

Annex 1

List of congestions

1. Albania

Grid element	Year	CCDA	D-1	Realtime
220kV Fierze-Prizren	2015	n/a	n/a	
	2016	n/a	n/a	
	2017	n/a	n/a	
220kV Koplík-Podgorica1	2015	n/a	n/a	
	2016	n/a	n/a	
	2017	n/a	n/a	
220kV Vau Dejes -Koplík	2015	n/a	n/a	
	2016	n/a	n/a	
	2017	n/a	n/a	
220kV Tirana2-Rrashbull	2015			n/a
	2016			n/a
	2017			n/a
220kV Elbasan1-Fier	2015			n/a
	2016			n/a
	2017			n/a

2. Austria

Grid element	Year	CCDA	D-1	Realtime
220-kV-line Hausruck-St.Peter	2015	n/a	4,70%	
	2016	n/a	2,69%	
	2017	n/a	4,44%	
220-kV-line Lienz (APG) - Soverzene (TERNA)	2015	78,0%	2,08%	
	2016	10,70%	3,18%	
	2017	7,10%	1,39%	
220-kV-line Obersielach (APG) - Podlog (ELES)	2015	n/a	1,11%	
	2016	n/a	0,30%	
	2017	0,4%	0,30%	
220-kV-line St.Peter (APG) - Altheim (TTG)	2015	n/a	1,24%	
	2016	n/a	0,98%	
	2017	n/a	8,18%	
220-kV-line St.Peter (APG) - Pirach (TTG)	2015	n/a	0,58%	
	2016	n/a		
	2017	n/a	0,59%	
220-kV-line St.Peter (APG) - Pleinting (TTG)	2015	n/a	3,06%	
	2016	n/a	1,65%	

	2017	n/a	8,38%	
220-kV-line St.Peter (APG) - Simbach (TTG)	2015	n/a	3,20%	
	2016	n/a	1,34%	
	2017	n/a	8,63%	
220-kV-line Tauern-Weißbach-1	2015		0,63%	0,05%
	2017		3,39%	
220-kV-line Tauern-Weißbach-2	2015		0,63%	0,05%
	2016	0,1%		
	2017	0,3%	3,24%	
380-kV-line Dürnröhr (APG) - Slavetice-1 (CEPS)	2015	n/a	1,77%	
	2016	n/a	0,02%	
	2017	n/a		
380-kV-line Dürnröhr (APG) - Slavetice-2 (CEPS)	2015	n/a		0,11%
	2016	n/a		
	2017	n/a		
380-kV-line Dürnröhr (APG) - Slavetice-Z (CEPS)	2015		1,91%	
380/220kV transformer RHU41 substation Obersielach	2015	n/a		
	2016	n/a		
	2017	n/a	3,32%	
380/220kV transformer RHU42 substation Obersielach	2015	n/a		
	2016	n/a		
	2017	n/a	2,97%	
220-kV-line Aschach-Hausruck	2015		1,02%	
	2016		2,69%	
	2017		0,63%	
220-kV-line Aschach-St.Peter	2015		0,43%	
	2016		1,76%	
220-kV-line Bisamberg-Kledering	2016		1,13%	
	2017		1,88%	
220-kV-line Bisamberg-WienSüdost	2016		1,07%	
	2017		2,01%	
220-kV-line Ernthofen-Hausruck	2016		1,15%	
	2017		0,88%	
220-kV-line Ernthofen-Sattledt	2016		1,22%	
	2017		0,63%	
220-kV-line Ernthofen-Weißbach	2017		1,24%	
220-kV-line Hausruck-Sattledt	2016		0,93%	
	2017		0,54%	
220-kV-line Heßenberg-Weißbach-1	2017		0,98%	
220-kV-line Heßenberg-Weißbach-2	2017		0,98%	
220-kV-line Silz (APG) - Krün (TTG)	2017		0,02%	
220-kV-line Ternitz-WienSüdost-1	2016		1,31%	
	2017		2,21%	
220-kV-line Ternitz-WienSüdost-2	2016		1,29%	

	2017		2,21%	
380/220kV transformer RHU41 substation Lienz	2017		1,45%	
380/220kV transformer RHU41 substation St.Peter	2015		0,63%	
	2016		0,34%	
	2017		1,45%	
380/220kV transformer RHU41 substation Tauern	2017		2,71%	
380/220kV transformer RHU41 substation Westtirol	2015		0,66%	
	2016		0,71%	
	2017		2,31%	
380/220kV transformer RHU42 substation Lienz	2017		1,39%	
380/220kV transformer RHU42 substation St.Peter	2015		0,56%	
	2016		0,34%	
380/220kV transformer RHU42 substation Tauern	2017		2,38%	
380/220kV transformer RHU43 substation St.Peter	2017		2,90%	
220-kV-line Bisamberg (APG) - Sokolnice-1 (CEPS)	2015			0,04%
220-kV-line Bisamberg (APG) - Sokolnice-2 (CEPS)	2015			0,04%

3. Belgium

Grid elements	Year	CCDA	D-1	Realtime
220.513 Aubange - Moulaine	2015	4,8%		
	2016	2,0%		
220.514 Aubange - Moulaine	2015	16,4%		
	2016	1,8%		
	2017	1,3%		
380.10 Gramme - Achene	2017	0,7%		
380.101 Horta - Avelgem	2016	1,2%	3,3%	
	2017	4,6%	1,6%	
380.102 Horta - Avelgem	2016	1,0%	0,8%	
	2017	0,7%	0,8%	
380.11 Van Eyck - Gramme	2015	2,9%	0,9%	
380.19 Achene - Lonny	2015	12,7%		
	2016	0,3%	0,1%	
	2017	0,6%		
380.25 Zandvliet - Doel	2015	35,8%	4,7%	
	2016	24,8%	2,9%	
	2017	8,0%	0,3%	
380.26 Zandvliet - Doel	2016	0,4%		
	2017	1,2%		
380.27 Van Eyck - Maasbracht	2015	1,2%	3,5%	
	2016		0,1%	
	2017	0,7%	0,4%	
380.28 Van Eyck - Maasbracht	2015	2,9%	1,4%	

	2016	8,8%	3,8%	
	2017	0,4%	1,6%	
380.29 Zandvliet - Borsele	2015	0,3%	0,3%	
	2016	0,3%		
	2017	0,3%		
380.30 Zandvliet - Geertruidenberg	2015	0,4%		
	2016	0,5%		
	2017	0,1%		
380.31 Gramme - Courcelles	2015	1,0%	0,6%	
	2016	3,0%	0,6%	
	2017	0,1%		
380.51 Doel - Mercator	2015	0,1%	0,8%	
	2016	2,4%	1,5%	
	2017	0,1%	0,7%	
380.52 Doel - Mercator	2015		1,0%	
	2016	0,4%	1,1%	
	2017		0,4%	
380.53 Doel - Mercator	2017	0,1%	0,6%	
380.54 Doel - Mercator	2015	0,1%	1,0%	
	2016	1,2%	5,7%	
	2017		7,3%	0,005%
380.73 Doel - Horta	2015		0,2%	
	2016	4,5%	5,1%	
	2017	1,3%	1,2%	
380.73 Mercator - Horta	2017	9,8%	3,9%	
380.74 Mercator - Horta	2015	0,4%		
	2016	33,5%	7,0%	0,015%
	2017	29,9%	8,6%	0,020%
380.79 Avelgem - Mastaing	2015	2,4%	1,5%	
	2016	0,1%	0,3%	
380.80 Avelgem - Avelin	2015	6,3%	0,2%	
	2016	3,5%	0,4%	
	2017	0,4%		
PST Van Eyck	2015	0,2%	6,6%	
	2016	0,1%	3,1%	
	2017	3,3%	3,8%	
PST-Zandvliet	2015	5,2%	7,5%	
	2016	10,1%	1,4%	
	2017		1,9%	0,005%
PST-Zandvliet 2	2017	36,4%		
380.23 Meerhout - Van Eyck	2015		3,5%	
	2017		0,1%	
380.35 Bruegel - Mercator	2017		2,9%	

4. Bulgaria

Grid element	Year	CCDA	D-1	Realtime
BG1	2015	7%	7%	n/a
	2016	7%	7%	n/a
	2017	7%	7%	n/a
BG2	2015	10%	10%	n/a
	2016	10%	10%	n/a
	2017	10%	10%	n/a
BG3	2015	10%	10%	n/a
	2016	10%	10%	n/a
	2017	10%	10%	n/a
BG4	2015	6%	6%	n/a
	2016	6%	6%	n/a
	2017	6%	6%	n/a
BG5	2015	22%	22%	n/a
	2016	22%	22%	n/a
	2017	22%	22%	n/a
BG6	2015	18%	18%	n/a
	2016	18%	18%	n/a
	2017	18%	18%	n/a
BG7	2015	18%	18%	n/a
	2016	18%	18%	n/a
	2017	18%	18%	n/a
BG8	2015	32%	32%	n/a
	2016	32%	32%	n/a
	2017	32%	32%	n/a
BG9	2015	32%	32%	n/a
	2016	32%	32%	n/a
	2017	32%	32%	n/a
BG10	2015	16%	16%	n/a
	2016	16%	16%	n/a
	2017	16%	16%	n/a
BG11	2015	16%	16%	n/a
	2016	16%	16%	n/a
	2017	16%	16%	n/a
BG12	2015	12%	12%	n/a
	2016	12%	12%	n/a
	2017	12%	12%	n/a
BG13	2015	9%	9%	n/a
	2016	9%	9%	n/a

	2017	9%	9%	n/a
BG14	2015	13%	13%	n/a
	2016	13%	13%	n/a
	2017	13%	13%	n/a
BG15	2015	16%	16%	n/a
	2016	16%	16%	n/a
	2017	16%	16%	n/a
BG16	2015	36%	36%	n/a
	2016	36%	36%	n/a
	2017	36%	36%	n/a

5. Croatia

Grid element	Year	CCDA	D-1	Realtime
220 kV Brinje – Konjsko	2015	2,90%		
	2017	1,13%		
220 kV Melina – Pehlin 2	2017	8,49%		
220 kV Melina - Senj	2016	0,45%	0,60%	
	2017	6,86%	0,11%	0,121%
220 kV Pehlin - Divaca	2015	20,81%		
	2016	12,71%	4,10%	5,424%
	2017	7,93%	1,08%	1,623%
220 kV Pehlin – Melina 2	2016	2,21%		
	2017			0,075%
220 kV Zakucac - Mostar	2016	0,40%	0,25%	
	2017		0,01%	0,032%
220 kV Zerjavinec – Cirkovce	2015	7,51%		
	2016			0,239%
	2017			0,015%
220/110 kV Mraclin	2015	4,20%		
400 kV Melina - Divaca	2016	2,92%		
400 kV Tumbri - NE Krsko	2015	16,22%		
400/110 kV Tumbri	2015	33,87%		
	2016	57,82%		
	2017	67,97%		
400/110 kV Zerjavinec	2015	11,20%		
	2016	8,32%		
220 kV Prijedor-Mraclin	2016		0,20%	0,223%
220 kV Zakucac - Konjsko	2016		0,49%	
HE Zakucac 220ATR	2016		0,98%	
220 kV Senj - Brinje	2017			0,003%
220 kV Zerjavinec - Mraclin	2017			0,071%
HE Zakucac 220ATR	2016			1,049%

Konjsko 220kVT1	2016			0,302%
220 kV Pehlin – Melina 1	2016			0,438%
	2017			0,078%

6. Czech Republic

Grid element	Year	CCDA	D-1	Realtime
220-kV-V243	2015	14,52%	5,7%	0,40%
	2016	5,22%	2,1%	0,04%
	2017	8,79%		
220-kV-V244	2015		5,7%	0,40%
	2016	1,38%	2,1%	0,04%
220-kV-V245	2015	0,55%		
	2016	0,28%		
	2017	4,66%		
220-kV-V246	2015	26,30%	4,9%	0,67%
	2016	37,47%	2,7%	0,09%
	2017	50,00%	1,7%	0,01%
220-kV-V251	2015			0,07%
	2016			0,08%
220-kV-V252	2015			0,08%
	2016			0,08%
220-kV-V253	2015			0,13%
	2017			0,88%
220-kV-V254	2015			0,13%
	2017			0,30%
220-kV-V270	2015	2,90%	7,7%	0,12%
	2016	2,80%		0,05%
	2017	1,68%	2,7%	0,01%
220-kV-V280	2015	0,10%		
	2016	0,30%		
	2017	0,93%		
400-kV-V404	2015	6,40%	12,1%	0,31%
	2016	1,40%	8,5%	0,18%
	2017	11,42%	3,7%	0,04%
400-kV-V411	2015			0,27%
	2016			0,03%
	2017			0,02%
400-kV-V412	2016		2,4%	0,02%
	2017		2,1%	0,003%
400-kV-V417	2015			0,02%
400-kV-V423	2016			0,02%

400-kV-V424	2017	6,83%		
400-kV-V430	2015		12,4%	0,31%
	2016		19,6%	0,76%
	2017		9,8%	0,61%
400-kV-V431	2015		9,6%	0,01%
	2016		15,4%	0,22%
	2017		5,6%	0,03%
400-kV-V432	2015		7,0%	0,06%
	2016		9,8%	0,44%
	2017		4,9%	0,61%
400-kV-V436	2017			0,21%
400-kV-V437	2015	5,74%	8,0%	0,22%
	2016	14,05%	2,1%	0,02%
400-kV-V438	2015	79,74%	8,7%	0,27%
	2016	79,35%	2,1%	0,01%
	2017	91,21%		
400-kV-V441	2015	69,33%	7,0%	0,13%
	2016	95,03%	4,1%	0,03%
	2017	59,89%	1,7%	0,03%
400-kV-V442	2015	24,11%		
	2016	4,14%		
	2017	34,62%	0,7%	0,02%
400-kV-V443	2016	0,56%		
	2017	1,10%		
400-kV-V444	2015	73,15%	7,0%	0,07%
	2016	61,70%	1,7%	0,09%
	2017	44,24%	0,7%	0,005%
400-kV-V445	2015	1,93%	28,7%	0,24%
	2016	4,96%	28,0%	0,09%
	2017	29,38%	25,7%	0,01%
400-kV-V446	2015	81,92%	28,7%	0,25%
	2016	91,74%	27,3%	0,05%
	2017	50,01%	29,9%	0,02%
400-kV-V460	2015		0,7%	0,07%
	2016		0,7%	0,04%
400-kV-V497	2015			0,07%

7. Denmark

Grid elements	Year	CCDA	D-1	Realtime ¹
132-GLN_STA	2016	0,91%	n/a	
	2017	0,26%	n/a	
132-GULØ_TEG	2016	0,09%	n/a	
	2017	0,82%	n/a	
132-KRL_MOSØ	2015	0,03%	n/a	
	2016	0,67%	n/a	
	2017	0,24%	n/a	
150/150-KAS_Transformer	2015	0,89%	n/a	
	2016	0,73%	n/a	
	2017	0,61%	n/a	
150-ABS_SØN	2016	2,07%	n/a	
	2017	0,37%	n/a	
150-ADL_ÅBØ	2016	0,35%	n/a	
150-ASR_THY	2016	1,16%	n/a	
	2017	0,78%	n/a	
150-FVO_GRP	2016	0,38%	n/a	
	2017	0,17%	n/a	
150-GRP_KIN	2016	0,38%	n/a	
	2017	0,17%	n/a	
150-GRP_RYT	2016	0,38%	n/a	
	2017	0,17%	n/a	
150-HASV_MAL	2015	0,76%	n/a	
	2016	0,07%	n/a	
150-HNB_TRI	2016	1,84%	n/a	
	2017	2,53%	n/a	
150-KNA_THY	2016	0,03%	n/a	
	2017	0,78%	n/a	
150-LAG_KNA	2016	2,36%	n/a	
	2017	0,37%	n/a	
150-LYK_RIB	2016	1,13%	n/a	
150-NVV_ÅBØ	2016	0,19%	n/a	
	2017	2,47%	n/a	
150-RYT_SVS	2016	0,38%	n/a	
	2017	0,17%	n/a	
150-TAN_TJE	2017	0,05%	n/a	
150-VHA_ÅBØ	2016	0,91%	n/a	
220/150-KAS_Transformer	2016	0,11%	n/a	
	2017	0,09%	n/a	

¹ For the CCDA time frame lists the percentage of hours where the element is limiting the capacity calculation. For the RT timeframe the data shows the percentage of time where the element has an unplanned outage.

400/132-GØR_Transformer	2016	0,31%	n/a	
	2017	0,11%	n/a	
400/132-HCV_Transformer	2016	0,91%	n/a	
	2017	0,03%	n/a	
400/150-TJE_Transformer	2016	16,40%	n/a	
	2017	2,59%	n/a	
400-ASR_TJE	2016	0,14%	n/a	
400-FER_TRI	2017	0,03%	n/a	
400-GØR_SÅN	2016	0,11%	n/a	
	2017	0,80%	n/a	
400-KAS_REV	2016	0,36%	n/a	
	2017	0,05%	n/a	
DK1-DK2	2015	53%	n/a	
	2016	67%	n/a	0,044%
	2017	42%	n/a	0,006%
DK1-NO2	2015	46%	n/a	
	2016	45%	n/a	0,266%
	2017	52%	n/a	0,626%
DK1-SE3	2015	53%	n/a	
	2016	55%	n/a	0,312%
	2017	47%	n/a	0,744%
DK2-DE	2015	81%	n/a	
	2016	77%	n/a	0,020%
	2017	70%	n/a	
DK2-SE4	2015	23%	n/a	
	2016	11%	n/a	
	2017	25%	n/a	
400_FER_TRI	2015		n/a	0,002%
	2016		n/a	0,001%
AHA_220_TRI	2015		n/a	7,542%
ASV_400_BJS	2015		n/a	0,029%
ASV_400_T41	2015		n/a	0,335%
BJS_400_HVE	2015		n/a	0,001%
BJS_400_ISH	2015		n/a	0,066%
BJS_400_KON	2015		n/a	0,061%
BJS_400_SPA (T41)	2015		n/a	0,005%
GLN_400_KT52	2015		n/a	0,038%
REV_400_TJE	2015		n/a	0,018%
TJE_400_SK4	2015		n/a	0,544%
TRI_400_KT54	2015		n/a	0,546%
VHA_400_KS1	2015		n/a	0,610%
GØR_400_SÅN	2017		n/a	0,036%

8. Estonia

Grid elements	Year	CCDA	D-1	Realtime
	2015	6,37%	n/a	

330-kV - L360 – Rakvere – Püssi or L356 – Paide – Viru AJ	2016	2,54%	n/a	
	2017	0,12%	n/a	
330-kV-Cross-Border Interconnection Estonia/Russia - Latvia	2015	52,67%	n/a	5,64%
	2016	22,51%	n/a	1,67%
	2017	12,28%	n/a	0,84%
HVDC Interconnection between Finland-Estonia	2015	5,46%	n/a	0,55%
	2016	8,51%	n/a	0,17%
	2017	1,09%	n/a	0,05%

9. Finland

Grid element	Year	CCDA	D-1	Realtime
380-kV-Keminmaa - Pikkarala	2016	3,48%	n/a	0,46%
380-kV-Olkiluoto - Rauma A	2016	0,38%	n/a	
380-kV-Olkiluoto - Rauma B	2016	0,37%	n/a	
380-kV-Petäjäskoski - Isokangas	2017	0,33%	n/a	
380-kV-Petäjäskoski - Letsi	2015			0,11%
	2016	3,24%	n/a	0,08%
	2017			0,07%
380-kV-Petäjäskoski - Pirttikoski	2015	1,02%	n/a	0,62%
380-kV-Petäjäskoski - Pyhänselkä	2015	0,33%	n/a	0,18%
	2016	4,20%	n/a	0,50%
380-kV-Petäjäskoski - Pyhänselkä, 380-kV-Keminmaa - Petäjäskoski	2015	1,83%	n/a	0,06%
380-kV-Pikkarala - Alajärvi eastern	2015	0,37%	n/a	0,05%
	2016	1,18%	n/a	0,51%
380-kV-Pikkarala - Alajärvi western	2016	1,21%	n/a	0,37%
380-kV-Pikkarala busbar	2015	0,39%	n/a	
	2016	0,08%	n/a	
	2017	0,25%	n/a	
380-kV-Pirttikoski - Pikkarala	2015	1,36%	n/a	0,84%
380-kV-Pyhänselkä - Vuolijoki	2015	1%	n/a	0,38%
380-kV-Vuolijoki - Alapitkä	2015	0,71%	n/a	0,37%
380-kV-Keminmaa - Petäjäskoski	2015			0,06%
Keminmaa-SE1	2015			0,11%
	2017			0,07%
Cut P1 (consists of Vuolijoki - Alapitkä, Alajärvi – Pyhänselkä, Alajärvi – Pikkarala, Tuovila –Hirvisuo)	2016			0,37%

