



SEM-15-041

### Appendix 3

#### Constraint assumptions in the 'Forecast Imperfections Revenue Requirement for Tariff Year 1<sup>st</sup> October 2015 – 30<sup>th</sup> September 2016'

1. **Transmission Constraint Groups (TCGs):** based on the April 2015 version which is published on the [EirGrid](#) and [SONI](#) websites. This document is referenced in the TSO 2015/16 Forecast paper;
2. **Network:** The network information can be found in documents such as the [All-Island Transmission Forecast Statement](#);
3. **Transmission Outages:** A list of the major outages, based on provisional outage schedules, which were used in the constrained model is shown below.
4. **N -1s:** A list of the N-1 contingencies which are utilised in the model is displayed below. These are mainly the same as per the 2014/15 model with some further updates.

#### **Transmission Outages**

Certain major transmission outages for the Ireland network and for the Northern Ireland network are modelled according to provisional outage schedules. The TSOs have estimated the scheduled transmission outages which are considered to potentially have an impact on Dispatch Balancing Costs and these are included in the modelling for the tariff year 2015-2016. The actual detailed planning of outages and the communication to affected parties is only carried out in the weeks and months preceding outages as factors such as other transmission outages, generation outages, resourcing, etc can be fully realised at this stage. Those included in the constrained model are therefore only provisional and are shown in the table below. Shorter duration outages associated with normal transmission maintenance have not been modelled explicitly.

No	Feeder ID	Start Date	End Date
1	Athea-Trien 110 kV line Athea-Dromada 110 kV line Athea T121 Dromada T121	01/10/2015	04/12/2015
2	Cunghill-Sligo 110 kV line	01/10/2015	16/11/2015
3	Boggeragh-Clashavoon 110 kV line Boggeragh T121 Boggeragh T142	02/11/2015	09/11/2015
4	Great Island-Kilkenny 110 kV line	01/10/2015	09/10/2015
5	Cahir-Kill Hill 110 kV line Cahir-Tipperary 110 kV line Cahir T141	01/10/2015	12/10/2015
6	Arigna -Carrick on Shannon-Corderry 110 kV line Carrick on Shannon-Flagford 110 kV line no. 2 Arigna T121	01/10/2015	09/10/2015

	Carrick on Shannon T142		
7	Kellis-Kilkenny 110 kV line	12/10/2015	23/10/2015
8	Irishtown-Shellybanks 220 kV cable	13/10/2015	19/10/2015
9	Aughinish-Sealrock 110 kV line no. 4 Sealrock T104	02/11/2015	06/11/2015
10	Great Island-Kellis 220 kV line	09/11/2015	13/11/2015
11	Flagford-Sligo 110 kV line	19/10/2015	16/11/2015
12	Clashavoon-Tarbert 220 kV line	01/10/2015	30/11/2015
13	Glenlara-Knockacummer 110 kV line Knockacummer T122	02/08/2016	30/09/2016
14	Binbane-Letterkenny 110 kV line	05/09/2016	16/09/2016
15	Carrickmines-Dunstown 220 kV line	11/07/2016	29/08/2016
16	Carrickmines-Poolbeg 220 kV cable (& PST)	07/03/2016	22/04/2016
17	Booltiagh-Ennis 110 kV line Booltiagh T121 Tullabrack tee-Booltiagh 110 kV line Tullabrack tee-Moneypoint 110 kV line Tullabrack tee-Tullabrack 110 kV line Tullabrack T142	03/05/2016	02/09/2016
18	Kilpaddoge-Tarbert 220 kV line no. 1 Tarbert T2004 Tarbert T2101	04/07/2016	30/09/2016
19	Great Island-Waterford 110 kV line no. 1 Great Island-Waterford 110 kV line no. 2 Great Island-Kilkenny 110 kV line Great Island-Wexford 110 kV line	03/06/2016	01/07/2016
20	Cunghill-Sligo 110 kV line	23/06/2016	11/08/2016
21	Binbane-Letterkenny 110 kV line Letterkenny-Trillick 110 kV line Trillick-Sorne Hill 110 kV line Trillick T141 Trillick T142 Sorne Hill T122 Sorne Hill T124	16/05/2016	30/09/2016
22	Great Island-Wexford 110 kV line	03/06/2016	01/07/2016
23	Cauteen-Killonan 110 kV line	07/03/2016	17/06/2016
24	North Wall-Poolbeg 220 kV cable Poolbeg-Shellybanks 220 kV cable Poolbeg TF4 Poolbeg interbus reactor R223-4	02/08/2016 19/09/2016	14/08/2016 20/09/2016
25	Ballyvosukill-Clashavoon 220 kV circuit Ballyvouskill-Knockanure 220 kV circuit Knockanure-Kilpaddoge 220 kV circuit Kilpaddoge-Tarbert 220 kV circuit no. 1	01/10/2015	30/09/2016
26	Bellacorick-Castlebar 110 kV line Castlebar-Cloon 110 kV line Castlebar T141 Castlebar SVC	05/04/2016	22/06/2016
27	Louth-Tandragee 275 line no. 1	04/07/2016	29/07/2016

