

# Weekly Operational Constraints Update

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Applicable from 22 April 2019 to 28 April 2019  
(Week 17)

18 April 2019

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## **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 1500 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	4150	4100
Northern Ireland	1250	1150

### Initial Interconnector and Tie Line Flows

	Flow (MW)
EWIC	250 MW Import (Great Britain to Ireland)
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	500	1200
1000	200	1250
2000	200	1100

### 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	100	800
1000	100	800
2000	100	700

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

**Note:** on Tuesday 16<sup>th</sup> April North South Flows limited to 390MW in both directions

Ireland Wind Generation (MW)	Maximum Ireland to Northern Ireland flow (MW)	Maximum Northern Ireland to Ireland flow (MW)
0	450	400
1000	450	400
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	410	300
1000	500	530	410	300
2000	500	530	410	300

\* 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 / Northern Ireland	System Operator trading on Interconnectors will only be employed for system security reasons.	Due to the transition to the new market arrangements we are setting a high bar to trade.  We are currently trialling the trading arrangements and we will provide an update when trading for priority dispatch reasons is phased in.
Ireland	Moneypoint TCG – Update	There must be at least one unit on load at all times.

	Applicable Units MP1, MP3, TYC	Required to support the 400kV network.
<b>Ireland</b>	At times of very low wind generation output in the south-west a large Tarbert unit (TB3 or TB4) or Moneypoint 2 (MP2) may be required.	Voltage Support: To support South West during the forced outage of the 400/220kV transformer in the new Moneypoint transmission station.
<b>Ireland</b>	There may be a requirement for an additional Dublin unit for load flow reasons during low load and high EWIC exports.	Load Flow

\*\*Small trades to prove our trading capability in the live environment are taking place.