10. France

Grid element	Year	CCDA	D-1	Realtime
220-kV-ARGIA (BAYONNE SUD)-MOUGUERRE 1	2015	0,8%		
	2017	0,1%		0,001%
220-kV-ARKALE-ARGIA (BAYONNE SUD) 1	2015	0,9%		
	2016	2,3%		
	2017	0,7%		
220-kV-BIESCAS-PRAGNERES 1	2015	3,7%		
	2016	8,0%		
	2017	13,1%		
220-kV-CANTEGRIT-MARSILLON 1	2015	0,2%		
220-kV-CANTEGRIT-MOUGUERRE 1	2015	4,2%		
	2016	0,5%		
	2017	7,1%		0,001%
220-kV-GODIN-VERLHAGUET 1	2017	0,1%		
220-kV-LANNEMEZAN-PRAGNERES 1	2015	0,2%		
	2016	1,0%		
	2017	0,7%		
220-kV-MARSILLON-PRAGNERES 1	2016	0,1%		
	2017	1,1%		
380/220-kV-CANTEGRIT-AT761	2015	0,7%		
	2016	0,1%		
	2017	0,0%		
380/220-kV-MARSILLON-AT761	2017	1,3%		
380-kV-ACHENE-LONNY 1	2017	0,0%		
380-kV-ARGIA (BAYONNE SUD)-CANTEGRIT 1	2015	27,2%		
	2016	12,0%		0,0002%
	2017	10,9%		0,001%
380-kV-AVELGEM-AVELIN 2	2017	0,1%		
380-kV-AVELGEM-MASTAING 1	2015	0,2%		
380-kV-AVELIN-GAVRELLE 1	2016	0,2%		
	2017	0,1%		
380-kV-AVELIN-MASTAING 1	2016	0,0%		
	2017	0,0%		
380-kV-CUBNEZAI-MARQUIS (LE) 2	2017	0,2%		
380-kV-CUBNEZAI-SAUCATS 2	2016	0,0%		
380-kV-EICHSTETTEN-MUHLBACH 1	2016	0,0%		
380-kV-ENSDORF-VIGY 1	2015	0,0%		
380-kV-ENSDORF-VIGY 2	2015	0,0%		
380-kV-HERNANI-ARGIA (BAYONNE SUD) 1	2017	3,3%		0,005%
IFA 2000 DC cables	2015	86,0%		
	2016	83,0%		
	2017	80,0%		
380-kV-MERY-SUR-SEINE-VESLE 1	2017	0,0%		
380-kV-MUHLBACH-SIERENTZ 2	2016	0,0%		

380-kV-REVIGNY-VIGY 1	2016	0,0%		
380-kV-SEUIL-VESLE 1	2016	0,1%		
380-kV-TAMAREAU-TAVEL 1	2017	0,5%		
380-kV-VESLE-SEUIL / LONNY VESLE 1	2015	0,0%		
	2016	0,1%		
380-kV-VICH-BAIXAS 1	2015	1,6%		
	2016	1,7%		
	2017	4,5%		
220-kV-MENTON-TRINITE VICTOR 1	2016	8,4%		
	2017	5,2%		
220-kV-CAMPOROSSO-MENTON 1	2016	5,1%		
	2017	4,7%		
380-KV-PST PRAZ-ST-ANDRE	2016	5,1%		
	2017	3,3%		
380-kV-VENAUS-VILLARODIN 1	2016	2,7%		
	2017	0,8%		
380-kV-ALBERTVILLE-GRANDE-ILE 3	2016	1,2%		
	2017	1,5%		
380-kV-RONDISSONE-ALBERTVILLE 1	2016	0,8%		
	2017	0,1%		
380-kV-RONDISSONE-ALBERTVILLE 2	2016	0,5%		
	2017	0,4%		
220-kV-CHAVANOD-GENISSIAT-POSTE 1	2016	0,4%		
	2017	0,1%		
220-kV-PASSY-PRESSY 1	2016	0,3%		
	2017	0,3%		
380-kV-ALBERTVILLE-COCHE (LA) 1	2016	0,3%		
220-kV-MALGOVERT-PASSY 1	2016	0,2%		
	2017	0,1%		
380-kV-COCHE (LA)-PRAZ-ST-ANDRE 1	2016	0,2%		
380-kV-CORNIER-MONTAGNY-LES-LANCHES 1	2016	0,1%		
220-kV-FALLOU-PIQUAGE A VILLIERS LE BEL 2	2017			0,0002%
220-kV-GRANDVAL-PRATCLAUX 1	2017			0,011%
220-kV-LAVEYRUNE-PRATCLAUX 1	2017			0,0002%
220-kV-SAINT CHRISTOL-PIQUAGE PONT TRINQUAT (LIAISON MTPELZ61SSCHR) 1	2017			0,0002%
N-2 380-kV-RONDISSONE-ALBERTVILLE 1&2	2016			0,011%
Bubble N-1 REALTOR-TAVEL 400kV ²	2015		0,41%	
	2016		0,30%	

² For more information, please see RTE assessment of congestions in D-1 timeframe

	2017		0,23%	
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11. Germany

11.1.50Hertz

Grid element	Year	CCDA	D-1	Realtime
220kV Line Vierraden - Krajnik 507	2015	16,67%	35,40%	
	2016	8,33%	16,27%	
220kV Line Vierraden - Krajnik 508	2015	16,67%	34,95%	
	2016	8,33%	15,08%	
220kV Line Neuenhagen - Vierraden 304	2015	83,33%	10,46%	
	2016	33,33%	5,63%	
220kV Line Pasewalk - Vierraden 306	2015	50,00%	24,06%	
	2016	33,33%	15,71%	
380kV Line Hagenwerder - Schmölln 553	2015	16,67%	0,53%	
	2016	33,33%	0,17%	
	2017	25,00%	0,08%	
380kV Line Hagenwerder - Schmölln 554	2015	16,67%	0,87%	
	2016	33,33%	0,17%	
	2017	25,00%	0,08%	
380kV Line Hagenwerder - Mikulowa 567	2015	16,67%	3,88%	
	2016	8,33%	1,99%	
	2017	16,67%	1,28%	1,25%
380kV Line Hagenwerder - Mikulowa 568	2015	16,67%	3,95%	
	2016	8,33%	1,04%	
	2017	16,67%	1,28%	1,25%
380kV Line Röhrsdorf - Hradec 445	2015	25,00%	11,58%	0,16%
	2016	8,33%	5,55%	0,46%
	2017	50,00%	1,16%	0,31%
380kV Line Röhrsdorf - Hradec 446	2015	25,00%	11,71%	0,16%
	2016	8,33%	3,92%	0,46%
	2017	50,00%	1,93%	0,31%
380-kV-Redwitz - Remptendorf 413	2015		14,86%	31,53%
	2016		7,95%	15,64%
	2017		5,28%	2,90%
380-kV-Redwitz - Remptendorf 414	2015		17,99%	31,53%
	2016		7,71%	15,64%
	2017		5,15%	2,90%
380-kV-Bärwalde - Schmölln 551	2015		6,16%	
	2016		6,72%	0,23%
	2017		5,68%	0,24%
380-kV-Bärwalde - Schmölln 552	2015		6,66%	

	2016		6,79%	0,23%
	2017		5,89%	0,24%
380-kV-Streumen - Röhrsdorf 571	2015		8,30%	
	2016		3,15%	0,18%
	2017		3,88%	0,16%
380-kV-Streumen - Röhrsdorf 572	2015		8,16%	
	2016		3,37%	0,18%
	2017		4,17%	0,16%
380-kV-Mecklar - Eisenach 450-2	2015		1,40%	
	2016		0,25%	
	2017		0,25%	0,12%
380-kV-Helmstedt - Wolmirstedt 491-1	2015		0,45%	
	2016		0,24%	
	2017		0,48%	0,09%
380-kV-Helmstedt - Wolmirstedt 492-2	2015		0,56%	
	2016		0,25%	
	2017		0,08%	0,09%
380-kV-Lauchstädt - Vieselbach 471	2015		0,51%	
	2016		0,82%	
	2017		2,41%	0,02%
380-kV-Lauchstädt - Vieselbach 472	2015		0,51%	
	2016		0,63%	
	2017		2,37%	0,02%
220-kV-Bentwisch - Güstrow 275	2015		0,32%	
	2016		0,21%	
	2017		0,07%	
220-kV-Bertikow - Neuenhagen 303	2015		13,52%	
	2016		2,49%	
220-kV-Bertikow - Pasewalk 305	2015		2,61%	
	2016		0,05%	
220-kV-Eula - Röhrsdorf 203	2015		5,35%	
220-kV-Eula - Taucha 205	2015		0,03%	
220-kV-Eula - Weida 208	2015		0,05%	
220-kV-Neuenhagen - Wustermark 294	2017		0,17%	
220-kV-Pasewalk - Güstrow - Iven 316	2015		1,31%	
	2016		1,03%	
220-kV-Pasewalk - Güstrow 315	2015		0,53%	
	2016		0,31%	
220-kV-Wustermark - Brandenburg/West 319	2015		0,06%	
	2016		0,02%	
220-kV-Wustermark - Brandenburg/West 324	2015		0,05%	
	2016		0,02%	
380-kV-Altenfeld - Redwitz 459	2015		0,11%	
	2016		0,41%	

	2017		0,09%	
380-kV-Altenfeld - Redwitz 460	2016		1,21%	
	2017		1,84%	
380-kV-Altenfeld - Remptendorf 463	2015		0,05%	
380-kV-Brunsbüttel - Hamburg/Nord - Brunsbüttel 951	2015		0,98%	
	2016		0,16%	
	2017		1,86%	
380-kV-Brunsbüttel - Hamburg/Nord 952	2016		0,83%	
	2017		2,36%	
380-kV-Brunsbüttel 50Hz - Brunsbüttel TTG 949	2015		12,39%	
	2016		11,32%	
	2017		7,18%	
380-kV-Charlottenburg - Mitte 906	2016		0,01%	
380-kV-DNO_NO11 - D8NORD12 ³	2015		0,08%	
380-kV-Eisenach - Vieselbach 454	2015		1,34%	
	2016		0,14%	
	2017		0,08%	
380-kV-Friedrichshain - Marzahn 921	2015		0,05%	
380-kV-Friedrichshain - Marzahn 922	2015		0,05%	
380-kV-Graustein - Bärwalde 565	2015		5,70%	
	2016		4,92%	
	2017		4,50%	0,32%
380-kV-Graustein - Bärwalde 566	2015		4,36%	
	2016		4,83%	
	2017		4,78%	0,32%
380-kV-Hamburg/Nord - Hamburg/Ost 961	2015		0,05%	
	2016		0,07%	
	2017		0,72%	
380-kV-Hamburg/Nord - Hamburg/Ost 962	2015		1,56%	
	2016		0,49%	
	2017		0,47%	
380-kV-Hamburg/Ost - Hamburg/Süd 971	2017		0,05%	
380-kV-Hamburg/Ost - Hamburg/Süd 972	2017		0,37%	
380-kV-Hamburg/Süd - Dollern 981	2015		0,16%	
	2016		0,06%	
	2017		0,09%	
380-kV-Hamburg/Süd - Dollern 982	2015		0,11%	

³ Line 380-kVDNO_NO11-D8NORD12 is a virtual element caused by the fact, that in the UCTE format transformers can't be interconnectors. In reality it is just the device connection of the 380/220-kV transformer 421 from TenneT Germany to substation Hamburg Nord.

	2016		0,03%	
	2017		0,11%	
380-kV-Jessen/Nord - Lauchstädt 499	2016		0,01%	
380-kV-Klostermansfeld - Wolmirstedt 536	2015		1,53%	
	2016		1,89%	
380-kV-Krümmel 50Hz - Krümmel TTG 993	2016		0,16%	
380-kV-Krümmel 50Hz - Krümmel TTG 994	2015		0,08%	
	2016		0,35%	
380-kV-Lauchstädt - Klostermansfeld 538	2015		2,25%	
	2016		2,72%	
380-kV-Lauchstädt - Wolmirstedt 535	2015		0,80%	
	2016		1,99%	
380-kV-Marke - Lauchstädt 504	2015		0,01%	
	2016		0,03%	
380-kV-Mecklar - Vieselbach 449-1	2015		1,26%	
	2016		0,18%	
	2017		0,22%	
380-kV-PHS Markersbach - Röhrsdorf - Zwönitz 577	2015		0,08%	
	2016		0,03%	
380-kV-PHS Markersbach - Röhrsdorf - Zwönitz 578	2016		0,07%	
380-kV-Preilack - Graustein 541	2017		0,05%	
380-kV-Preilack - Graustein 542	2017		0,02%	
380-kV-Preilack - Heinersdorf - Eisenhüttenstadt 548	2016		0,22%	
	2017		0,24%	
380-kV-Preilack - Neuenhagen - Eisenhüttenstadt 547	2016		0,23%	
	2017		0,17%	
380-kV-Preilack - Streumen 559	2015		0,07%	
	2017		0,03%	
380-kV-Preilack - Streumen 560	2015		0,07%	
	2017		0,02%	
380-kV-Pulgar - Vieselbach 589	2016		0,15%	
	2017		0,08%	
380-kV-Pulgar - Vieselbach 590	2016		0,17%	
	2017		0,08%	
380-kV-Ragow - Jessen/Nord 502	2016		0,14%	
	2017			0,05%
380-kV-Ragow - Streumen 562	2015		0,65%	
	2016		0,19%	
	2017		0,73%	
380-kV-Reuter - Charlottenburg 904	2016		0,01%	
380-kV-Reuter - Mitte 903	2016		0,07%	
380-kV-Röhrsdorf - Remptendorf 574	2015		0,94%	
	2016		0,07%	
	2017		0,05%	

380-kV-Röhrsdorf - Weida 573	2015		0,57%	
	2016		0,09%	
	2017		0,03%	
380-kV-Schmölln - Dresden/Süd 555	2016		0,16%	
	2017		0,09%	
380-kV-Schmölln - Dresden/Süd 556	2015		0,19%	
	2016		0,21%	
	2017		0,08%	
380-kV-Stendal/West - Wolmirstedt 490	2015		0,08%	
380-kV-Streumen - Bärwalde 558	2015		0,09%	
380-kV-Vieselbach - Altenfeld 467	2015		0,02%	
380-kV-Vieselbach - Altenfeld 468	2015		0,40%	
380-kV-Vieselbach - Remptendorf - Großschwabhausen 415	2015		0,17%	
380-kV-Vieselbach - Remptendorf 416	2015		0,07%	
380-kV-Weida - Remptendorf 575	2015		0,70%	
	2016		0,10%	
	2017		0,06%	
380-kV-Bärwalde - Streumen	2015			0,13%
380-kV-Teufelsbruch - Reuter	2016			0,04%
220-kV-Vierraden-Krajnik, 220-kV-Pasewalk-Vierraden, 220-kV-Pasewalk-Bertikow, 220-kV-Bertikow-Neuenhagen, 220-kV-Vierraden-Neuenhagen ⁴	2015			29%
	2016			13%
380-kV-Hagenwerder-Mikulowa	2015			1%
	2016			4%
380-kV-Remptendorf - Röhrsdorf , 380-kV-Weida - Röhrsdorf	2016			0,01%
380-kV-Wolmirstedt - Förderstedt, 380-kV-Förderstedt - Ragow	2016			0,15%

11.2. Amprion

Grid elements	Year	CCDA	D-1	Realtime
380-kV-D7ENSD D7UCHT-TAUBNT N	2016	0,03%	0,01%	
	2017	0,05%	0,03%	
380-kV-D7ENSD D7UCHT-TAUBNT S	2015	0,02%	0,01%	
	2017	0,03%		

⁴ The German TSO used a methodology in order to evaluate their realtime congestions, which is based on redispatch measures necessary to solve congestions. As in a meshed network a 1-to-1 mapping of redispatch measures on congested lines is not possible (as one redispatch measure might solve several congestions at the same time), therefore several lines appear in one cell.

380-kV-D7GRON D7GRON-TR 441 E	2015	4,48%		
	2016	4,67%		
	2017	2,76%		
380-kV-D7GRON D7KUSE-HAMALD	2015		0,06%	
	2016		0,01%	
	2017	0,05%	0,01%	
380-kV-D7GRON XGR_HG-HENGL SW	2015	1,30%	0,01%	
	2016	0,01%		
380-kV-D7GRON XGR_HG-HENGL WS	2015	0,31%		
380-kV-D7HANE D7GRON-GRONAU W	2015	4,48%	0,81%	
	2016	2,35%	0,27%	
	2017	4,22%	1,48%	
380-kV-D7KNAP D7SECH-WABERG W	2015	2,32%	0,33%	
	2016	10,75%	2,27%	0,75%
	2017	3,16%	0,78%	0,20%
380-kV-D7MENG D7KUSE-RECKLI	2015		0,03%	
	2016	0,26%		
380-kV-D7MITB D7YBUE-BUERST	2015	0,08%	0,05%	
	2016	0,03%	0,02%	
	2017	0,02%	0,09%	
380-kV-D7NSTE D7OSBU-GILZEM O	2016	0,11%		
	2017	0,11%		
380-kV-D7NSTE D7UCHT-UCHTLF W	2017	0,09%		
380-kV-D7OBZI D7DAHL-SELHN O	2016	0,03%		
	2017	0,01%		
380-kV-D7OBZI D7SIER-KIRCHB S	2015	0,08%	0,05%	
	2016	0,01%	0,25%	
	2017		0,39%	
380-kV-D7OBZI D7YDAHL-SELHN O	2017	0,30%		
380-kV-D7OBZI D7YDAH-SELHN W	2017	0,23%		
380-kV-D7OPLA D7ROKI-OPLADN N	2015	0,02%		
	2016	0,08%	0,09%	
	2017	0,02%	0,06%	
380-kV-D7PAFF D7OBZI-OBZIER S	2015	0,10%	0,22%	
	2016		0,31%	
	2017		0,37%	
380-kV-D7ROKI D7KNAP -BRAUWL W	2015	4,63%	0,16%	
	2016	6,00%	0,07%	
	2017	0,64%	0,35%	0,01%
380-kV-D7ROKI D7OPLA-OPLADN S	2015		0,01%	
	2016	0,08%	0,85%	0,11%
	2017		0,21%	
380-kV-D7ROKI D7PAFF-PAFFEN S	2015	0,02%	0,24%	
	2016		0,52%	0,06%