	Louth AT1 Louth AT3		
28	Oldstreet-Woodland 400 kV line	04/04/2016	22/05/2016
29	Raffeen-Tranbeg 110 kV line no. 1	04/04/2016	01/07/2016
30	Raffeen-Trabeg 110 kV line no. 2	02/05/2016	13/05/2016
31	Moy-Tawnaghmore 110 kV line no. 1	27/06/2016	12/08/2016
32	Moy-Tawnaghmore 110 kV line no. 2	15/08/2016	30/09/2016
33	Derryiron-Kinnegad 110 kV line	24/07/2016	02/10/2016
34	Flagford-Lanesboro 110 kV line	30/08/2016	28/10/2016
35	Tarbert-Tralee 110 kV line no. 1	07/03/2016	02/06/2016
36	Flagford-Louth 220 kV line	12/08/2016	04/11/2016
37	Knockraha-Raffeen 220 kV line	16/05/2016	18/07/2016
38	Maynooth-Woodland 220 kV line	29/08/2016	14/10/2016
39	Arigna tee-Carrick on Shannon 110 kV line	07/03/2016	02/06/2016
40	Arigna tee-Corderry 110 kV line	03/06/2016	29/08/2016
41	Dunstown-Moneypoint 400 kV line	23/05/2016	10/07/2016

**Table: Details of indicative Transmission Outages Modelled**

A significant reconfiguration of Aghada 220 kV station is required during the year, however the details of the requirements are unknown at this stage, therefore this outage has been excluded from the model.

## 1 N-1s

The table below details the N-1 contingencies monitored in the model.

Loss of Cathaleen's Fall -Srnagh 1 110kV
Loss of Bellacorick-Castlebar 110 kV
Loss of Binbane- Cathaleen's Fall 110 kV
Loss of Clonkeen-Clashavoon 110 kV
Loss of Cathaleen's Fall -Corraclassy 110 kV
Loss of Raffeen-Trabeg 110kV 2
Loss of Raffeen-Trabeg 110kV 1
Loss of Tarbert-Trien 110kV
Loss of Corraclassy-Gortawee 110kV
Loss of Killonan-Tarbert 220 kV
Loss of Louth-Woodland 220kV
Loss of Flagford-Louth 220kV
Loss of Cashla-Tynagh 220kV
Loss of Cashla-Flagford 220kV
Loss of Clashavoon-Knockraha 220 kV
Loss of Cullenagh-Knockraha 220kV
Loss of Cullenagh-Great Island 220kV
Loss of Oldstreet-Woodland 400 kV
Loss of Moneypoint-Dunstown 400 kV
Loss of Inchicore-Irishtown 220kV
Loss of Carrickmines-Irishtown 220kV
Loss of Carrickmines -Dunstown 220kV
Loss of Gorman-Maynooth 220kV
Loss of Marina-Trabeg 110kV 1
Loss of Dungarvan-Knockraha 110kV
Loss of Cullenagh-Waterford 110 kV
Loss of Aghada-Knockraha 220kV 1
Loss of Moneypoint-Oldstreet 400 kV
Loss of Clashavoon transformer
Loss of Marina Trabeg 110kV 2
Loss of Great-Island 220-110 2
Loss of Great-Island 220-110 1
Loss of Flagford-Sligo 110kV
Loss of Sligo-SRA 1 110kV
Loss of Shannonbridge-Ikerrin 110 kV
Loss of Knockraha-Raffeen 220kV
Loss of Gorman-Louth 220kV
Loss of Moneypoint-Prospect 220kV

Loss of Maynooth-Woodland 220kV
Loss of Cashla-Prospect 220kV
Loss of Aghada-Knockraha 220kV 2
Loss of Great Island-Kellis 220kV
Loss of Dunstown-Maynooth 220kV
Loss of Poolbeg Reactor
Loss of Cathaleen's Fall-Golagh Tee 110 kV
Loss of Cahir-Doon 110kV
Loss of Corduff-Ryebrook 110 kV
Loss of Cathaleen's Fall-Drumkeen 110 kV
Loss of Ardnacrusha-Singland 110 kV
Loss of Prospect-Tarbert 220kV
Loss of Arigna Tee-Carrick-on-Shannon 110 kV
Loss of Ardnacrusha-Limerick 110kV
Loss of Gorman-Navan 110 kV 3
Loss of Killonan-Singland 110 kV

**Table: List of N-1 Contingencies.**

Notes on N-1s:

The Dublin 220kV cable network has not been included as the cable typically has high short-term overload capabilities and in general the network can be resectionalised post contingency.