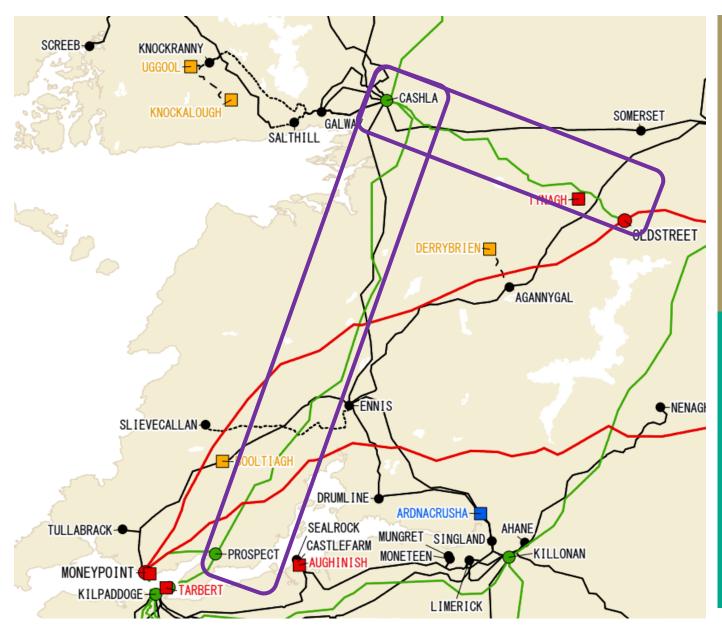


CP1153 Oldstreet Cashla Tynagh Protection Upgrade

- Full station outage of Tynagh 220 kV Station
- 24th June 30th July (27 working days)
- T2001/2 protection relay replacement and install coupler
- Aligns with generator outage
- Cashla Tynagh 220 kV Circuit
- 19th June -21st August : 45 WD

CP1227 Cashla and Connected Station Protection Upgrade

- Cashla Prospect 220 kV Circuit
- 21st September 17th November : 40 WD
- Cashla Ennis 110 kV Circuit
- 19th March 16th May : 40 WD EirGrid



Projects with Limited System Impact

CP1113 - Corduff Deep Reinforcement

Additional Sectionalising Cubicles in Corduff at both 110 kV & 220 kV Multiple short outages, majority of which are busbar sections Outages between 7th January & 26th February

CP1201 - Bogtown 110 kV Station

Bogtown Mount Lucas 110 kV Circuit Install new combined CT/VT in Bogtown 110 kV Station 25th February - 1st April : 25 working days

CP1287 - Ringsend

Inchicore Poolbeg 1 ONE 220 kV

Cable diversion to facilitate a new Ringsend GIS

27th January - 10th March : working 30 days



Projects with Limited System Impact

CP1215 - Celtic

Knockraha 220 kV A4 B4 Busbars IN TURN 4th February 1st May : 60 working days

CP1412 - Knockraha T2102

Knockraha 110 kV A2 B2 Busbars IN TURN 5th September - 28th November : 60 working days Knockraha Woodhouse 110 kV 12th November - 25th November : 10 working days



Questions (1 of 2)

Q: Is it possible to share an updated geographical transmission map with the new stations and circuits that are expected to connect in TOP25?

A: The map is being updated and will be uploaded to the EirGrid website in January. An email will be circulated when available

Q: Is it possible to identify the targeted MVA uprate value in the Network Delivery Portfolio documentation?

A: The NDP is a programme update as opposed to a document which outlines the technical parameters of various projects. There are currently no modifications planned to the quarterly NDP publications



Questions (2 of 2)

Q: It would be great if the annual TOP spreadsheet could be regularly updated to reflect actual (instead of original estimates) outage durations, and to also include outages completed during the year

A: When publishing the annual TOP on a monthly basis we will include the full year instead of just the future period

Q: Is there any update on the CP1233 Donegal - Srananagh Corridor project?

A: CP1233 is currently in Step 3 of our six-step process for developing the grid. At the end of Step 3 we will have selected the best performing option. We plan to complete Step 3 in by the end of Q2 2025, including the Step 3 public and stakeholder engagement and get Gateway 3 approval, also known as EirGrid capital approval. Our six-step process is described <u>here</u>.