	2017		0,41%	
380-kV-D7ROKI D7SECH-VILLE O	2015	0,19%	0,38%	
	2016	1,13%	0,90%	0,96%
	2017	1,05%	1,24%	1,24%
380-kV-D7ROKI XRO_MB-SELFK WS	2015	3,93%	0,25%	
	2016	1,76%	2,44%	n/a
	2017	0,09%	3,87%	n/a
380-kV-D7SIER XSI_MB-SELFK SW	2015	16,74%	1,71%	
	2016	3,69%	5,87%	n/a
	2017	0,23%	7,76%	n/a
380-kV-D7UCHT D7MITB-BLIES N	2016	0,01%		
	2017	0,01%		
380-kV-D7UCHT D7MITB-BLIES S	2016	0,02%		
	2017	0,02%		
380-kV-D7YGER D7GERS-GERSTE O	2015		0,06%	
	2016		0,25%	
	2017	0,05%	0,43%	
380-kV-DBE_GU D7GUET-SENNE S1	2015	0,18%	2,01%	0,02%
	2016	0,16%	1,29%	0,17%
	2017	0,80%	0,80%	
380-kV-DDO_HA D7HANE -EMSLD WB	2015		4,27%	
	2016	0,01%	4,67%	
	2017	1,31%	11,26%	1,93%
380-kV-DLA_WE D7WEHR-DUEMM S1	2015	0,04%	0,74%	0,06%
380-kV-DNL_ME D7MEPP-EMSLD OW	2015	0,02%	4,45%	0,05%
	2016	0,02%	4,97%	0,73%
	2017	1,05%	9,90%	5,33%
380-kV-DOB_ME D7MEIT-OBACHE N	2016	0,01%		
	2017		0,13%	
380-kV-DOH_WE D7WEHR-DUEMM S1	2015		0,17%	
	2016		0,32%	
	2017	0,11%	0,35%	
380-kV-XEN_VI D7ENSD-VIGY1 N	2015	0,23%	0,59%	n/a
	2016		0,43%	n/a
	2017	0,07%	0,30%	n/a
380-kV-XEN_VI D7ENSD-VIGY2 S	2015	0,43%	0,62%	n/a
	2016	0,28%	0,65%	n/a
	2017	0,25%	0,32%	n/a
220-kV-D72BLO D7TRIE-BLO TR S	2016		0,10%	
	2017		0,67%	
220-kV-D72HEI D7QUIN-HEI QU N	2016		0,16%	
	2017		0,07%	
220-kV-D72HEI D7TRIE-HEI TR S	2015		0,02%	
	2016		0,01%	

220-kV-D7AKLE D7YGAR-BIGGE W	2017		0,02%	
220-kV-D7BAUL D72FLE-FLE BA N	2015		0,37%	
	2016		1,54%	
220-kV-D7BAUL D72ROO-ROO BA S	2017		0,31%	
	2015		0,26%	
	2016		1,01%	
220-kV-D7BAUL D7NSTE-ENZ N	2017		0,37%	
	2015		0,03%	
220-kV-D7BAUL D7NSTE-ENZ S	2016		0,35%	
	2015		0,03%	
220-kV-D7BGLU D7BUES-BUER S	2016		0,35%	
220-kV-D7BGLU D7YBEL-POLSUM S	2016		0,05%	
220-kV-D7BGLU D7YBGL-SHOLVN E	2017		0,07%	
220-kV-D7BGLU D7YGEL-GLADBK W	2016		0,05%	
	2015		0,19%	
220-kV-D7BOCH D7EIBE-BOCHUM W	2016		0,02%	
	2015		0,39%	
	2016		0,28%	
220-kV-D7BOCH D7YPOE-HOCHLR W	2017		0,29%	
	2016		0,08%	
220-kV-D7BRAU D7SECH-GODORF W	2017		0,06%	
	2016		0,01%	
220-kV-D7BUES D7HAMB-EMSHER N	2016		0,02%	
220-kV-D7BUES D7HAMB-EMSHER S	2016		0,03%	
220-kV-D7BUES D7YBGL-SHOLVN E	2016		0,05%	
220-kV-D7BW21 D7MAXA-WEINGT	2016		0,07%	
220-kV-D7BW21 D7MUTT-ROXHM S	2017		0,03%	
	2016		0,58%	
220-kV-D7BW21 D7YBW2-ROXHM S	2016		0,01%	
220-kV-D7DUEN D7GREM-MERHM O	2016		0,13%	
220-kV-D7DUEN D7OPLA-DUENNW O	2016		0,13%	
220-kV-D7DUEN D7OPLA-DUENNW W	2016		0,13%	
220-kV-D7EIBE D7YGEL-GLADBK W	2016		0,01%	
220-kV-D7EIBE D7YHAT-ITTERB O	2017		0,01%	
220-kV-D7ELLE D7OPLA-ELLER O	2015		0,03%	
220-kV-D7ELME D7GERS-CAPPEN S	2016		0,02%	
220-kV-D7ELME D7YELM-ELMENS S	2016		0,06%	
	2017		0,02%	
220-kV-D7GELL D7MUEN-STRATM W	2016		0,01%	
220-kV-D7GERS D7YPOE-CAPPEN N	2016		0,07%	
	2017		0,03%	
220-kV-D7GOHR D7NORF-ZONS N	2015		0,11%	
220-kV-D7HAMB D7NRHE-DINSLK W	2015		0,01%	
220-kV-D7HAMB D7WALS-WALSUM N	2015		0,07%	

	2016		0,08%	
220-kV-D7HAND D7NRHE-STERKR N	2016		0,01%	
220-kV-D7HANE D7YHAN-AMELSB	2016		0,10%	
220-kV-D7HANE D7YHAN-GRAFSH W	2016		0,10%	
	2017		0,01%	
220-kV-D7HATT D7YHAT-ITTERB O	2017		0,13%	
220-kV-D7HONE D7YGGA-HONECK W	2017		0,26%	
220-kV-D7HONE D7YHER-BLUDNZ W	2015		0,40%	
	2016		0,06%	
220-kV-D7KUSE D7POEP-HOCHLR O	2017		0,06%	
220-kV-D7KUSE D7YBEL-POLSUM S	2017		0,09%	
220-kV-D7KUSE D7YPOE-HOCHLR W	2017		0,07%	
220-kV-D7LUES D7LUES-HALLE W	2016		0,25%	
220-kV-D7LUES D7WEHR-BOHMTE O	2016		0,08%	
220-kV-D7LUES D7WEHR-BOHMTE W	2016		0,08%	
220-kV-D7MAXA D7MUTT-BIENWD W	2015		0,35%	
	2016		0,02%	
220-kV-D7MEMM D7VOEH-VOEHRG W	2016		0,05%	
	2017		0,10%	
220-kV-D7NORF D7OSTR-ZONS W	2016		0,01%	
220-kV-D7NORF D7PETE-NORF O	2015		0,01%	
220-kV-D7NORF D7PETE-NORF W	2015		0,01%	
220-kV-D7NRHE D7SPEL-SPELLN S	2016		0,11%	
220-kV-D7NRHE D7YOSS-WESEL O	2015		0,01%	
220-kV-D7NSTE D7WENG-WENGER	2016		0,01%	
220-kV-D7PETE D7YPET-FRIXHM S	2015		0,31%	
	2016		0,07%	
	2017		0,02%	
220-kV-D7PFUN D7URBE-KRANI O	2016		0,19%	
	2017		1,18%	
220-kV-D7PFUN D7URBE-PFUNG O	2016		0,05%	
220-kV-D7PFUN D7YWTH-NETTE O	2015		0,03%	
220-kV-D7POEP D7YELM-ELMENS S	2016		0,06%	
	2017		0,01%	
220-kV-D7POEP D7YPOE-CAPPEN N	2016		0,07%	
	2017		0,03%	
220-kV-D7REIN D7YGGA-HONECK W	2016		0,10%	
	2017		0,48%	
220-kV-D7REIN D7YREI-REINAU W	2017		0,01%	
220-kV-D7ROKI D7YPET-FRIXHM S	2016		0,01%	
	2017		0,02%	
220-kV-D7SECH D7SIEG-TROISD O	2016		0,01%	
220-kV-D7SECH D7SIEG-TROISD W	2016		0,01%	
220-kV-D7SECH D7WTHU-NETTE O	2016		0,48%	

	2017		0,50%	
220-kV-D7SECH D7YWTH-NETTE O	2015		0,14%	
220-kV-D7SPEL D7WALS-LOENEN W	2016		0,01%	
220-kV-D7TIEN D7YHER-BLUDNZ W	2015		0,06%	
220-kV-D7UCHT D7YKER-OTTERB S	2015		0,03%	
220-kV-D7UTFO D7YEDE-UTFORT W	2017		0,06%	
220-kV-D7VOEH D73YWB-DELLM O	2015		0,01%	
	2016		0,02%	
	2017		0,18%	
220-kV-D7WALS D7YSHW-WALSUM S	2015		0,01%	
	2016		0,03%	
220-kV-D7WENG D7WTHU-KONDLW	2016		0,01%	
220-kV-D7WEST D7YHAN-AMELSB	2015		0,01%	
	2016		0,02%	
220-kV-D7WTHU D7YWTH-NETTE O	2015		0,11%	
220-kV-D7YBW2 D7MUTT-ROXHM S	2016		0,03%	
220-kV-DDA_MA D7MAXA-GOLDGR	2015		0,67%	
	2016		1,33%	0,05%
	2017		3,30%	0,37%
220-kV-DGK_MU D7MUTT-RHEIN N	2016		0,68%	
	2016		0,30%	
	2017		0,30%	
220-kV-DGK_MU D7MUTT-RHEIN S	2016		0,68%	
	2016		0,30%	
	2017		0,30%	
220-kV-DHO_HO D7HONE-EVSUEB	2017		0,01%	
220-kV-DKU_TI D7TIEN-KUEMOS	2015		0,07%	
220-kV-DPU_HO D7HONE-HO PU WS	2016		0,06%	
	2017		0,17%	
220-kV-XBE_TI D7TIEN-AARE O	2015		0,81%	
	2016		0,44%	
	2017		0,49%	0,02%
220-kV-XWE_ME D7MEMM-FUESSN W	2015		0,03%	
	2017		0,03%	
380-kV-D7BISC D7URBE-ERZHAU N	2016		0,09%	
380-kV-D7BISC D7YPFU-RIED W	2017		0,02%	
380-kV-D7BUER D7HONE-KUGELB O	2015		0,01%	
	2016		0,14%	
	2017		0,74%	0,40%
380-kV-D7BUER D7HONE-KUGELB W	2015		0,01%	
	2016		0,18%	
	2017		0,90%	
380-kV-D7BUER D7YWDL-SOONWD O	2016		0,02%	
	2017		0,07%	

380-kV-D7DETT D7URBE-KARLST S	2016		0,28%	
	2017		0,13%	
380-kV-D7GEIT D7UNNA-HAARST W	2016		0,08%	
380-kV-D7GEIT D7YLPB-GEITHE W	2016		0,08%	
380-kV-D7GERS D7LIPP-WALTRO S	2017		0,05%	
380-kV-D7GERS D7MENG-MENGED N	2015		0,06%	
	2017		0,05%	
380-kV-D7GERS D7YGER-UENTRO N	2015		0,07%	
	2016		0,46%	
	2017		1,68%	
380-kV-D7GUND D7VOEH-GUENZ N	2015		0,08%	0,33%
	2016		0,01%	
	2017		0,13%	0,02%
380-kV-D7GUND D7VOEH-GUENZ S	2015		0,08%	
	2016		0,01%	
	2017		0,13%	
380-kV-D7HANE D7MEPP-MEPPEN	2015		0,02%	
	2017		0,38%	
380-kV-D7HANE D7YHAN-MUENST	2015		0,14%	
	2016		0,17%	
	2017		0,07%	
380-kV-D7HATT D7WITT-KEMNAD S	2015		0,10%	
	2016		0,03%	
380-kV-D7HUEL D7YHUE-WESTFL W	2017		0,03%	
380-kV-D7KRUC D7UNNA-SHWERT N	2016		0,06%	
380-kV-D7KRUC D7WITT-PERSEBEK	2015		0,03%	
380-kV-D7KUSE D7NRHE-LIPPE N	2017		0,03%	
380-kV-D7KUSE D7ROSE-KUSENH	2016		0,03%	
380-kV-D7KUSE D7YHAN-MUENST	2015		0,08%	
	2016		0,09%	
380-kV-D7LIPP D7MENG-MENGED S	2015		0,07%	
	2016		0,11%	
	2017		0,11%	
380-kV-D7NSTE D7YDAH-SELHN O	2017		0,07%	
380-kV-D7NSTE D7YDAH-SELHN W	2017		0,07%	
380-kV-D7OTTE D7YBUE-BUERST	2017		0,18%	
380-kV-D7PFUN D7URBE-GRIESH O	2017		0,01%	
380-kV-D7ROXE D7UENT-UENTRO S	2017		0,07%	
380-kV-D7UENT D7YLPB-GEITHE W	2016		0,08%	
380-kV-D7UENT D7YLPB-HAARST O	2017		0,03%	
380-kV-D7VOEH D7YVOE-DONAU O	2015		0,27%	
	2016		0,14%	
	2017		0,05%	
380-kV-D7WTHU D7YKOB-NASSAU	2015		0,01%	

380-kV-D7WTHU D7YWDL-SOONWD O	2015		0,01%	
	2016		0,06%	
	2017		0,15%	
380-kV-DAS_DA D7DAUR-WESTW W1	2015		0,05%	
380-kV-DDA_WE D7WEIN-GERMHM S	2016		0,06%	
	2017		0,63%	0,20%
380-kV-DDE_VO D7VOEH-DONAU W	2015		1,63%	0,15%
	2016		0,18%	0,04%
	2017		0,27%	0,14%
380-kV-DDI_DA D7DAUR-WESTW O2	2015		0,05%	
	2016		0,13%	
380-kV-DFR_KR D7KRIF-TAUNUS 2	2017		0,11%	
380-kV-DGK_DE D7DETT-UMAIN S1	2015		1,06%	
	2016		4,64%	0,45%
	2017		5,45%	1,71%
380-kV-DGK_UR D7URBE-UMAIN N2	2015		1,11%	
	2016		4,03%	0,36%
	2017		3,74%	
380-kV-DHR_HO D7HONE-HERBTG W	2015		0,63%	
	2016		1,18%	0,05%
	2017		0,32%	
380-kV-DTW_NE D7NEHD-TWIST W4	2016		0,01%	
380-kV-XWE_LE D7LEUP-FUESSN O	2015		0,02%	
220-kV-D7GARE D7HERN-HERDE S	2015			0,03%
220-kV-D7HANE D7KUSE-GRAFSH W	2016			0,17%
220-kV-D7OPLA D7GARE-BIGGE O	2017			0,07%
220-kV-D7OPLA D7GARE-BIGGE W	2017			0,06%
380-kV-D7HANE D7UENT-UENTRO N	2017			0,15%
380-kV-D7NSTE D7NSTE-TR 421	2017			0,05%
380-kV-D7OBZI D7NSTE-SELHN W	2016			0,02%
	2017			0,19%
380-kV-D7VOEH D7HONE-DONAU O	2015			0,17%
	2016			0,29%
	2017			0,07%
380-kV-D7WTHU D7BUER-SOONWD O	2016			0,03%
380-kV-DHR_TI D7TIEN-TIENG N	2017			0,07%

11.3.Tennet GER

Grid element	Year	CCDA	D-1	Realtime
220-kV-Stromkreis Altheim - Simbach - Sankt Peter/APG 233/230	2015			0,01%
	2016			0,09%
220-kV-Stromkreis Altheim - Simbach - Sankt Peter/APG 234/230	2017			0,18%

220-kV-Stromkreis Altheim - Sittling 219	2015		1,28%	
	2016		2,29%	
220-kV-Stromkreis Altheim - Sittling 219/233/230	2016		0,34%	
	2017		6,78%	
220-kV-Stromkreis Altheim - Sittling 220	2015		1,91%	
	2016		3,40%	0,02%
	2017		7,45%	0,07%
220-kV-Stromkreis Altheim - Y Simbach 219/233/230	2016		0,03%	
	2017		6,04%	
220-kV-Stromkreis Altheim - Y Simbach 233/230	2015		0,50%	
	2016		0,48%	
220-kV-Stromkreis Altheim - Y Simbach 234/230	2015		0,78%	
	2016		0,79%	
	2017		6,86%	
220-kV-Stromkreis Audorf - Audorf 421	2015		0,15%	
220-kV-Stromkreis Audorf - AudorfS 422	2017		0,07%	
220-kV-Stromkreis Audorf - Flensburg BLAU	2017		0,14%	
220-kV-Stromkreis Audorf - Flensburg grün	2015	0,10%	0,07%	
	2016	0,10%	0,07%	
	2017	0,90%	0,24%	0,02%
220-kV-Stromkreis Audorf - Hamburg/N gelb	2015	2,00%	0,57%	0,13%
	2016	2,00%	0,23%	0,11%
	2017	3,90%	0,50%	0,31%
220-kV-Stromkreis Audorf - Hamburg/N rot	2015	0,50%	0,49%	0,10%
	2016	0,50%	0,29%	
	2017	1,80%	0,16%	
220-kV-Stromkreis Cloppenburg/O - Conneforde ROT	2017		0,01%	
220-kV-Stromkreis Conneforde - Emden/Borssum SCHWARZ	2015		1,66%	
	2016		0,47%	
	2017		0,26%	
220-kV-Stromkreis Conneforde - Emden/Borssum WEISS	2015		1,58%	
	2016		0,47%	
	2017		0,45%	
220-kV-Stromkreis Conneforde - Huntorf - Blockland rot	2015			0,53%
	2016			0,02%
220-kV-Stromkreis Conneforde - Huntorf - Sottrum gelb	2015			0,76%
	2016			0,22%
	2017			0,09%
220-kV-Stromkreis Conneforde - Maade blau	2015		41,78%	
	2016		12,97%	
	2017		19,52%	0,03%
220-kV-Stromkreis Conneforde - Maade rot	2015		41,71%	
	2016		12,97%	
	2017		19,30%	0,14%
220-kV-Stromkreis Conneforde - Unterweser ROT	2015		0,02%	
220-kV-Stromkreis Enstedvaerket (DK) - Flensburg GELB	2015		0,08%	
	2017		0,23%	

220-kV-Stromkreis Etzenricht - Schwandorf 248	2016		1,72%	
	2017		5,45%	
220-kV-Stromkreis Flensburg - Kassoe/ENDK rot	2015	5,90%	0,13%	0,18%
	2016	5,90%		
	2017	3,30%	0,30%	
220-kV-Stromkreis Godenau - Erzhausen - Göttingen 3	2016			0,03%
	2017			0,02%
220-kV-Stromkreis Göttingen - Sandershausen 1	2016		0,09%	
220-kV-Stromkreis Göttingen - Sandershausen 2	2015		0,16%	
220-kV-Stromkreis Großkrotzenburg - Trennfeld 217	2015		0,18%	0,03%
	2016		0,10%	
220-kV-Stromkreis Grosskrotzenburg - Trennfeld 218	2015		0,23%	
	2016		0,06%	
	2017		0,02%	
220-kV-Stromkreis Hamburg/N - Brokdorf BLAU	2017		0,05%	
220-kV-Stromkreis Hamburg/N - Hamburg/N/50Hertz blau	2017		0,13%	
220-kV-Stromkreis Hamburg/N - Hamburg/N/50Hertz grün	2015		2,72%	0,13%
	2016		0,09%	
	2017		0,11%	
220-kV-Stromkreis Hamburg/N - Hamburg/N/50Hertz rot	2015	0,40%	2,50%	6,69%
	2016	0,40%	3,71%	0,32%
	2017	0,30%	1,04%	
220-kV-Stromkreis Hamburg/N - Hamburg/N/HEW ROT	2015		12,64%	
220-kV-Stromkreis Hamburg/N - Itzehoe/W rot	2016			0,14%
	2017		0,09%	
220-kV-Stromkreis Hamburg/N - Lübeck - GELB	2016		0,13%	
220-kV-Stromkreis Hamburg/N - Lübeck - ROT	2016		0,13%	
220-kV-Stromkreis Hamburg/N - Stade BLAU	2015		1,94%	
220-kV-Stromkreis Hamburg/N (50Hertz) - Hamburg/N	2015		0,19%	
220-kV-Stromkreis Ingolstadt - Raitersaich 265	2017		0,32%	
220-kV-Stromkreis Ingolstadt - Raitersaich 266	2015		0,03%	
	2017		0,38%	
220-kV-Stromkreis Inhausen - Maade SCHWARZ	2015		0,34%	
	2016		0,08%	
220-kV-Stromkreis Irsching - Zolling 262	2015		0,33%	
	2016		0,41%	0,07%
	2017		1,79%	0,10%
220-kV-Stromkreis Itzehoe/W - Brokdorf GRUEN	2017		0,06%	
220-kV-Stromkreis Itzehoe/W - Brunsbüttel ROT	2017		0,07%	
220-kV-Stromkreis Landesbergen - Wechold - Sottrum gelb 2	2015			0,15%
220-kV-Stromkreis Landesbergen - Wechold - Sottrum rot 1	2016			0,14%
	2017			0,40%
220-kV-Stromkreis Lehrte - Erzhausen - Hardeggen - Göttingen 2	2015			0,75%
	2016			0,29%
	2017			0,16%
220-kV-Stromkreis Lehrte - Godenau 1	2015		6,47%	6,01%
	2016		5,55%	3,98%

