

Weekly Operational Constraints Update

Applicable from 03 February 2020 to 09 February
2020 (Week 6)

31 January 2020

Disclaimer

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Explanatory Notes

- The purpose of this Weekly Operational Constraints Update is to provide information on any forecasted significant network congestion or other issues that could potentially restrict dispatchable generation in a particular area or to flag if dispatchable generation is required in a particular area. These constraints are in addition to those presented in the monthly Operational Constraints Update document which should be read in conjunction with this document.
- In the analysis, a suite of N-1 contingencies are applied to the base case powerflow, and the resulting flows and voltages are compared against the Operational Security Standards. The N-1 contingencies include the tripping of each item of transmission plant and each generator transformer. Groups of generators / demand / wind etc. can be scaled up or down to determine a secure region of operation (known as transfer analysis or transaction analysis).
- The cases incorporate the latest generation and transmission outage information at the time of the study. This information is published on the EirGrid and SONI websites.
- Typically, from a dispatchable generation perspective the worst thermal constraints occur at peak system demand, and therefore only peak system demand scenarios are studied using transfer analysis. If required, other studies are performed, such as system demand valley where high voltages may be an issue.
- The wind levels in the various scenarios assume a flat profile across Ireland or Northern Ireland. We do not test Ireland wind levels above 2000 MW as, typically above these levels, constraints on dispatchable generation are not as binding due to the availability of the wind generation.
- The binding constraints on the flow on the North-South Tie Line from a thermal and voltage perspective tend to be due to thermal constraints on the Ireland side, save for specific Northern Ireland outages. This is why the Inter-Area Flow (North-South Tie Line Flow) Constraints Forecast below is only studied against Ireland wind generation.
- There may be other reasons, apart from voltage and thermal limits that lead to constraints, such as frequency, transient stability and adverse weather conditions. These are usually observed and dealt with close to real-time.
- Moyle Interconnector is limited to 80 MW export due to constraints on the Scotland side. National Grid Electricity Transmission plc performs daily studies to ascertain if this can be increased. Please note that the figures below in relation to interconnectors pertain to the Ireland/Northern Ireland side only.
- Should any of the study assumptions materially change during the week, due to a forced outage for example, we will endeavour to perform new studies and publish results on the next working day.

Study Assumptions

Generator and Transmission Outages

Generator and transmission plant outages as per published here:

[All-Island Generator Outages](#) – Under REMIT Publications

[Ireland Transmission Outages](#)

[Northern Ireland Transmission Outages](#)

Demand

All studies are performed at Weekday Peak System Demand unless otherwise stated

| Jurisdiction | Weekday Peak System Demand (MW) | Weekend Peak System Demand (MW) |
|------------------|---------------------------------|---------------------------------|
| Ireland | 4900 | 4200 |
| Northern Ireland | 1600 | 1350 |

Initial Interconnector and Tie Line Flows

| | Flow (MW) |
|---------------------------|---|
| EWIC | At zero wind 250 MW Import (GB to IE) At 2000 MW wind 200 MW Export (IE to GB) |
| Moyle | N/A |
| North–South Tie Line Flow | 0 MW Northern Ireland to Ireland / Ireland to Northern Ireland |

Constraints

The forecast constraints below are at Weekday Peak System Demand.

South Generation Constraints Forecast (TCG Type: MW; Limit Type B) as per Operational Constraints Update

| Ireland Wind Generation (MW) | Minimum South Generation (MW) | Maximum South Generation (MW) |
|------------------------------|-------------------------------|-------------------------------|
| 0 | 300 | 1520 |
| 1000 | 0 | 1550 |
| 2000 | 0 | 1330 |

Cork Generation Constraints Forecast (TCG Type: MW; Limit Type B) as per Operational Constraints Update

| Ireland Wind Generation (MW) | Minimum Cork Generation (MW) | Maximum Cork Generation (MW) |
|------------------------------|------------------------------|------------------------------|
| 0 | 200 | 1100 |
| 1000 | 0 | 1100 |
| 2000 | 0 | 890 |

Inter-Area Flow (North-South Tie Line Flow) Constraints Forecast

| Ireland Wind Generation (MW) | Maximum Northern Ireland to Ireland flow (MW) | Maximum Ireland to Northern Ireland flow (MW) |
|------------------------------|---|---|
| 0 | 450 | 400 (Mon-Wed) 100 (Thu-Fri) |
| 1000 | 450 | 400 (Mon-Wed) 350 (Thu-Fri) |
| 2000 | 450 | 400 |

Interconnectors

| Ireland Wind Generation (MW) | Maximum EWIC Import (MW)* | Maximum EWIC Export (MW)* | Maximum Moyle Import (MW)* | Maximum Moyle Export (MW)* |
|------------------------------|---------------------------|---------------------------|----------------------------|----------------------------|
| 0 | 500 | 530 | 442 | 380 |
| 1000 | 500 | 530 | 442 | 380 |
| 2000 | 500 | 530 | 442 | 380 |

* Values pertain to the Ireland/Northern Ireland side of the interconnectors only

Coolkeeragh C30 Running

| Northern Ireland Wind Generation (MW) | Northern Ireland Demand (MW) above which C30 must be running with GT8 off | Northern Ireland Demand (MW) above which C30 must be running with GT8 operating as a synchronous compensator | Northern Ireland Demand (MW) above which C30 must be running with GT8 operating as a generator |
|---------------------------------------|---|--|--|
| 0 | 1550 | 1608 | Not required |
| 450 | Not required | Not required | Not required |
| 900 | Not required | Not required | Not required |

Other Constraints/Notes/Risks

| Jurisdiction | Constraint/Note | Reason |
|--------------|---|---------------------------------------|
| Ireland | Moneypoint 2 (MP2) is currently unable to export. | Transmission system outage. |
| Ireland | South-west Generation constraint (S_NBMAX_SW_NB) At times of very low wind generation output in the south-west overnight (23:00 – 08:00), additional generation may be required. | To support voltage in the south-west. |

| | | |
|-------------------------|---|---------------------|
| Northern Ireland | System Stability constraint S_NBMIN_MINNI3 is not active. | No longer required. |
|-------------------------|---|---------------------|