	2017		2,87%	3,79%
220-kV-Stromkreis Lehrte - Mehrum 1	2015		1,35%	0,35%
	2016		0,37%	0,14%
	2017		0,64%	0,34%
220-kV-Stromkreis Lehrte - Mehrum 2	2015		0,55%	0,01%
	2016		0,37%	
	2017		0,03%	0,18%
220-kV-Stromkreis Lehrte - Wahle 1	2015		2,63%	0,21%
	2016		1,71%	0,23%
	2017		0,51%	0,02%
220-kV-Stromkreis Ludersheim - Raitersaich 237	2015		1,80%	
	2016		1,51%	
	2017		1,44%	
220-kV-Stromkreis Ludersheim - Sittling 221	2015		0,26%	
	2016		0,88%	
	2017		3,41%	0,06%
220-kV-Stromkreis Mehrum - Gleidingen - Hallendorf 2	2017			0,05%
220-kV-Stromkreis Mehrum - Hallendorf 1	2015		0,17%	
	2017		0,08%	0,33%
220-kV-Stromkreis Mehrum - Lahe 2111	2015		0,15%	0,17%
	2016			0,06%
	2017		0,48%	
220-kV-Stromkreis Mehrum - Lahe 222	2015		0,07%	
220-kV-Stromkreis Mehrum - Y Hallendorf 2	2015		0,21%	
	2016		0,08%	
220-kV-Stromkreis Oberbrunn - Oberbachern 269	2017		0,10%	
220-kV-Stromkreis Oberbrunn - Oberbachern 270	2017		0,10%	
220-kV-Stromkreis Pleinting - Pirach 257	2015		0,02%	
	2016		0,41%	
	2017		0,73%	
220-kV-Stromkreis Pleinting - Sankt Peter/APG 258	2015		5,73%	0,14%
	2016		6,83%	0,51%
	2017		9,10%	0,21%
220-kV-Stromkreis Pleinting - Schwandorf 226	2015		0,13%	
	2016		0,16%	0,11%
	2017		0,07%	
220-kV-Stromkreis Siems - Lübeck BLAU	2016		0,0014	
220-kV-Stromkreis Silz (APG) - Y Krün 251	2017		0,02%	
220-kV-Stromkreis Sittling - Altheim - Simbach - Sankt Peter/APG 219/233/230	2017			0,34%
220-kV-Stromkreis Sittling - Ingolstadt 227	2015		0,02%	
	2016		0,07%	
	2017		0,57%	
220-kV-Stromkreis Sittling - Ingolstadt 228	2015		0,02%	
	2016		0,07%	
	2017		0,71%	
220-kV-Stromkreis Sottrum - Blockland blau	2015		0,13%	

	2017		1,07%	0,32%
220-kV-Stromkreis Sottrum - Huntorf - Conneforde - Unterweser gelb/rot	2017			1,11%
220-kV-Stromkreis St.Peter (APG) - Pirach 256	2015		0,48%	
	2016		0,11%	
	2017		0,54%	
220-kV-Stromkreis St.Peter (APG) - Y Simbach 219/233/230	2016		0,21%	
	2017		9,22%	
220-kV-Stromkreis St.Peter (APG) - Y Simbach 233/230	2015		2,16%	
	2016		1,30%	
220-kV-Stromkreis St.Peter (APG) - Y Simbach 234/230	2015		2,59%	
	2016		1,80%	
	2017		9,62%	
220-kV-Stromkreis Stade - Dollern BLAU	2015		0,42%	
	2016		0,03%	
220-kV-Stromkreis Voslapp - Inhausen ROT	2015		0,42%	
	2016		0,08%	
220-kV-Stromkreis Voslapp - Maade WEISS	2015		0,74%	
	2017		0,09%	
220-kV-Stromkreis Y Erzhausen - Godenau 3	2015		1,56%	
	2016		1,04%	
	2017		2,35%	
220-kV-Stromkreis Y Erzhausen - Lehrte 2	2015		2,31%	
	2016		2,39%	
	2017		1,11%	
220-kV-Stromkreis Y Erzhausen - Y Hardeggen 3	2015		1,48%	
	2016		0,71%	
	2017		1,96%	
220-kV-Stromkreis Y Hallendorf - Gleidingen 2	2015		0,0013	
220-kV-Stromkreis Y Hardeggen - Göttingen 2	2016		0,02%	
	2017		1,10%	
220-kV-Stromkreis Y Hardeggen - Göttingen 3	2015		0,29%	
	2016		0,13%	
	2017		0,48%	
220-kV-Stromkreis Y Hardeggen - Y Erzhausen 2	2015		2,15%	
	2016		1,60%	
	2017		0,84%	
220-kV-Stromkreis Y Huntorf - Blockland ROT	2015		0,73%	
	2016		0,16%	
	2017		0,19%	
220-kV-Stromkreis Y Huntorf - Conneforde GELB	2015		1,44%	
	2016		0,35%	
	2017		0,22%	
220-kV-Stromkreis Y Huntorf - Conneforde ROT	2015		0,16%	
	2017		0,01%	
220-kV-Stromkreis Y Huntorf - Sottrum GELB	2015		1,42%	
	2016		0,38%	

	2017		1,91%	
220-kV-Stromkreis Y Huntorf - Y Conneforde GELB	2016		0,07%	
	2017		1,47%	
220-kV-Stromkreis Y Sottrum - Dollern GRUEN	2016		0,01%	
220-kV-Stromkreis Y Sottrum - Sottrum GRUEN	2015		0,08%	
	2016		0,03%	
220-kV-Stromkreis Y Wechold - Landesbergen 1	2015		2,36%	
	2016		0,32%	
	2017		0,68%	
220-kV-Stromkreis Y Wechold - Landesbergen 2	2015		2,35%	
	2016		0,53%	
	2017		0,19%	
220-kV-Stromkreis Y Wechold - Sottrum 1	2015		1,50%	
	2016		1,14%	
	2017		2,03%	
220-kV-Stromkreis Y Wechold - Sottrum 2	2015		1,61%	
	2016		1,43%	
	2017		0,94%	
380-kV-Stromkreis Algermissen - Wahle 2	2015		0,30%	
	2016		0,09%	
380-kV-Stromkreis Altenfeld (50Hertz) - Redwitz 459	2015		0,11%	
	2016		0,41%	
	2017		0,11%	
380-kV-Stromkreis Altenfeld (50Hertz) - Redwitz 460	2016		1,21%	
	2017		1,86%	
380-kV-Stromkreis Aschaffenburg - Dipperz 412/2	2015			0,09%
380-kV-Stromkreis Aschaffenburg - Dipperz 412/417/1	2015			0,47%
380-kV-Stromkreis Aschaffenburg - Grosskrotzenburg 412	2017		0,01%	
380-kV-Stromkreis Audorf - Flensburg - Jardelund blau	2017	0,10%		
380-kV-Stromkreis Audorf - Flensburg - Jardelund grün	2017	0,30%		
380-kV-Stromkreis Audorf - Y Flensburg GRUEN	2016		0,01%	
	2017		0,03%	
380-kV-Stromkreis Audorf/S - Flensburg - Jardelund grün	2017			0,03%
380-kV-Stromkreis AudorfS - Y Flensburg GRUEN	2017		0,05%	
380-kV-Stromkreis Bechterdissen - Elsen - 2	2017		0,007%	
380-kV-Stromkreis Bechterdissen - Gütersloh/Amprion (Senne Süd 1)	2015		2,01%	0,02%
	2016		1,29%	0,17%
	2017		1,08%	
380-kV-Stromkreis Bergshausen - Borken 1	2015		2,57%	
	2016		1,56%	
	2017		1,91%	
380-kV-Stromkreis Bergshausen - Borken 2	2015		2,66%	0,03%
	2016		1,68%	
	2017		2,12%	0,11%
380-kV-Stromkreis Bergshausen - Y Vörden 1	2015		0,51%	
	2017		0,26%	
380-kV-Stromkreis Borken - Giessen/N - Karben 1	2016			0,27%

	2017			1,69%
380-kV-Stromkreis Borken - Giessen/N - Karben 2	2017			0,52%
380-kV-Stromkreis Borken - Giessen/N 1	2015		2,07%	0,45%
	2016		0,03%	
380-kV-Stromkreis Borken - Giessen/N 2	2015		1,52%	
	2016		0,05%	
380-kV-Stromkreis Borken - Mecklar 1	2015		0,83%	1,22%
	2016		0,50%	
	2017		0,18%	
380-kV-Stromkreis Borken - Mecklar 2	2015		0,91%	0,17%
	2016		0,50%	0,09%
	2017		0,18%	0,06%
380-kV-Stromkreis Borken - Waldeck - Twistetal 2	2016			0,07%
	2017			0,20%
380-kV-Stromkreis Borken - Waldeck - Twistetal 3	2017			0,03%
380-kV-Stromkreis Borken - Y GießenN 1	2017		0,02%	
380-kV-Stromkreis Brunsbüttel - Brunsbüttel/50Hertz 949	2015	38,20%	12,39%	10,51%
	2016	38,20%	11,32%	15,84%
	2017	25,80%	7,52%	11,41%
380-kV-Stromkreis Brunsbüttel - Brunsbüttel/50Hertz 951	2017		0,14%	
380-kV-Stromkreis Brunsbüttel - Büttel blau	2015		1,87%	2,57%
	2016		0,58%	
	2017	0,70%	1,02%	0,27%
380-kV-Stromkreis Brunsbüttel - Büttel grün	2015		0,75%	1,20%
	2016		0,05%	
	2017	3,20%	0,94%	
380-kV-Stromkreis Conneforde - Conneforde	2015		0,07%	
380-kV-Stromkreis Conneforde - Diele ROT	2015		1,91%	
380-kV-Stromkreis Conneforde - Diele WEISS	2015		1,85%	
380-kV-Stromkreis Conneforde Ost - Conneforde Ost D2CONO1 TR	2015		0,19%	
	2016		0,07%	
	2017		0,08%	
380-kV-Stromkreis Conneforde Ost - Diele ROT	2015	0,3%	1,59%	
	2016	0,2%	0,80%	
	2017	0,1%	0,26%	
380-kV-Stromkreis Conneforde Ost - Diele WEISS	2015		1,50%	
	2016		0,80%	
	2017		0,48%	
380-kV-Stromkreis Dauersberg (AMP) - Asslar 1	2015		0,05%	
380-kV-Stromkreis Dauersberg (AMP) - Dillenburg 2	2015		0,05%	
	2016		0,13%	
380-kV-Stromkreis Diele - Dörpen West	2015	0,3%	0,63%	
	2016	0,2%	0,56%	
	2017	0,2%	0,91%	
380-kV-Stromkreis Dillenburg - Giessen/N 3	2015		0,03%	
	2016		0,11%	
380-kV-Stromkreis Dipperz - Großkrotzenburg 1	2016		1,12%	0,16%

	2017		3,26%	0,44%
380-kV-Stromkreis Dipperz - Großkrotzenburg 2	2015		1,07%	1,19%
	2016		1,86%	
	2017		3,40%	0,28%
380-kV-Stromkreis Dollern - Wilster gelb	2015	0,20%	3,94%	2,10%
	2016	0,20%	6,42%	0,91%
	2017	0,80%	5,05%	0,43%
380-kV-Stromkreis Dollern - Wilster rot	2015	0,70%	4,08%	0,23%
	2016	0,70%	6,42%	
	2017	3,30%	5,21%	
380-kV-Stromkreis Dörpen/W - Hanekenfähr/Amprion EWBL	2015	0,05%		
	2016	0,3%		
	2017	1,3%		1,93%
380-kV-Stromkreis Dörpen/W - Niederlangen - Meppen/Amprion EOWS	2015			0,05%
	2016			0,73%
	2017			5,33%
380-kV-Stromkreis Eickum - Bechterdissen 1	2015		0,43%	
	2016		0,24%	0,03%
	2017		0,70%	
380-kV-Stromkreis Eisenach (50Hertz) - Mecklar 450-2	2015		1,40%	
	2016		0,25%	
	2017		0,25%	
380-kV-Stromkreis Eltmann - Redwitz 428	2015		0,01%	
	2016		0,10%	
	2017		0,25%	
380-kV-Stromkreis Etzenricht - Hradec/CEPS 441	2015	5%	1,27%	
	2016	5%	0,07%	0,06%
	2017	5%	0,15%	
380-kV-Stromkreis Etzenricht - Mechlenreuth - Redwitz 437	2017	4%		0,19%
380-kV-Stromkreis Etzenricht - Mechlenreuth 437	2016		0,10%	
	2017		0,54%	
380-kV-Stromkreis Etzenricht - Prestice/CEPS 442	2015	1%		
	2016	1%		
	2017	1%	0,19%	
380-kV-Stromkreis Etzenricht - Schwandorf 457	2015	7%	0,61%	
	2017	7%	0,02%	
380-kV-Stromkreis Farge - Y Alfstedt BLAU	2015		0,02%	
380-kV-Stromkreis Flensburg - Y Flensburg BLAU	2015		0,47%	
	2016		0,30%	
	2017		0,05%	
380-kV-Stromkreis Flensburg - Y Flensburg GRUEN	2015		1,07%	
	2016		0,46%	
380-kV-Stromkreis Giessen/N - Asslar 4	2015		0,56%	
	2016		0,11%	
	2017		0,25%	
380-kV-Stromkreis Giessen/N - Giessen/N 1	2015		0,64%	
380-kV-Stromkreis Giessen/N - Grosskrotzenburg 1	2015		0,30%	

380-kV-Stromkreis Giessen/N - Karben 1	2015		3,50%	0,80%
	2016		0,37%	0,06%
380-kV-Stromkreis Giessen/N - Karben 2	2015		2,97%	
	2016		0,26%	
380-kV-Stromkreis Grafenrheinfeld - Eltmann 422	2016		0,01%	
	2017		0,22%	
380-kV-Stromkreis Grafenrheinfeld - Höpfingen (TNG)	2016		0,01%	
380-kV-Stromkreis Grafenrheinfeld - Kupferzell/TransnetBW 416	2015		0,07%	
	2016	0,7%	0,27%	0,03%
380-kV-Stromkreis Grafenrheinfeld - Oberhaid 423	2015		0,10%	
380-kV-Stromkreis Grafenrheinfeld - Oberhaid 423	2016		0,01%	
380-kV-Stromkreis Grafenrheinfeld - Stalldorf/TransnetBW 416	2016	0,7%	1,07%	0,45%
	2017	4,3%	2,56%	
380-kV-Stromkreis Grohnde - Algermissen 2	2015		0,18%	
380-kV-Stromkreis Grohnde - Vörden - Bergshausen 1	2015			0,23%
	2016			0,29%
380-kV-Stromkreis Grohnde - Würgassen 2	2015		0,62%	
	2016		0,19%	0,08%
380-kV-Stromkreis Großkrotzenburg - Dettingen/Amprion US1	2017		0,45%	
	2015		1,06%	
	2016		4,66%	0,45%
380-kV-Stromkreis Großkrotzenburg - Karben 1	2017	0,1%	6,02%	1,67%
	2015		2,00%	0,26%
	2016		2,37%	1,78%
380-kV-Stromkreis Großkrotzenburg - Karben 3	2017		1,83%	0,59%
	2015		2,03%	
	2016		3,22%	0,77%
380-kV-Stromkreis Großkrotzenburg - Urberach/Amprion UN2	2017		2,21%	
	2015		1,11%	
	2016		4,04%	0,36%
380-kV-Stromkreis Hamburg/S (50Hertz) - Dollern 981	2017	0,02%	4,30%	
	2015		0,16%	
	2016		0,06%	
380-kV-Stromkreis Hamburg/S (50Hertz) - Dollern 982	2017		0,09%	
	2015		0,11%	
	2016		0,03%	
380-kV-Stromkreis Hanekenfähr (AMP) - Dörpen West BLAU	2017		0,11%	
	2015		4,27%	
	2016		4,68%	
380-kV-Stromkreis Hattorf - Helmstedt 1	2017		12,16%	
	2015		0,30%	
	2016		0,19%	
380-kV-Stromkreis Hattorf - Helmstedt 2	2017		0,14%	
	2015		0,24%	
	2016		0,13%	
380-kV-Stromkreis Helmstedt - Helmstedt	2017		0,06%	0,12%
	2015		0,10%	

380-kV-Stromkreis Irsching - Ottenhofen 421	2017		0,11%	
380-kV-Stromkreis Isar II KKW - Isar 405	2015		2,03%	
	2016		0,21%	
	2017		0,23%	
380-kV-Stromkreis Isar II KKW - Isar 406	2015		2,07%	
	2016		0,22%	
	2017		0,23%	
380-kV-Stromkreis Kassö (DK) - Jardelund 1	2015	2,20%	0,06%	
	2016	4,00%	0,30%	
	2017	6,20%	0,23%	
380-kV-Stromkreis Kassö (DK) - Jardelund 2	2015		0,06%	
	2016		0,30%	
	2017		0,23%	
380-kV-Stromkreis Klein Ilsede - Grohnde - 1	2015		0,02%	
	2016		0,07%	
380-kV-Stromkreis Kriegenbrunn - Raitersaich 438	2015		0,03%	
	2017		0,16%	
380-kV-Stromkreis Kriegenbrunn - Redwitz 432	2015		1,12%	
	2016		0,14%	0,03%
	2017		2,32%	
380-kV-Stromkreis Kriftel (AMP) - Y Frankfurt/SW 2	2017		0,11%	
380-kV-Stromkreis Krümmel - Stadorf 2	2016		0,22%	
	2017		0,01%	
380-kV-Stromkreis Krümmel (50Hertz) - Krümmel 993	2016		0,16%	
380-kV-Stromkreis Krümmel (50Hertz) - Krümmel 994	2015		0,08%	
	2016		0,35%	
380-kV-Stromkreis Landesbergen - Ovenstädt 4	2015		1,13%	
	2016		1,74%	0,05%
	2017		1,89%	0,02%
380-kV-Stromkreis Landesbergen - Sottrum 2	2015		5,37%	0,11%
	2016		4,81%	0,26%
	2017		5,94%	2,83%
380-kV-Stromkreis Landesbergen - Wehrendorf/Amprion DS1	2015		0,74%	0,06%
380-kV-Stromkreis Lüneburg - Krümmel GRUEN	2016		0,03%	
	2017		0,05%	
380-kV-Stromkreis Lüneburg - Stadorf 1	2017		0,01%	
380-kV-Stromkreis Mecklar - Dipperz 1	2015		2,55%	0,15%
	2016		2,97%	
	2017		3,76%	
380-kV-Stromkreis Mecklar - Dipperz 2	2015		1,00%	
	2016		2,17%	
	2017		3,62%	
380-kV-Stromkreis Meeden (NL) - Diele SCHWARZ	2015	5,0%	6,66%	
	2016	9,1%	4,93%	
	2017	10,8%	5,55%	
380-kV-Stromkreis Meeden (NL) - Diele WEISS	2015	0,0%	6,00%	

	2016	0,1%	4,93%	
	2017	0,8%	5,86%	
380-kV-Stromkreis Meitingen (AMP) - Oberbachern 419	2017		0,13%	
380-kV-Stromkreis Meppen (AMP) - Y Niederlangen WEISS	2015		4,45%	
	2016		4,99%	
	2017		10,34%	
380-kV-Stromkreis Nehden (AMP) - Twistetal 4	2016		0,01%	
380-kV-Stromkreis Oberbachern - Ottenhofen 461	2015			0,05%
	2016		0,07%	
	2017		0,01%	0,02%
380-kV-Stromkreis Oberbachern - Ottenhofen 462	2016		0,07%	
380-kV-Stromkreis Oberhaid - Redwitz 435	2015		0,39%	
	2016		0,22%	
380-kV-Stromkreis Ohlensehlen - Landesbergen 1	2015		0,11%	
	2016		0,21%	
	2017		0,05%	
380-kV-Stromkreis Ovenstädt - Bechterdissen 3	2015		1,26%	0,29%
	2016		0,91%	
	2017		1,43%	
380-kV-Stromkreis Ovenstädt - Eickum 4	2015		1,46%	0,25%
	2016		0,92%	
	2017		1,70%	0,41%
380-kV-Stromkreis Ovenstädt - Sottrum 3	2015		1,91%	
	2016		0,17%	
	2017		0,38%	
380-kV-Stromkreis Raitersaich - Redwitz 436	2015		1,04%	
380-kV-Stromkreis Raitersaich - Würgau 431	2016		0,05%	
	2017		0,14%	
380-kV-Stromkreis Redwitz - Mechlenreuth 437	2015		0,05%	
	2016		0,37%	
	2017		1,12%	
380-kV-Stromkreis Redwitz - Würgau 436	2016		0,02%	
380-kV-Stromkreis Remptendorf (50Hertz) - Redwitz 413	2015		14,86%	
	2016		7,95%	
	2017		5,29%	
380-kV-Stromkreis Remptendorf (50Hertz) - Redwitz 414	2015		17,88%	
	2016		7,71%	
	2017		5,15%	
380-kV-Stromkreis Sottrum - Dollern GRUEN	2015		0,94%	
	2016		0,70%	
	2017		0,65%	
380-kV-Stromkreis Sottrum - Dollern schwarz	2015	0,10%	0,23%	
	2016	0,10%	0,49%	
	2017	0,10%	0,88%	
380-kV-Stromkreis Unterweser - Farge WEISS	2015		0,13%	
380-kV-Stromkreis Vieselbach (50Hertz) - Mecklar 449-1	2015		1,26%	
	2016		0,18%	

	2017		0,22%	
380-kV-Stromkreis Wahle - Hattorf 1	2015		0,18%	
	2016		0,11%	
	2017		0,06%	
380-kV-Stromkreis Wahle - Hattorf 2	2015		0,17%	
	2016		0,11%	
	2017		0,02%	
380-kV-Stromkreis Wahle - Helmstedt 1	2015			0,07%
	2017			0,14%
380-kV-Stromkreis Wahle - Klein Ilsede - 3	2015		0,08%	
	2016		0,10%	
380-kV-Stromkreis Wehrendorf (AMP) - Ohlensehlen 1	2015		0,17%	
	2016		0,32%	
	2017		0,35%	
380-kV-Stromkreis Wilster - Audorf blau	2015		0,13%	0,02%
	2016		0,22%	
	2017	2,80%	0,05%	
380-kV-Stromkreis Wilster - Audorf rot	2015	0,40%		
	2016	0,40%		
	2017	0,50%		0,13%
380-kV-Stromkreis Wilster - Audorf/S rot	2017		0,07%	0,07%
380-kV-Stromkreis Wilster - AudorfS blau	2017		0,03%	
380-kV-Stromkreis Wilster - Brokdorf WEISS	2016		0,27%	
380-kV-Stromkreis Wilster - Büttel GELB	2015		0,26%	
	2016		0,26%	
	2017		0,45%	
380-kV-Stromkreis Wilster - Büttel ROT	2017		0,13%	
380-kV-Stromkreis Wolmirstädt (50Hertz) - Helmstedt 491-1	2015		0,45%	
	2016		0,24%	
	2017		0,48%	
380-kV-Stromkreis Wolmirstädt (50Hertz) - Helmstedt 492-2	2015		0,56%	
	2016		0,25%	
	2017		0,08%	
380-kV-Stromkreis Würgassen - Sandershausen/O - Bergshausen 2	2015		0,54%	
	2016		0,31%	
	2017		1,26%	0,07%
380-kV-Stromkreis Würgassen - Würgassen 2	2016		0,31%	
	2017		1,22%	
380-kV-Stromkreis Y Flensburg - Audorf BLAU	2016		0,01%	
380-kV-Stromkreis Y Flensburg - AudorfS BLAU	2017		0,09%	
380-kV-Stromkreis Y Flensburg - Jardelund BLAU	2016		0,22%	
	2017		0,21%	
380-kV-Stromkreis Y Flensburg - Jardelund GRUEN	2016		0,22%	
	2017		0,15%	
380-kV-Stromkreis Y GießenN - Karben 1	2016		0,75%	
	2017		2,15%	
380-kV-Stromkreis Y GießenN - Karben 2	2016		0,68%	

	2017		1,82%	
380-kV-Stromkreis Y Niederlangen - Dörpen West WEISS	2015		1,56%	
	2016		2,10%	
	2017		5,75%	
380-kV-Stromkreis Y Niederlangen - Meppen (AMP)	2015	0,05%		
	2016	0,2%		
	2017	1,2%		
380-kV-Stromkreis Y Rhede - Diele SCHWARZ	2015	0,1%	1,31%	
	2016	0,1%	0,54%	
	2017	0,2%	0,55%	
380-kV-Stromkreis Y Rhede - Dörpen West SCHWARZ	2015		0,81%	
	2016		0,92%	
	2017		0,79%	
380-kV-Stromkreis Y Vörden - Grohnde 1	2015		0,86%	
	2016		0,25%	
	2017		0,62%	
380-kV-Stromkreis Y Waldeck 1&2 - Borken 2	2015		0,01%	
	2016		0,02%	
	2017		0,42%	
380-kV-Stromkreis Y Waldeck 1&2 - Borken 3	2015		0,01%	
	2016		0,02%	
	2017		0,42%	
380-kV-Stromkreis Y Waldeck 1&2 - Twistetal 2	2015		0,01%	
	2016		0,02%	
	2017		0,27%	
380-kV-Stromkreis Y Waldeck 1&2 - Twistetal 3	2015		0,01%	
	2017		0,25%	
Blockland 220-kV SOTTRUM blau	2017			0,06%
Braunschweig/N Transformator 211	2017			0,07%
Brunsbüttel 380-kV BRUNSBÜTTEL/VE-T rot	2015			0,03%
Conneforde 220-kV SOTTRUM gelb / HUNTORF	2015			0,21%
Conneforde 220-kV TRAF0 421	2015			0,45%
Conneforde 220-kV TRAF0 422	2015			0,08%
Conneforde 380-kV TRAF0 411	2015			0,21%
Conneforde 380-kV TRAF0 421	2015			2,66%
Conneforde Transformator 421	2015			1,76%
Conneforde/O 380-kV TRAF0 421	2015			2,30%
	2016			0,10%
Conneforde/O Transformator 421	2015			0,06%
Conneforde/O Transformator 421	2017			0,02%
Conneforde/O Transformator 422	2016			0,05%
Dipperz 380-kV MECKLAR 1	2015			0,07%
	2016			0,06%
Dollern 380-kV WILSTER gelb	2015			0,09%
Flensburg 220-kV KASSOE/ENDK rot	2015			0,13%
Frankfurt/SW Transformator 412	2015			0,20%
Giessen/N 380-kV KARBEN 1	2016			0,34%

Göttingen Transformator 212	2016			0,01%
Großkrotzenburg Transformator 422	2015			0,06%
	2016			0,08%
	2017			0,14%
Hamburg/N 220-kV HAMBURG NORD 50HERTZ rot	2015			0,47%
	2016			0,10%
Hamburg/N 220-kV HAMBURG/N/HEW rot	2015			0,20%
Hamburg/N/50Hertz 220-kV TRAF0 421	2015			0,51%
Hamburg/N/50Hertz Transformator 421	2015			0,06%
Irsching Transformator NK5	2017			0,06%
Kriegenbrunn Transformator DK9	2015			0,04%
	2016			0,15%
	2017			0,02%
Landesbergen 60-kV TRAF0 262	2017			0,09%
Oberbachern Transformator VK7	2017			0,02%
Oberbrunn Transformator NK2	2015			0,05%
	2017			0,01%
Ovenstädt 380-kV EICKUM 4	2015			0,42%
Pleinting Transformator 422	2017			0,18%
Sottrum 220-kV LANDESBERGEN rot/1	2015			0,03%
Sottrum 380-kV OVENSTÄDT 3	2015			0,08%
Vörden Transformator 411	2017			0,08%
Voslapp Transformator 212	2016			0,02%
	2017			0,13%
Zolling Transformator 211	2016			0,39%
	2017			0,19%
Zolling Transformator NK1	2015			0,08%

11.4.TransnetBW

Grid element	Year	CCDA	D-1	Realtime
380-kV-Daxlanden-Eichstetten gn	2016	0,50%		
380-kV-Daxlanden-Weingarten ge	2016		0,06%	
	2017	0,01%	0,63%	
380-kV-Dellmensingen-Voehringen gn	2016	0,21%		0,03%
	2017	0,66%		
380-kV-Eichstetten-Muhlbach gn	2016	0,01%		
380-kV-Grafenrheinfeld-Kupferzell rt	2015		0,07%	
	2016	0,09%	0,27%	
380-kV-Grafenrheinfeld-Stalldorf rt	2016	0,74%	1,07%	0,02%

	2017	4,59%	2,56%	1,57%
380-kV-Großgartach-Pulverdingen ws	2015	0,08%		
380-kV-Hoheneck-Pulverdingen ws	2016	0,02%	0,06%	
	2017	0,22%	0,17%	
380-kV-Kühmoos-Laufenburg br	2015		0,24%	
	2016		0,18%	
	2017	0,10%	0,13%	
380-kV-Kuehmoos-Laufenburg ge	2015	0,02%		
380-kV-Kupferzell-Stalldorf rt	2016		1,07%	
	2017	0,82%	2,35%	0,40%
220-kV-Altlusheim-Daxlanden bl	2016		0,02%	
220-kV-Altlusheim-Mannheim_GKM bl	2016		0,16%	
	2017		0,05%	
220-kV-Buehl-Daxlanden rt	2015		0,37%	
	2016		0,34%	
	2017		0,10%	
220-kV-Buehl-Weier gn	2017		0,01%	
220-kV-Bürs-Westtirol ws	2017		0,01%	0,01%
220-kV-Daxlanden-Kuppenheim-Weier ge	2017		0,03%	
220-kV-Daxlanden-Maximiliansau sw	2015		0,67%	
	2016		1,34%	
	2017		3,64%	0,63%
220-kV-Eichstetten-Gurtweil ge	2015		0,06%	
	2016		0,02%	
220-kV-Eichstetten-Gurtweil rt	2015		0,02%	

	2016		0,09%	
	2017		0,07%	
220-kV-Eichstetten-Vogelgrün ge	2015		0,02%	
	2016		0,02%	
220-kV-Gurtweil-Laufenburg bl	2015		0,57%	
	2016		0,02%	
220-kV-Hoheneck-Pulverdingen gn	2017		0,07%	
220-kV-Kühmoos-Laufenburg bl	2015		0,08%	
	2016		0,43%	
220-kV-Kühmoos-Laufenburg ws	2015		0,42%	
	2016		0,14%	
	2017		0,01%	
220-kV-Kühmoos-Tiengen gn	2015		0,07%	
220-kV-Mannheim_GKM-Weinheim br	2016		0,16%	
	2017		0,02%	
220-kV-Neurott-Weinheim rt	2016		0,02%	
380-kV-Bruchsal-Philippsburg-Pulverdingen rt	2017		0,32%	
380-kV-Dellmensingen-Obermooweiler gn	2017		0,31%	
380-kV-Eichstetten-Muhlbach rt	2015		0,02%	
380-kV-Engstlatt-Oberjettingen ws	2016		0,05%	
	2017		0,01%	
380-kV-Engstlatt-Oberjettingen-Pulverding rt	2017		0,01%	

380-kV-Grafenrheinfeld-Höpfingen ge	2016		0,01%	
380-kV-Grossgartach-Kupferzell ws	2015		0,08%	
380-kV-Herbertingen-Hoheneck-Metzingen rt	2015		0,63%	
	2016		1,19%	0,19%
	2017		0,32%	
380-kV-Hoepfingen-Hueffenhardt ge	2016		0,09%	
380-kV-Kühmoos-Laufenburg rt	2016		0,05%	
	2017		0,05%	
380-kV-Laichingen-Wendlingen gn	2015		0,02%	
380-kV-Altbach	2016			1,15%
	2016 ⁵			0,52%
	2017			2,12%
380-kV-Altbach-Muehlhausen ws	2017			0,20%
380-kV-Altbach-Wendlingen bl	2016			0,12%
380-kV-Dellmensingen	2016			0,13%
380-kV-Endersbach	2016			0,13%
380-kV-Oberjettingen-Pulverdingen ws	2017			0,03%
380-kV-Wendlingen	2016			0,13%

12. Great Britain

Grid elements (GB operational boundaries)	Year	CCDA	D-1	Realtime	Congestion calculated post-event
SCOTEX	2015	n/a	n/a	n/a	46%
	2016	n/a	n/a	n/a	16%
	2017	n/a	n/a	n/a	33%

⁵ Voltage issues, while for the rest of lines the thermal issues are reported

VSWALES	2015	n/a	n/a	n/a	19%
	2016	n/a	n/a	n/a	10%
	2017	n/a	n/a	n/a	19%
VEMIDLANDS	2015	n/a	n/a	n/a	12%
	2016	n/a	n/a	n/a	6%
	2017	n/a	n/a	n/a	n/a
SSENWEX9	2015	n/a	n/a	n/a	12%
	2016	n/a	n/a	n/a	n/a
	2017	n/a	n/a	n/a	n/a
SHEDEX	2015	n/a	n/a	n/a	7%
	2016	n/a	n/a	n/a	11%
	2017	n/a	n/a	n/a	14%
VESTUARY	2015	n/a	n/a	n/a	5%
	2016	n/a	n/a	n/a	3%
	2017	n/a	n/a	n/a	14%

13. Greece

Grid element	Year	CCDA	D-1	Realtime
400-kV-Meliti-Bitola	2015	25%		
	2016	38%		
	2017	22%		
400-kV-Mogilla-Stip	2015	9%		
400-kV-Nea Santa-Babaeski	2015	60%		0,10%
	2016	60%		
	2017	76%		
400-kV-Skopje-Urosevac	2015	4%		
400-kV-Thessaloniki-Dubrovo	2015	2%		
	2016	2%		
	2017	2%		0,04%
400-kV-Kardia-Zemblak	2015	73,00%		
	2016	60%		
	2017	76%		
150 kV line Filippi-Kavala	2015		2,50%	
	2016		0,50%	

150-kV-Farsala-Domokos	2016		1,30%	
150-kV-Sfikia-Katerini	2016		0,50%	
400-kV-Kardia-Larisa	2016		0,10%	
Voltage limit in 400-kV-Achelloos substation	2015			0,90%
	2016			0,12%
Voltage limit in 400-kV-Larisa substation	2015			0,40%
Voltage limit in 400-kV-Larymna substation	2015			0,15%
400-kV-Lavrio-Pallini	2017			0,07%
400-kV-Thessaloniki-Blagoevgrad	2017			0,70%

14. Hungary

Grid element	Year	CCDA	D-1	Realtime
220-kV-Detk-Sajószöged-1	2015		0,17%	0,22%
	2016		0,63%	0,82%
	2017		2,01%	2,49%
220-kV-Detk-Sajószöged-2	2015		0,59%	0,81%
	2016		0,42%	0,71%
	2017		1,37%	1,59%
220-kV-Martonvásár-Dunamenti-1	2015		8,49%	4,17%
	2016		0,21%	0,03%
	2017		0,55%	0,48%
220-kV-Martonvásár-Dunamenti-2	2015		7,96%	5,41%
	2016		0,42%	0,17%
	2017		0,09%	0,19%
220-kV-Sajószöged-Kisvárdá	2016		0,21%	0,08%
	2017		0,91%	
220-kV-Sajószöged-Tiszalök	2015		0,21%	0,14%
	2016			0,07%
	2017		1,00%	0,68%
400/220-kV-Martonvásár-1	2015		5,23%	1,94%
	2016		0,10%	0,03%
	2017		0,37%	0,18%
400/220-kV-Martonvásár-2	2015		6,48%	3,49%
	2016		0,52%	0,14%
	2017		0,09%	
220-kV-Detk-Szolnok	2017			0,11%
220-kV-Győr-Neusiedl	2015			0,03%
	2016			0,30%
	2017		0,09%	0,18%

220-kV-Tiszalök-Mukachevo	2015			0,01%
400-kV-Győr-Litér	2015			0,01%
220-kV-Dunamenti-Oroszlány	2015		4,79%	7,32%
	2016	6%	0,10%	0,15%
	2017		0,09%	0,14%
220-kV-Győr-Oroszlány	2015	8%	0,25%	1,02%
	2016	10%	0,10%	1,18%
	2017	10%	0,46%	1,13%
220-kV-Győr-Wien	2015	4%		
	2016	4%		0,02%
	2017	6%	0,09%	0,17%
220-kV-Kisvárda-Mukachevo	2015	2%	0,46%	0,97%
	2017	5%	0,09%	0,19%
400-kV-Göd-Léva	2015	10%		1,21%
	2016	15%		0,67%
	2017	20%		0,34%
400-kV-Győr-Gabcikovo	2015	15%	1,79%	0,75%
	2016	5%	0,42%	0,10%
	2017	5%	0,27%	0,48%
400-kV-Sajószöged-Mukachevo	2015	5%		1,02%
	2016	7%		
	2017	2%		0,01%

15. Ireland

Grid elements	Year	CCDA	D-1	Realtime
-	-	n/a	n/a	n/a

16. Italy

Grid elements	Year	CCDA	D-1	Realtime
220-kV-AREZZO C. - PIETRAFITTA	2015	6,31%		0,11%
	2016	11,63%		0,32%
	2017	19,24%		0,14%
220kV BAGGIO - MAGENTA ST	2015			0,01%
	2016	0,92%		
	2017	0,92%		0,06%
220-kV-Bertola-Udine	2016	1,07%		
220-kV-CANDIA-MONTORIO	2015	13,49%		
	2016	13,78%		

	2017	5,83%		
220-kV-Leyni Busbar Coupler	2017	0,07%		
400kV S.Fiorano - Robbia	2017	0,88%		
400kV Gorlago - Robbia	2016	0,34%		
	2017	0,74%		
220kV LEYNI - VALPELLINE	2015			0,92%
	2016	0,65%		0,27%
	2017	0,14%		0,03%
220kV MONFALC.CE - REDIPUGLIA	2015			2,07%
	2016	7,36%		4,62%
	2017	6,18%		10,51%
220kV MONTJOVET - LEYNI	2015			3,60%
	2016	3,31%		3,45%
	2017	1,06%		0,07%
220-kV-MONTORIO-VILLANOVA	2015	13,49%		
	2016	13,78%		
	2017	5,83%		
220-kV-PIETRAFITTA - VILVALLE	2015	6,31%		
	2016	11,63%		1,12%
	2017	19,24%		0,50%
220kV PORDENONE - SALGAREDA	2015			1,36%
	2016	0,65%		0,88%
	2017			3,53%
220-kV-PST-Padriciano	2015	77,65%		
	2016	4,25%		
	2017	1,56%		
220-kV-Redipuglia-Bertola	2016	2,04%		
	2017	0,98%		
220kV ROSONE - VILLA	2015			2,40%
	2016	0,92%		0,06%
	2017	0,72%		0,01%
220-kV-S.BARBARA - AREZZO C.	2015	6,31%		
	2016	11,63%		
	2017	19,24%		
220-kV-Udine-Buia	2016	2,36%		
	2017	0,38%		
400-kV-Bovisio-Bulciago	2017	0,07%	0,02%	
400-kV-Filisur-Sils	2015	77,65%		
400-kV-Lavorgo-Musignano	2015	77,65%		
	2016	23,89%		
	2017	20,29%		
400-kV-Musignano-Cagno	2016	0,15%		
	2017	0,23%		
400-kV-PST Divaca	2015	77,65%		

400-kV-Soazza-Bulciago	2015	77,65%	0,05%	
	2016	19,47%	0,07%	
	2017	14,50%	0,54%	
400-kV-Venaus-Piossasco	2016	0,42%		
400-kV-BARGI STAZ - CALENZANO	2015	19,75%	0,11%	0,05%
	2016	25,46%		
	2017	11,07%	0,26%	
400-kV-BENEVEN. 2 - BENEV.3 AL	2016	12,15%		
	2017	12,15%		
400-kV-BENEVEN. 2 - TROIA 400	2015	13,52%	0,17%	0,01%
	2016		1,21%	2,07%
400-kV-FOGGIA - S.SEVER400	2015	13,52%	0,13%	0,02%
	2016		0,13%	0,01%
	2017		0,10%	
400-kV-FOGGIA PST - TROIA 400	2015	13,52%	3,11%	0,25%
	2016	12,15%		0,07%
	2017	12,15%		
400-kV-GISSI - LARINO	2015	13,52%	0,01%	
	2016	12,15%	0,16%	0,01%
	2017	12,15%	0,72%	
400-kV-LARINO - ROTELLO400	2016	12,15%	0,13%	0,01%
	2017	12,15%	0,01%	
400-kV-LARINO - S.SEVER400	2015	13,52%	0,26%	0,01%
400-kV-M/CORVINO - S.SOFIA	2015	8,88%	1,10%	0,05%
	2016	7,35%	0,28%	0,01%
	2017	8,49%	0,07%	
400-kV-ROTELLO400 - S.SEVER400	2016	12,15%	0,13%	0,01%
	2017	12,15%	0,01%	
400-kV-TROIA 400 - BENEV.3 AL	2016	12,15%		
	2017	12,15%	2,90%	0,11%
400-kV-VILLAN.PST - GISSI	2015	13,52%	0,01%	
	2016	12,15%		
	2017	12,15%		
500kV HVDC Galatina-Arachtos	2015	12,77%		
	2016	9,70%		
	2017	1,64%		
400-kV-ACCIAIOLO - SPEZIA STA	2015		0,02%	
400-kV-ALIANO - LAINO	2015		0,06%	
400-kV-ALIANO - MATERA	2015		0,05%	
400-kV-ALTOMONTE - FEROLETO	2015		0,06%	
	2016		0,03%	
400-kV-ALTOMONTE - LAINO	2015		0,45%	
	2016		0,06%	
400-kV-AURELIA - AURELIA 1	2015		0,09%	

	2016		0,15%	
400-kV-AURELIA - AURELIA 2	2015		0,13%	
	2015		0,22%	
	2016		0,08%	
400-kV-AVELLINO N - BISAC.400	2017		0,07%	
	2015		0,34%	
	2016		0,09%	0,01%
400-kV-AVELLINO N - S.SOFIA	2017		0,32%	
	2015		0,03%	
400-kV-BARGI STAZ - MARTIGNONE	2017		0,25%	
	2015		0,19%	
400-kV-BARI O - BRINDISI	2017		0,26%	
	2015		0,03%	
400-kV-BARI O - PALO D.C.	2017		0,38%	
400-kV-BENEVEN. 2 - PRESENZANO	2015		0,05%	0,01%
400-kV-BISAC.400 - S.SOFIA	2015		0,07%	
	2015		0,19%	0,01%
	2016		0,01%	
400-kV-BOVISIO - VERDERIO	2017		0,31%	
400-kV-BRINDISI - TARANTO N2	2015		1,18%	
400-kV-CAGNO - MENDRISIO	2015		0,03%	0,01%
400-kV-CAGNO - MUSIGNANO	2016		0,02%	
	2015		0,07%	
400-kV-CALENZANO - CASELLINA	2017		0,03%	
	2015		0,01%	
400-kV-CALENZANO - SUVERETO	2017		0,31%	
	2015		0,01%	0,01%
400-kV-CANDIA - FANO E.T.	2017		0,05%	
400-kV-CAS/ETA400 - MATERA	2015		0,76%	
400-kV-CAS/ETA400 - TARANTO N2	2015		0,74%	
	2015		0,08%	0,02%
400-kV-CEPRANO400 - GARIGL. ST	2016		0,19%	0,03%
	2015		0,03%	
	2016		0,09%	
400-kV-CEPRANO400 - LATINA NUC	2017		0,26%	
400-kV-CHIGNOLO - LACCHIAREL	2017		0,24%	
400-kV-COLUNGA - FORLI	2017		0,03%	
400-kV-CREMONA - FLERO ST	2015		0,22%	
400-kV-FLERO - TRAVAGLIAT	2015		0,01%	
	2015		0,10%	0,01%
400-kV-FLERO ST - TRAVAGLIAT	2017		0,01%	
	2015		0,03%	
	2016		0,20%	
400-kV-FOGGIA - PALO D.C.	2017		0,43%	

400-kV-FORLI - FANO E.T.	2017		0,03%	
400-kV-FORLI - S.MART. XX	2017		0,02%	
400-kV-GARIGL. ST - CEPRANO400 1	2017		0,58%	0,05%
400-kV-GARIGL. ST - PATRIA	2015		0,01%	
400-kV-GARIGL. ST - SPARANISE	2015		0,05%	
400-kV-GORLAGO - VERDERIO	2015		0,03%	
	2017		0,01%	
400-kV-LAINO - M/CORVINO 1	2015		0,42%	0,07%
	2016		0,05%	
	2017		0,48%	0,02%
400-kV-LAINO - M/CORVINO 2	2015		0,64%	0,07%
	2016		0,11%	0,01%
400-kV-LAINO - M/CORVINO 2	2017		0,48%	0,02%
400-kV-LAINO - ROSSANO TE 2	2016		0,01%	
400-kV-LATINA NUC - APRILIA400	2015		0,06%	
	2016		0,07%	0,01%
400-kV-LATINA NUC - GARIGL. ST	2015		0,15%	0,07%
	2016		0,46%	0,03%
400-kV-LATINA NUC - VALMONTONE	2015		0,07%	
	2016		0,03%	
	2017		0,06%	
400-kV-MAGISANO - SCANDALE	2017		0,01%	
400-kV-MALEO - CREMONA	2015		0,23%	
	2017		0,02%	
400-kV-MANFR.400 - ANDRIA	2017		0,02%	
400-kV-MANFR.400 - FOGGIA	2017		0,02%	
400-kV-MARGINONE - POGGIO A C	2017		0,55%	
400-kV-MARGINONE - SPEZIA STA	2015		0,03%	
400-kV-MARTIGNONE - S.DAMASO 1	2017		0,02%	
400-kV-MATERA - BISAC.400	2015		0,03%	0,02%
	2016		0,05%	0,05%
400-kV-MUSIGNANO - LAVORGO	2015		0,02%	
	2017		0,07%	
400-kV-NAVE - S.FIORANO	2015		1,67%	0,49%
400-kV-P.SPERANZA - POGGIO A C	2017		0,02%	
400-kV-P.SPERANZA - ROMA NORD	2015		0,02%	
	2016		0,01%	
	2017		0,03%	
400-kV-PARADISO - BOLANO	2017		3,33%	
400-kV-PARMA VIGH - S.ROCCO PO	2017		0,29%	
400-kV-PARMA VIGH - SPEZIA STA	2015		0,07%	
400-kV-POGGIO A C - MARGINONE	2015		0,07%	
400-kV-POGGIO A C - P.SPERANZA	2015		0,03%	
400-kV-POGGIO A C - SUVERETO	2017		0,07%	0,01%

400-kV-POGLIANO - RHO 1	2015		0,02%	
	2016		0,01%	
400-kV-POGLIANO - RHO 2	2015		0,02%	
	2016		0,01%	
400-kV-RIZZICONI - BOLANO	2015		0,83%	5,16%
	2016		0,50%	3,74%
	2017			0,01%
400-kV-ROMA EST - ROMA NORD	2016		0,02%	
400-kV-ROMA EST - VALMONTONE	2015		0,02%	
	2016		0,10%	
	2017		0,05%	
400-kV-ROMA NORD - P.SPERANZA	2015		0,01%	
400-kV-ROMA NORD - S.LUCIA 1	2017		0,03%	
400-kV-ROMA NORD - S.LUCIA 2	2015		0,02%	
400-kV-ROMA SUD - APRILIA400	2015		0,06%	
	2016		0,07%	0,01%
	2017		0,01%	
400-kV-RONDISSONE - TRINO	2015		0,10%	
	2016		0,06%	
	2017		0,39%	0,01%
400-kV-ROSSANO TE - SCANDALE	2015		0,11%	
	2016		0,05%	
	2017		0,08%	
400-kV-S.MARIA C. - S.SOFIA	2015		0,02%	
400-kV-S.MARIA C. - SPARANISE	2015		0,02%	
	2016		0,02%	
400-kV-S.ROCCO PO - PARMA VIGH	2015		2,28%	0,06%
	2016		0,05%	
400-kV-S.ROCCO PO - TURANO	2015		0,06%	
400-kV-SCANDALE - MAGISANO	2015		0,10%	
400-kV-SERMIDE - MARTIGNONE	2015		0,01%	
400kV SORGENTE - PARADISO	2015			1,52%
	2016		1,17%	7,90%
	2017		3,34%	0,01%
400-kV-SORGENTE - SORGENTE	2016		1,07%	
400-kV-SPEZIA STA - VIGNOLE B.	2015		0,10%	0,11%
	2016		1,31%	
400-kV-TROIA 400 - BENEVEN. 2	2017		9,51%	
400-kV-TURANO - S.ROCCO PO	2017		0,01%	
400-kV-TURANO - TAVAZZ. ST	2017		0,01%	
400-kV-TURBIGO ST - RONDISSONE	2016		0,06%	
	2017		0,53%	0,02%
400-kV-TURBIGO ST - TURBIGO ST	2016		0,50%	
400-kV-VALMONTONE - PRESENZANO	2016		0,01%	

400-kV-VENAUS - VILLARODIN	2015		0,03%	
400-kV-VILLAFRANC - SCILLA 1	2016		0,05%	2,01%
132kV BELVISO - TRG1 4/9	2015			0,14%
132kV CASELLINA - TAVARNUZZE	2016			0,42%
	2017			1,02%
132kV CHIUSAFORT - TARVISIO	2015			58,44%
	2016			45,65%
	2017			5,11%
132kV CHIUSAFORT - TOLMEZZO	2015			28,96%
	2016			26,00%
	2017			2,33%
132kV MARTIGNONE - S.DAMASO	2016			0,05%
	2017			0,57%
132kV SCORZE' - VILLABONA	2016			0,25%
	2017			9,93%
132kV SOMPLAGO - TOLMEZZO	2015			0,35%
	2016			1,27%
	2017			0,76%
132kV TARVISIO - GREUTH	2016			17,49%
	2017			16,94%
132kV TARVISIO - TARVISIO B	2015			18,56%
	2016			17,10%
132kV VENEZIA N. - VILLABONA	2016			12,43%
	2017			27,10%
150kV PATERNO SE - MRBIANCO	2016			0,62%
	2017			1,92%
150kV RUMIANCA - CAGLIA.SUD	2016			0,02%
150kV TALORO - VILLASOR	2016			0,02%
220kV A.FLAMINIA - ATR4 2/3	2016			2,13%
	2017			8,84%
220kV A.P.DANTE - A.S.PAULO	2015			0,10%
	2017			0,02%
220kV A.P.DANTE - A.TIBURTIN	2015			0,07%
	2017			0,01%
220kV ABBADIA NK - CANDIA	2016			0,09%
	2017			0,02%
220kV ABBADIA NK - ROSARA NK	2015			0,03%
	2016			0,46%
	2017			0,06%
220kV AC.BELT NK - BELTRAME	2017			0,01%
220kV ACC. BZ NK - CARDANO NK	2015			0,01%
220kV ACC. BZ NK - PONTERESIA	2015			0,05%
	2016			0,02%
220kV ACERRA SM - FRATTA	2016			0,26%

220kV ACERRA SM - MADDALONI	2016		0,22%
220kV AIRLIQ.VR - AIRL.VR NK	2016		0,11%
	2017		0,51%
220kV ALA - BUSSOL. SS	2015		0,19%
	2017		0,01%
220kV ALA - MASO PILL 1	2015		0,02%
	2016		1,53%
220kV ALA - TRG2 2/9	2017		0,26%
220kV ALA - TRG2 2/9	2016		0,01%
220kV ALFA AVIO - ALFA A. UT A	2017		0,18%
220kV ALFA AVIO - ALFA A. UT B	2017		0,18%
220kV ALFA AVIO - BRUSCIANO	2015		0,07%
	2016		0,39%
	2017		0,03%
220kV ALFA AVIO - CASALNUOVO	2015		0,06%
	2016		0,18%
220kV ALFA AVIO - CASALNUOVO	2017		0,02%
220kV ANAPO - TRG1 2/7	2016		0,01%
	2015		0,02%
	2016		0,01%
220kV ANAPO - TRG3 2/7	2015		0,62%
	2015		0,03%
	2016		0,06%
220kV ARCO - S.MASSENZA	2016		0,07%
220kV ARENELLA - ASTRONI	2015		0,06%
	2016		0,03%
220kV ARENELLA - COLLI AMIN	2015		0,02%
	2016		0,03%
220kV AREZZO C - S.BARBARA	2015		0,32%
	2016		1,16%
	2017		0,41%
220kV ASTRONI - NAPOLI C	2015		0,15%
	2016		0,08%
220kV AVENZA - S.COLOM.GE	2017		0,06%
220kV AVISE - RIDDES	2015		0,01%
	2017		0,01%
220kV BAGGIO - MUSOCCO ST	2015		0,01%
	2016		0,01%
	2017		0,07%
220kV BELLOLAMPO - ATR1 2/3 R	2017		0,01%
220kV BELLOLAMPO - CARACOLI 1	2016		0,10%
220kV BELLOLAMPO - CARACOLI 2	2016		0,10%
220kV BISTAGNO - ATR1 2/4 R	2016		0,01%
	2016		0,01%

220kV BISTAGNO - CASANOVA	2017		1,40%
220kV BISTAGNO - ERZELLI	2017		1,18%
220kV BOLOTANA N - OTTANA	2015		0,42%
	2016		0,11%
220kV BORGOTALSU - MOLINE NK	2017		0,01%
220kV BRUGHERIO - LAMBRATE 1	2016		0,01%
220kV BRUGHERIO - LAMBRATE 2	2015		0,01%
	2017		0,08%
220kV BRUSCIANO - FIAT AUTO	2017		0,18%
220kV BRUSCIANO - MADDALONI	2015		0,14%
	2016		0,07%
	2017		0,02%
220kV BRUSCIANO - NOLA	2015		0,91%
	2016		0,74%
	2017		0,15%
220kV BUJA - UDINE N.E.	2015		2,72%
	2016		2,96%
	2017		14,37%
220kV BUSACHI - BOLOTANA N	2015		0,35%
	2016		0,05%
220kV BUSACHI - MOGORELLA	2015		0,34%
	2016		0,18%
	2017		0,01%
220kV BUSACHI - OTTANA	2016		0,14%
220kV BUSSOL. SS - SANDRA' 1	2015		0,41%
	2016		0,97%
	2017		0,02%
220kV BUSSOL. SS - SANDRA' 2	2015		0,40%
	2016		1,32%
	2017		0,10%
220kV BUSSOL. SS - VR BORGOMI	2017		0,01%
220kV CAIVANO - FRATTA	2016		0,15%
220kV CAIVANO - MADDALONI	2016		0,06%
220kV CALENZANO - S.B.QUERCE	2015		0,24%
	2016		0,23%
	2017		0,96%
220kV CAMIN - ATR1 2/4 R	2016		0,02%
220kV CAMIN - DOLO	2015		0,22%
	2016		0,08%
	2017		0,16%
220kV CAMIN - SCORZE'	2015		0,42%
220kV CAMPOCHIES - CAMPOROSSO	2015		0,02%
	2016		0,06%

	2017		0,07%
	2015		0,05%
	2016		0,08%
220kV CAMPOCHIES - VADO LIGU.	2017		0,08%
	2015		0,08%
	2016		0,05%
220kV CAMPOROSSO - ATR4 2/2 X	2017		0,07%
	2015		0,11%
	2016		0,06%
220kV CAMPOROSSO - MENTON ALL	2017		0,10%
220kV CAPRIATI - POPOLI	2016		0,01%
	2017		0,01%
	2015		0,13%
220kV CARACOLI - CORRIOLO	2016		0,07%
	2015		0,08%
	2016		0,09%
220kV CARACOLI - SORGENTE	2017		0,11%
	2015		0,02%
220kV CARDANO - S.ANTONIO	2016		0,05%
220kV CASALNUOVO - ACERRA SM	2017		0,03%
220kV CASALNUOVO - CASTELL.	2015		0,01%
220kV CASALNUOVO - FRATTA	2016		0,17%
220kV CASANOVA - MONCALIER 1	2015		0,01%
220kV CASANOVA - MONCALIER 2	2015		0,03%
220kV CASANOVA - MONCALIER 2	2016		0,13%
220kV CASANOVA - TEKSID CAR	2015		0,03%
220kV CASORIA - FRATTA	2015		0,01%
220kV CASORIA - NAPOLI L	2015		0,03%
220kV CASORIA 2 - CASALNUOVO	2016		0,51%
	2017		0,01%
220kV CASORIA 2 - CASTELL.	2016		0,19%
220kV CASSANO CE - RIC.NORD M 1	2016		0,03%
220kV CASSANO CE - RIC.NORD M 2	2016		0,03%
220kV CASSANO CE - RIC.SUD MI 1	2016		0,16%
220kV CASSANO CE - RIC.SUD MI 2	2016		0,09%
220kV CASTEGNERO - STAZIONE 1	2015		0,02%
	2015		0,05%
220kV CASTELL. - NAPOLI DIR	2017		0,01%
	2015		0,27%
	2016		0,05%
220kV CASTELL. - S.SEBAST.	2017		0,10%
220kV CATT. C.LE - TRG1 2/6 R	2016		0,02%
220kV CATT. S.NE - FAVARA SE	2015		0,02%
220kV CATT. S.NE - SAMBUCA SE	2015		0,01%

220kV CAVILLA NK - VELLAI	2016		0,03%
220kV CAVILLA NK - VICENZA NK	2016		0,03%
220kV CESANO M. - ATR1 2/4 R	2015		0,01%
220kV CESANO M. - TAVAZZ. EST	2016		0,41%
	2017		1,03%
220kV CESANO M. - TIRANO ST	2015		9,30%
	2016		4,50%
220kV CHATILL. SE - VALPELLINE	2015		0,01%
	2017		0,06%
220kV CHIARAMONT - FAVARA SE 2	2015		0,01%
220kV CHIARAMONT - RAGUSA 1	2016		0,17%
220kV CHIARAMONT - RAGUSA 2	2015		0,10%
	2016		0,02%
220kV CIMINNA SE - CARACOLI 2	2015		0,02%
220kV CISLAGO - DALMINE ST	2015		0,13%
220kV CISLAGO - SONDRIO 1	2017		0,09%
220kV CISLAGO - SONDRIO 2	2017		0,09%
220kV CODRO - ORISTANO	2015		0,30%
	2016		0,03%
	2017		0,06%
220kV CODRO - OTTANA	2015		0,21%
	2016		0,39%
	2017		0,08%
220kV COLA' - SANDRA'	2015		0,45%
	2016		0,07%
220kV COLA' - TAVAZZ. EST	2015		0,59%
220kV COLLI AMIN - PATRIA	2015		0,26%
	2016		0,06%
220kV COLLI AMIN - SECONDIGL.	2015		0,01%
	2016		0,02%
	2017		0,09%
220kV COLORNO - AVENZA	2017		5,01%
220kV COLORNO - SPEZIA STA	2015		22,52%
	2016		19,03%
220kV COLUNGA - BUSSOL. SS	2016		0,01%
	2017		0,02%
220kV COLUNGA - S.B. QUERCE	2015		0,21%
	2016		0,16%
	2017		0,76%
220kV CONEGLIANO - FADALTO	2017		0,10%
220kV CORMANO - OSPIATE	2016		5,80%
	2017		4,09%
220kV CORMANO - TORRETTA	2016		5,78%
	2017		4,03%

220kV CORRIOLO - CARACOLI	2017		0,02%
	2015		0,21%
	2016		0,01%
220kV CORRIOLO - SORGENTE	2017		0,29%
220kV DELTAC. NK - DELTACOGNE	2016		0,01%
220kV DELTAC. NK - VILLENEUVE	2016		0,10%
	2015		0,15%
220kV DOGANELLA - NAPOLI C	2016		0,13%
	2015		0,03%
220kV DOGANELLA - NAPOLI L	2016		0,03%
220kV DOLO - SCORZE'	2017		0,01%
220kV DUGALE - CASTEGNERO	2017		0,02%
220kV ENICHEM - OTTANA 1	2015		0,61%
220kV ENICHEM - OTTANA 2	2015		0,56%
220kV ENICHEM - TRG1 2/8	2015		3,37%
	2015		0,18%
220kV ENICHEM - TRG1 2/8 R	2016		0,01%
220kV ENICHEM - TRG2 2/8	2015		3,37%
	2015		0,15%
220kV ENICHEM - TRG2 2/8 R	2016		0,01%
	2015		0,45%
	2016		0,32%
220kV ERCOLANO - S.SEBAST.	2017		0,08%
	2015		0,74%
	2016		0,33%
220kV ERCOLANO - TORRE N	2017		0,18%
220kV ERZELLI - MORIGALLO	2016		0,01%
220kV FADALTO - SOVERZENE	2017		0,10%
220kV FAVARA SE - CATT. S.NE	2017		0,02%
	2015		0,27%
	2016		0,06%
220kV FAVARA SE - PARTANNA 1	2017		0,18%
220kV FRATTA - ATR1 2/3 R	2016		0,01%
220kV FRATTA - POGGIOR.	2015		0,03%
	2015		7,55%
	2016		4,51%
220kV GADIO - RIC.OV. MI	2017		0,40%
220kV GLORENZA - Cavo F A1	2016		3,62%
	2015		1,11%
	2016		1,94%
220kV GLORENZA - PREMAD. AL	2017		1,29%
	2015		0,29%
220kV GLORENZA - TRG2 2/9	2016		0,02%
220kV GLORENZANK - CASTELBELL	2016		0,01%

220kV GLORENZANK - GLORENZA	2015		0,17%
	2016		0,92%
	2017		0,02%
220kV GRAGNANO - M/CORVINO	2015		1,11%
	2016		2,10%
	2017		0,18%
220kV GRAGNANO - TORRE N	2015		2,20%
	2016		3,29%
	2017		0,40%
220kV GROSIO - PREMADIO	2015		0,11%
	2016		0,02%
220kV GROSIO - RIC.SUD MI	2015		2,12%
	2016		2,33%
	2017		0,08%
220kV GROSIO - TRG1 2/8	2015		0,01%
220kV GRUGLIA.NK - MONCALIER	2016		0,01%
	2017		0,14%
220kV GRUGLIASCO - ROSONE	2015		1,59%
	2016		0,03%
	2017		0,01%
220kV LAINO - TUSCIANO	2016		0,05%
220kV LAMBRATE - P.VENEZIA 2	2015		0,01%
	2016		0,03%
	2017		0,07%
220kV LANA - S.ANTONIO	2015		0,02%
	2016		0,01%
220kV LEVANNA - MARTINETTO	2015		0,01%
	2016		0,03%
220kV LEVANNA - PIANEZZA	2015		0,43%
220kV LEYNI - STURA	2015		0,01%
220kV M/CORVINO - SALERNO N 1	2015		0,02%
	2017		0,01%
220kV M/CORVINO - SALERNO N 2	2015		0,01%
	2017		0,38%
220kV M/CORVINO - TUSCIANO	2015		0,06%
	2016		0,03%
220kV MADDALONI - FIAT AUTO	2017		0,10%
220kV MAGENTA ST - PALLANZENO	2015		0,01%
	2017		0,40%
220kV MALCONTENT - DOLO	2016		0,26%
	2017		0,03%
220kV MALCONTENT - SCORZE'	2015		0,15%
	2017		0,10%
220kV MALCONTENT - ST.5-213NK	2015		0,34%

	2016		0,01%
	2017		0,13%
220kV MALCONTENT - ST.5-214NK	2015		0,26%
220kV MALCONTENT - ST.5-259NK	2016		0,01%
	2017		0,09%
220kV MALCONTENT - STAZIONE 1	2015		0,19%
220kV MALCONTENT - VILLABONA	2016		0,07%
220kV MANTOVA CE - SANDRA'	2016		0,06%
220kV MANTOVA CE - TRB 2/9	2016		1,30%
	2016		1,34%
220kV MARTINETTO - ATR1 2/4 R	2015		0,03%
	2015		4,60%
	2016		0,01%
220kV MASO PILL - CASTELBELL	2017		0,17%
	2016		0,37%
220kV MELILLI - ATR3 2/3 R	2017		0,01%
	2015		0,27%
220kV MELILLI - MRBIANCO 1	2017		0,03%
	2015		0,07%
220kV MELILLI - MRBIANCO 2	2017		0,03%
	2015		0,03%
220kV MELILLI - RAGUSA 1	2016		0,11%
	2015		0,09%
220kV MELILLI - RAGUSA 2	2016		0,01%
	2015		0,25%
220kV MOGORELLA - VILLASOR	2017		0,02%
220kV MOLINE NK - VELLAI	2015		0,24%
	2016		0,21%
	2017		0,09%
220kV MONCALIER - SANGONE	2015		0,64%
	2016		0,35%
220kV MONFALC.CE - PADRICIANO	2017		0,02%
220kV MONTJOVET - CHATILL.SE	2017		0,01%
220kV MONTOR.SE - ROSARA NK	2015		0,03%
	2016		0,49%
	2017		0,01%
220kV MONTORIO V - ROSARA NK	2016		0,02%
	2017		0,11%
	2017		0,19%
220kV MRBIANCO - ATR1 2/3 R	2016		0,05%
	2017		0,06%
220kV MRBIANCO - SORGENTE 1	2016		0,05%
	2017		0,06%
220kV MRBIANCO - SORGENTE 2	2016		0,05%
	2017		0,06%
220kV MUSOCCO ST - PORTAVOLTA	2016		0,08%

	2017		0,07%
220kV NAPOLI DIR - POGGIOR.	2015		0,05%
220kV NAT.P4 NK - NAT.P41 NK	2015		0,01%
	2016		0,05%
220kV NAT.P41 NK - RAT.P62 NK	2015		0,01%
	2016		0,05%
220kV NATURNO - NAT.P4 NK	2015		0,02%
	2016		0,05%
	2017		0,01%
220kV NATURNO - PONTERESIA	2015		0,25%
	2016		0,02%
	2017		0,02%
220kV NATURNO - TR5 2/5	2016		0,01%
	2017		0,21%
220kV NOCERA - S.VALENT.	2015		3,05%
	2016		1,68%
	2017		0,73%
220kV NOCERA - SALERNO N	2015		11,28%
	2016		4,66%
	2017		0,55%
220kV NOLA - S.VALENT.	2015		1,34%
	2016		0,38%
	2017		0,15%
220kV ODERZO - CONEGLIANO	2017		0,07%
220kV ODERZO - SALGAREDA	2017		0,03%
220kV ORISTANO - SULCIS	2015		0,33%
	2016		0,05%
	2017		0,10%
220kV OSPiate - MUSOCCO ST	2015		0,29%
220kV OSPiate - TORRETTA	2015		10,76%
	2016		8,86%
220kV OTTANA - TALORO 1	2016		0,39%
220kV OTTANA - TALORO 2	2016		0,37%
220kV P.VENEZIA - PORTAVOLTA	2015		0,82%
	2016		0,10%
220kV P.VENEZIA - PORTAVOLTA	2017		0,15%
220kV PADRICIANO - ATR1 2/4 R	2015		0,05%
	2016		0,53%
220kV PADRICIANO - DIVACA	2015		1,45%
	2016	4,43%	1,66%
	2017	0,92%	5,90%
220kV PADRICIANO - PDRTA3 2/2 X	2016		0,26%
	2017		6,72%
220kV PADRICIANO - TRP 2/2 X	2015		1,84%

	2016		1,67%
	2015		0,02%
	2016	2,77%	0,08%
220kV PALLANZENO - SERRA	2017	0,34%	0,03%
	2015		0,02%
220kV PARTANNA - SAMBUCA SE	2017		0,02%
220kV PELLERINA - LEVANNA	2015		0,25%
	2015		0,07%
220kV PELLERINA - PIANEZZA 1	2016		0,19%
	2015		0,82%
	2016		0,11%
220kV PELLERINA - PIANEZZA 2	2017		0,01%
	2015		0,02%
220kV PELLERINA - POLITECNIC	2016		0,03%
	2015		0,54%
	2016		0,03%
220kV PELLERINA - TO OVEST	2017		0,01%
220kV PIANEZZA - PIOSSASCO	2016		0,01%
	2015		0,01%
220kV PIETRAF220 - ATR2 2/4 R	2016		0,10%
220kV PIETRAF220 - VILVALLE	2015		0,68%
220kV PIOSSASCO - SANGONE	2016		0,01%
	2015		0,19%
	2016		0,33%
220kV POLITECNIC - TO SUD	2017		0,45%
	2015		0,08%
	2016		1,38%
220kV PONTE V.F. - ALL'ACQUA	2017		0,02%
220kV PONTERESIA - NAT.P41 NK	2015		0,01%
220kV PONTERESIA - TR3 2/7	2017		0,96%
220kV POPOLI - ATR1 2/3 R	2016		0,01%
	2015		0,37%
220kV POPOLI - CAPRIATI	2016		0,08%
220kV POPOLI - S.GIANK	2015		0,01%
	2015		0,38%
	2016	1,03%	1,96%
220kV PORDENONE - SOMPLAGO	2017	0,27%	19,43%
220kV PORTAVOLTA - GADIO	2016		0,08%
	2015		2,16%
220kV PORTAVOLTA - MUSOCCO ST	2016		0,56%
	2015		1,10%
	2016		1,92%
220kV PREMAD. AL - TIRANO ST	2017		1,26%
220kV PREMADIO - RIC.SUD MI	2015		0,86%

	2016		1,55%
	2015		0,01%
220kV PRIOLO CE - TRG2 2/7	2016		0,01%
	2015		0,39%
	2016		0,53%
220kV PROVVID.A2 - S.GIAC.S/E	2017		0,11%
220kV PROVVID.A2 - S.GIACO.SE	2017		0,03%
	2015		1,02%
	2016		1,35%
220kV PROVVID.A2 - VILVALLE	2017		0,21%
220kV PROVVIDEN. - TRG1 2/8	2016		0,02%
	2017		0,01%
	2015		0,07%
220kV PROVVIDEN. - TRG2 2/8	2016		0,05%
220kV QUART - QUART NK	2016		0,13%
220kV RAG CONSEG - MAGHTAB	2015		0,01%
220kV RAG CONSEG - RAGUSA	2015		0,02%
	2017		0,23%
220kV RAGUSA - ATR1 2/3 R	2017		0,06%
	2015		1,52%
	2016		1,20%
220kV REDIPUGLIA - PADRICIANO	2017		0,07%
	2015		0,41%
	2016		0,95%
220kV REDIPUGLIA - SAFAU NK	2017		9,94%
220kV RIC.NORD M - Cavo F 1A 1	2016		0,08%
	2017		0,02%
220kV RIC.NORD M - Cavo F 1A 2	2016		0,08%
	2017		0,02%
	2015		3,22%
	2016		2,07%
220kV RIC.NORD M - GADIO	2017		0,96%
	2017		0,24%
220kV RIC.OV. BS - ATR1 2/4	2017		0,24%
	2015		0,01%
220kV RIC.OV. MI - BAGGIO	2016		0,03%
	2015		5,70%
	2016		3,01%
220kV RIC.OV. MI - RIC.SUD MI	2017		0,22%
220kV RIC.SUD MI - Cavo F 1A 1	2016		0,07%
220kV RIC.SUD MI - Cavo F 1A 2	2016		0,10%
	2015		0,27%
	2016		0,14%
220kV RIC.SUD MI - TAVAZZ.220	2017		0,05%

220kV ROMA NORD - A.TIBURTIN	2015		0,10%
	2016		0,03%
	2017		0,15%
220kV ROMA NORD - VILVALLE	2015		0,50%
	2016		0,18%
	2017		0,01%
220kV ROMA SUD - A.S.PAOLO	2015		0,11%
	2016		0,03%
	2017		0,16%
220kV RONDISONE - TRINO 220	2017		0,02%
220kV ROSARA - ATRAA 2/4 R	2016		0,03%
	2017		0,08%
220kV ROT.AL.220 - TUSCIANO	2015		0,47%
	2016		0,31%
220kV ROTONDA - TUSCIANO	2015		0,23%
220kV RUMIANCA - VILLASOR	2015		0,05%
	2016		0,46%
	2017		0,05%
220kV S.COLOM.GE - AVENZA	2015		0,53%
	2016		0,01%
220kV S.COLOM.GE - VIGNOLE B.	2015		6,55%
	2016		2,92%
	2017		4,03%
220kV S.VALENT. - TORRE N	2015		0,39%
	2016		0,48%
	2017		0,16%
220kV SAFAU NK - UDINE N.E.	2015		0,01%
	2016		0,16%
	2017		7,37%
220kV SAFAU NK - UDINE SUD	2017		1,16%
220kV SALGAREDA - TREVISOSUD	2015		0,96%
	2016		0,11%
	2017		0,59%
220kV SALVEMINI - SANGONE	2016		0,03%
220kV SALVEMINI - TO OVEST	2015		0,18%
	2016		0,17%
	2017		0,01%
220kV SAMBUCA SE - CATT. S.NE	2017		0,02%
220kV SANDRA ¹ - TORBOLE	2016		0,01%
220kV SANGONE - TEKSID CAR	2015		0,03%
220kV SANGONE - TO SUD	2015		0,67%
	2016		1,10%
	2017		1,13%
220kV SAVONA - ATR3 2/4 R	2016		0,01%

	2016		0,01%
220kV SAVONA - VADO LIGU.	2016		0,02%
220kV SCORZE' - ATR1 2/4 R	2017		1,06%
220kV SCORZE' - ATR2 2/4 R	2016		0,09%
	2017		0,26%
220kV SCORZE' - ATR4 2/4 R	2016		0,01%
	2017		0,08%
220kV SCORZE' - SOVERZENE	2016		0,25%
	2017		0,58%
220kV SCORZE' - TREVISOSUD	2015		2,00%
	2016		1,61%
	2017		1,85%
220kV SECONDIGL. - FRATTA	2015		0,01%
	2016		0,02%
220kV SESTO S.G. - TORRETTA	2015		0,35%
	2016		1,24%
	2017		0,05%
220kV SOMPLAGO - ATR1 2/4 R	2015		0,06%
	2016		0,08%
	2017		0,27%
220kV SOMPLAGO - BUIA	2015		9,01%
	2016	0,81%	8,58%
	2017	0,09%	31,56%
220kV SOMPLAGO - TRGA 2/9	2015		0,05%
220kV SORGENTE - ATR4 2/3 R	2017		0,02%
220kV SOVERZENE - LIENZ	2015	77,65%	42,73%
	2016	10,67%	47,26%
	2017	6,05%	29,39%
220kV SPEZIA STA - SARMATO	2017		0,01%
220kV STAZIONE 1 - CASTEGNERO	2017		0,10%
220kV STAZIONE 1 - STAZIONE 3	2015		0,10%
220kV STAZIONE 3 - STAZIONE 1	2016		0,13%
	2017		0,08%
220kV STAZIONE 3 - STAZIONE 4	2016		0,14%
	2017		0,10%
220kV STAZIONE 4 - Cavo F CA 1	2015		0,02%
220kV STAZIONE 4 - Cavo F DA 2	2015		0,05%
220kV STAZIONE 4 - ST.5-213NK	2015		0,61%
	2016		0,01%
	2017		0,11%
220kV STAZIONE 4 - ST.5-214NK	2015		0,23%
220kV STAZIONE 4 - ST.5-259NK	2016		0,01%
220kV STAZIONE 4 - STAZIONE 1	2015		0,01%
220kV STAZIONE 4 - STAZIONE 3	2015		0,15%

220kV STAZIONE 5 - ST.5-213NK	2015		0,15%
220kV STAZIONE 5 - ST.5-214NK	2015		0,15%
220kV STURA - ATR1 2/4 R	2017		0,02%
220kV STURA - TO CENTRO	2015		0,05%
220kV SULCIS - ATR1 2/3 R	2016		0,01%
	2017		0,01%
220kV TALORO - ATR1 2/3 R	2017		0,08%
	2016		0,02%
	2017		0,02%
220kV TARVISIO B - PST 2/4 X	2015		0,38%
	2016		0,24%
220kV TAVAZZ.220 - TAVAZZ. ST	2016		0,02%
220kV TAVAZZ.220 - TAVAZZ. EST	2015		0,06%
	2016		0,06%
	2017		0,31%
220kV TAVAZZ. EST - CESANO M.	2015		2,48%
	2016		1,59%
220kV TAVAZZ. EST - COLA'	2016		0,03%
220kV TIRANO ST - CESANO M.	2016		3,40%
	2017		3,14%
220kV TIRANO ST - PST1 2/3 X	2017		0,05%
220kV TO CENTRO - POLITECNIC	2015		1,44%
220kV TORRE N - ATR1 2/3	2015		2,23%
	2016		0,61%
	2017		0,07%
220kV VALPELLINE - RIDDES	2015		0,01%
	2016	0,40%	
	2017	0,27%	
220kV VELLAI - SOVERZENE	2015		3,14%
	2016		0,47%
	2017		0,18%
220kV VENINA - TRG5 2/9	2015		0,01%
220kV VERAMPPIO - TRG3 2/8	2015		0,02%
220kV VERDERIO - GROSIO 1	2015		0,55%
	2016		2,29%
	2017		0,01%
220kV VERDERIO - GROSIO 2	2015		1,08%
	2016		2,34%
	2017		0,01%
220kV VERDERIO - RIC. NORD M	2015		0,18%
	2016		0,34%
	2017		0,42%
220kV VICENZA MV - ATR4 2/4 R	2017		0,07%
220kV VILLA - VILLENEUVE	2015		1,82%

	2016		0,06%
	2017		0,01%
220kV VILLABONA - ATR1 2/4 R	2016		6,51%
	2017		24,13%
220kV VILLASOR - ATR2 2/3 R	2016		0,02%
220kV VILLASOR - MOGORELLA	2016		0,14%
	2015		0,01%
220kV VILVALLE - ATR4 2/3 R	2016		0,01%
400kV ANDRIA - ATR1 1/3 R	2016		0,13%
	2017		0,59%
400kV ANDRIA - ATR2 1/3 R	2016		0,13%
	2017		0,59%
	2015		0,03%
400kV AURELIA - Cavo F 1A 1	2015		0,03%
400kV AURELIA - S.LUCIA 2	2016		0,02%
400kV AURELIA - T.VALDAL.N 2	2016		0,02%
400kV BAGGIO - ATR3 1/2	2016		0,01%
	2015		0,03%
	2016		0,09%
400kV BAGGIO - ATR4 1/2	2017		0,07%
400kV BARGI CENT - BARGI STAZ 1	2015		0,30%
	2015		0,86%
400kV BARGI CENT - BARGI STAZ 2	2016		0,39%
400kV BARI O - ATR1 1/3 R	2016		0,15%
	2017		4,03%
400kV BARI O - ATR2 1/3 R	2016		0,05%
	2017		1,92%
400kV BENEVEN. 2 - ATR1 1/3 R	2016		0,48%
	2017		0,91%
400kV BENEVEN. 2 - ATR2 1/3 R	2016		0,31%
	2017		0,81%
400kV BENEVEN. 2 - ATR3 1/3 R	2016		0,07%
	2017		0,06%
	2015		2,26%
	2016		0,62%
400kV BISAC.400 - ATR1 1/3 R	2017		0,59%
400kV BISAC.400 - ATR2 1/3 R	2016		0,46%
	2017		0,59%
	2015		0,03%
	2016		0,02%
400kV BISAC.400 - ATR3 1/3 R	2017		0,23%
	2015		3,61%
400kV BRIN. S ST - ATR2 1/3 R	2016		1,47%
400kV BRINDISI - ATR1 1/3 R	2016		0,10%

	2017		0,08%
400kV BRINDISI - ATR2 1/3 R	2016		0,10%
	2017		0,03%
400kV BRINDISI - ATR3 1/3 R	2017		0,05%
400kV BULCIAGO - ATR1 1/4 R	2016		0,01%
	2016		0,01%
400kV CAMIN - ATR2 1/4 R	2016		0,02%
	2017		0,01%
400kV CAMIN - ATR3 1/4 R	2016		0,05%
	2017		0,01%
400kV CANDIA - ATR1A 1/4 R	2016		0,01%
	2017		0,38%
400kV CANDIA - ATR2A 1/4 R	2016		0,02%
	2017		0,39%
400kV CANDIA - ATR4A 1/4 R	2016		0,01%
	2017		0,02%
400kV CARPI FOSS - ATR2 1/4 R	2017		0,01%
400kV CARPI FOSS - ATR3 1/4 R	2017		0,01%
400kV CAS/ETA400 - ATR1 1/3 R	2015		5,13%
	2016		1,34%
400kV CASELLINA - ATR1 1/4 R	2015		0,01%
	2016		0,02%
400kV CASELLINA - ATR2 1/4 R	2015		0,03%
	2016		0,07%
400kV CHIARAMONT - ATR1 1/2	2015		0,11%
	2016		0,31%
400kV CHIARAMONT - ATR3 1/2	2015		0,06%
	2016		0,32%
400kV CODRO - ATR1 1/2	2017		0,06%
400kV CODRO - ATR7 1/2	2017		0,05%
400kV COLUNGA - ATR4 1/2	2017		0,01%
400kV DOLO - ATR4 1/2	2017		0,02%
400kV DUGALE - ATR1 1/4 R	2017		0,03%
400kV DUGALE - ATR2 1/4 R	2017		0,02%
400kV DUGALE - ATR3 1/2	2015		0,02%
	2017		0,03%
400kV DUGALE - ATR4 1/4 R	2017		0,06%
400kV ERG NORD - TRGB 1/8 R	2016		0,03%
400kV ERG NORD - TRGD 1/8 R	2015		0,10%
	2016		0,02%
400kV FANO E.T. - ATR1 1/4 R	2015		0,63%
	2017		0,38%
400kV FANO E.T. - ATR2 1/4 R	2016		0,48%

	2017		0,14%
400kV FANO E.T. - ATR3 1/4 R	2016		0,16%
	2017		0,31%
400kV FEROLETO - ATR1 1/3 R	2016		0,01%
400kV FERRARA F. - ATR1 1/4 R	2016		0,01%
400kV FERRARA F. - ATR2 1/4 R	2016		0,01%
400kV FERRARA F. - RAVENNA C.	2017		0,01%
400kV FOGGIA - ATR1 1/3 R	2016		0,25%
	2017		0,81%
400kV FOGGIA - ATR1A 1/3 R	2015		0,05%
400kV FOGGIA - ATR2 1/3 R	2016		0,25%
	2017		0,83%
400kV FOGGIA - ATR2A 1/3 R	2015		0,06%
	2016		0,02%
400kV FOGGIA - ATR3 1/3 R	2017		0,02%
400kV FOGGIA PST - ATRA 1/1 X	2015		0,09%
400kV FOGGIA PST - ATRB 1/1 X	2015		0,14%
400kV FORLI' - ATR1 1/4 R	2016		0,01%
400kV FORLI' - ATR2 1/4 R	2016		0,01%
400kV FORLI' - FANO E.T.	2017		0,01%
400kV FORLI' - RAVENNA C. 2	2015		0,01%
400kV GALATINA - ATR1 1/3 R	2016		0,14%
	2017		0,68%
400kV GALATINA - ATR2 1/3 R	2017		0,01%
400kV GALATINA - ATR3 1/3 R	2016		0,14%
	2017		0,64%
400kV GALATINA - TR3 1/3	2015		0,01%
	2016		0,08%
400kV GALATINA - TRCONV.	2017		0,08%
400kV GARIGL. ST - ATR1 1/3 R	2017		0,01%
400kV GARIGL. ST - PATRIA	2015		0,07%
400kV GORLAGO - ATR1 1/4 R	2017		0,02%
400kV GORLAGO - ATR2 1/4 R	2017		0,02%
	2015		0,43%
400kV LAINO - ATR2 1/3 R	2016		0,55%
	2016		0,02%
400kV LARINO - ATR2 1/3 R	2016		0,02%
400kV LARINO - ATR3 1/3 R	2016		0,02%
400kV LEYNI - ATR3 1/2	2015		0,16%
	2016		0,01%
400kV LEYNI - ATR3 1/2	2017		0,01%
400kV LONATO - ATR1 1/4 R	2016		0,01%
400kV LONATO - ATR2 1/4 R	2016		0,01%
400kV M/CORVINO - ATR1 1/2	2015		0,30%
	2016		0,53%

	2017		0,50%
	2015		0,25%
	2016		0,63%
400kV M/CORVINO - ATR2 1/2	2017		0,43%
400kV M/CORVINO - ATR4 1/3 R	2016		0,02%
	2017		0,14%
400kV M/CORVINO - ATR5 1/3 R	2016		0,02%
	2017		0,14%
400kV MANTOVA CE - TRS 1/9	2016		0,66%
400kV MANTOVA CE - TRS2 1/9	2016		0,71%
400kV MARGINONE - ATR0 1/4 R	2017		0,18%
400kV MARGINONE - ATR1 1/4 R	2017		0,01%
400kV MARGINONE - ATR2 1/4 R	2017		0,19%
	2015		0,17%
	2016		0,03%
400kV MARGINONE - ATR3 1/4 R	2017		0,01%
400kV MARGINONE - SPEZIA STA	2015		0,05%
400kV MARTIGNONE - ATR1 1/4 R	2016		0,02%
	2017		0,01%
400kV MARTIGNONE - ATR2 1/4 R	2017		0,01%
400kV MARTIGNONE - ATR3 1/4 R	2017		0,11%
	2015		0,21%
400kV MATERA - ATR2 1/3 R	2016		0,05%
400kV MELILLI - ATR4 1/2	2017		0,01%
400kV MELILLI - ATR5 1/2	2017		0,01%
400kV OSPiate - ATR1 1/2	2015		0,24%
400kV OSTIGL.ST - ATR1 1/4 R	2016		0,02%
	2017		0,02%
400kV OSTIGL.ST - ATR2 1/4 R	2016		0,02%
	2017		0,02%
400kV PARADISO - BOLANO	2017		0,01%
400kV PARMA VIGH - ATR0 1/4 R	2016		0,02%
	2017		0,02%
400kV PARMA VIGH - ATR1 1/4 R	2015		0,01%
	2015		0,03%
	2016		0,03%
400kV PARMA VIGH - ATR2 1/4 R	2017		0,13%
	2015		0,08%
	2016		0,06%
400kV PARMA VIGH - ATR3 1/4 R	2017		0,10%
400kV PATERNO SE - ATR1 1/3 R	2016		0,02%
	2017		0,01%
400kV PATERNO SE - ATR2 1/3 R	2016		0,18%
	2017		2,47%

400kV PIANCAMUNO - ATR2 1/4 R	2017		0,23%
400kV PIANCAMUNO - ATR3 1/4 R	2017		0,24%
400kV POGGIO A C - ATR3 1/4 R	2016		0,06%
400kV PORTOTOLLE - ATR1 1/4	2015		0,03%
400kV REDIPUGLIA - ATR3 1/2	2015		0,43%
	2016		0,58%
	2017		9,27%
400kV ROMA OVEST - ATR1 1/3 R	2016		0,27%
	2017		0,68%
400kV ROMA OVEST - ATR2 1/3 R	2016		0,39%
	2017		4,33%
400kV ROMA OVEST - ATR3 1/3 R	2016		0,23%
	2017		4,34%
400kV ROMA OVEST - ATR4 1/3 R	2017		0,27%
400kV ROMA SUD - ATR3 1/3 R	2016		0,08%
	2017		0,05%
400kV ROMA SUD - ATR5 1/3 R	2016		0,08%
400kV ROMA SUD - ATR9 1/3 R	2016		0,01%
	2017		0,06%
400kV RONDISSONE - ATR1 1/2	2016		0,03%
400kV ROSARA - ATR1A 1/4 R	2017		0,06%
	2017		0,06%
400kV RUMIANCA - ATR1 1/3 R	2016		0,02%
400kV S.DAMASO - ATR2 1/4 R	2016		0,02%
	2017		0,11%
400kV S.GIAC.S/E - ATR1 1/2	2015		0,45%
	2016		1,10%
	2017		0,08%
400kV S.LUCIA - ATRB 1/2	2015		0,07%
	2017		0,06%
400kV S.MARIA C. - ATR1 1/3 R	2016		0,01%
400kV S.MARIA C. - ATR2 1/3 R	2016		0,01%
	2017		0,08%
400kV S.MARIA C. - ATR3 1/3 R	2017		0,08%
400kV S.SOFIA - ATR2 1/2	2017		0,07%
400kV S.SOFIA - ATR4 1/3 R	2016		0,01%
	2015		0,16%
	2016		0,07%
400kV SALGAREDA - ATR1 1/2	2017		0,08%
400kV SANDRIGO - ATR1 1/4 R	2017		0,41%
400kV SANDRIGO - ATR2 1/4 R	2017		0,02%
400kV SANDRIGO - ATR3 1/4 R	2017		0,41%
400kV SCANDALE - ATR1 1/3 R	2016		0,01%
	2017		0,05%

400kV SCANDALE - ATR2 1/3 R	2017		0,05%
400kV SCANDALE - ATR3 1/3 R	2016		0,01%
400kV SORGENTE - ATR1 1/2	2015		0,30%
	2016		0,13%
400kV SORGENTE - ATR2 1/2	2015		0,11%
	2016		0,03%
400kV SORGENTE - ATR3 1/3 R	2017		0,03%
400kV SORGENTE - ATR6 1/2	2016		0,06%
400kV SPEZIA STA - ATR1 1/2	2016		0,05%
400kV SUVERETO - ATR0A 1/4 R	2015		0,01%
400kV SUVERETO - ATR2 1/4 R	2015		0,01%
400kV SUVERETO - TR3 1/5	2015		0,09%
400kV TAVARNUZZE - ATR3 1/4 R	2016		0,05%
	2017		0,23%
400kV TAVAZZ. ST - ATR1 1/2	2016		0,03%
	2017		0,01%
400kV TRAVAGLIAT - ATR2 1/4 R	2015		0,03%
400kV TROIA 400 - ATR2 1/3 R	2015		0,48%
	2016		2,81%
400kV TROIA 400 - ATR4 1/3 R	2015		0,38%
	2016		0,64%
400kV TURBIGO ST - ATR3 1/2	2015		0,03%
	2016		0,08%
400kV UDINE SUD - ATR1 1/2	2017		0,13%
400kV UDINEOVEST - ATR2 1/4 R	2016		0,01%
400kV UDINEOVEST - ATR3 1/4 R	2016		0,01%
400kV VADO LIGU. - ATR1 1/2	2015		0,07%
	2016		0,10%
	2017		0,15%
400kV VADO LIGU. - ATR2 1/2	2015		0,02%
	2016		0,02%
	2017		0,19%
400kV VENEZIA N. - ATR2 1/4 R	2016		0,56%
	2017		1,03%
400kV VENEZIA N. - ATR3 1/4 R	2016		0,02%
400kV VIGNOLE B. - ATR2 1/2	2016		0,05%
400kV VILAFRANC - SCILLA 2	2016		1,58%
400kV VILAFRANC - SORGENTE 1	2016		0,23%
400kV VILAFRANC - SORGENTE 2	2016		0,23%
400kV VILLANOVA - ATR1 1/3 R	2016		0,01%
	2017		0,02%
400kV VILLANOVA - ATR2A 1/4 R	2016		1,82%
	2017		2,43%
400kV VILLANOVA - ATR3A 1/4 R	2016		1,68%

	2017			2,09%
400kV VILLANOVA - ATR5A 1/4 R	2016			0,78%
	2017			0,79%
400kV VILLANOVA - ATR6A 1/3 R	2017			0,02%
400kV VILVALLE - ATR1 1/4 R	2015			0,01%
	2016			0,02%
400kV VILVALLE - ATR2 1/4 R	2016			0,02%
400kV VILVALLE - ATR3 1/2	2015			0,06%
	2017			0,01%
66kV PONTERESIA - TR5 5/8	2017			1,23%
66kV PONTERESIA - TR5 5/8 R	2017			0,53%
Dynamic stability, limiting exchanges between Rossano virtual Bidding Zones and Southern Italy (IT4)	2015	8,88%		
Dynamic stability and voltage constraints in Sicily, limiting exchanges between Rossano virtual Bidding Zone and Sicily island	2015	79,70%		
Dynamic stability of Sardinian electrical system, limiting exchanges between Sardinia and Continental Italy	2015	1,88%		
Dynamic stability, limiting exchanges between Rossano virtual Bidding Zones and Southern Italy (IT4)	2016	7,36%		
Dynamic stability and voltage constraints in Sicily, limiting exchanges between Rossano virtual Bidding Zone and Sicily island	2016	58,15%		
Dynamic stability of Sardinian electrical system, limiting exchanges between Sardinia and Continental Italy	2016	0,47%		
Dynamic stability, limiting exchanges between Rossano virtual Bidding Zones and Southern Italy (IT4)	2017	8,49%		
Dynamic stability and voltage constraints in Sicily, limiting exchanges between Rossano virtual Bidding Zone and Sicily island	2017	45,65%		
Dynamic stability of Sardinian electrical system, limiting exchanges between Sardinia and Continental Italy	2017	1,46%		
Voltage limits at ROSARA and CANDIA substations, limiting exchanges between IT2 and IT3	2015	6,31%		
	2016	11,63%		
	2017	19,24%		
Voltage limits in the Southern and Central part of Italy, limiting exchanges between IT4 and IT3	2015	13,52%		
	2016	12,15%		
	2017	12,15%		

17. Latvia

Grid elements	Year	CCDA	D-1	Realtime
330-kV-OHL No.301LV	2015	1,29%	n/a	1,16%
	2016	0,56%	n/a	
330-kV-OHL No.302LV	2015	1,30%	n/a	
	2016	1,67%	n/a	
	2017	6,93%	n/a	0,06%
330-kV-OHL No.305LV	2015	0,57%	n/a	
	2017	6,08%	n/a	
330-kV-OHL No.309LV	2015	5,10%	n/a	0,08%
	2016	1,06%	n/a	
	2017	1,29%	n/a	
330-kV-OHL No.310LV	2015	0,76%	n/a	0,03%
	2017	0,82%	n/a	0,11%
330-kV-OHL No.311LV	2016		n/a	0,02%
330-kV-OHL No.312LV	2015	20,11%	n/a	2,12%
	2016	2,12%	n/a	0,30%
330-kV-OHL No.316LV	2017	3,63%	n/a	
330-kV-OHL No.324LV	2017	1,77%	n/a	
330-kV-OHL No.354LV	2015	13,48%	n/a	0,03%
	2016	7,08%	n/a	0,18%
	2017	0,83%	n/a	
330-kV-OHL No.355LV	2015	13,41%	n/a	1,06%
	2016	3,23%	n/a	
330-kV-OHL No.451LV	2017	0,87%	n/a	
Methodology (EE-LV cross-border) ⁶	2016	3,71%	n/a	
Methodology (EE-LV cross-border)	2015	12,60%	n/a	
Methodology (EE-LV cross-border)	2017	1,29%	n/a	
Methodology (LV-LT cross-border)	2016	1,38%	n/a	
Methodology (LV-LT cross-border)	2017	1,38%	n/a	
Other/Outside of area of LV	2015		n/a	3,60%
Other/Outside of area of LV	2016		n/a	0,80%
Other/Outside of area of LV	2017		n/a	0,71%

⁶ In 2015, 2016 and 2017 were some Cross-Border Capacity limitations detected due to applied methodology of Net Transmission Capacity (NTC) calculation and allocation. Since 2016 a common methodology between TSOs of the Baltic States is being established - "Terms, Conditions and Methodologies on Cross-Zonal Capacity Calculation, Provision and Allocation within the Baltic States and with 3rd Countries" which is available here - http://www.ast.lv/files/files/20151012_Baltic_CCCA%20Rules_approved_by%20Baltic_NRAs_final.pdf

18. Lithuania

Grid element	Year	CCDA	D-1	Realtime
330-kV-OHL Aizkraukle-Panevezys No.316	2017	0,5%	n/a	n/a
330-kV-OHL Grobina-Klaipeda No.324	2017	0,1%	n/a	n/a
330-kV-OHL Jelgava-Siauliai-Telsiai No.305/457	2015	0,6%	n/a	n/a
330-kV-OHL Jelgava-Siauliai-Telsiai No.305/457	2017	0,1%	n/a	n/a

19. Luxembourg

Grid element	Year	CCDA	D-1	Realtime
220-kV-Flebourg - xnode Bauler	2015	n/a	0,37%	n/a
	2016	n/a	1,54%	n/a
	2017	n/a	0,31%	n/a
220-kV- Roost - xnode Bauler	2015	n/a	0,26%	n/a
	2016	n/a	1,01%	n/a
	2017	n/a	0,37%	n/a
220-kV- Heisdorf - xnode Trier	2015	n/a	0,02%	n/a
220-kV- Blooren - xnode Trier	2016	n/a	0,10%	n/a
	2017	n/a	0,67%	n/a
220-kV- Heisdorf - xnode Quint	2016	n/a	0,16%	n/a
	2017	n/a	0,07%	n/a
220-kV- Heisdorf - Blooren	2016	n/a	0,01%	n/a
	2017	n/a	0,71%	n/a

20. Netherlands

Grid element	Year	CCDA	D-1	Realtime
BSL-ZVL380 G	2016	0,09%		
	2017	0,11%		
DIM-LLS380 W	2016		0,274%	
	2017	0,10%	8,767%	
DIM-LLS380 Z	2015	0,02%		
	2016	0,30%	0,548%	
	2017	1,67%	7,945%	
DTC-HGL380 W	2016	0,09%		
	2017	0,10%		
DTC-HGL380 Z	2015	0,02%		
	2016	0,34%		
	2017	0,66%	0,274%	
EEM-MEE380 Z	2015		0,274%	
	2016	0,02%	5,205%	
	2017	0,46%	36,164%	
ENS-ZL380 Z	2016	0,08%		
	2017		1,096%	
GT-ZVL380 W	2015	0,01%		
	2016	0,03%		
	2017	0,01%		
KIJ-GT380 W	2016	0,01%	3,288%	
	2017	0,05%	3,836%	
KIJ-GT380 Z	2015	0,05%	0,822%	
	2016	0,69%	3,836%	
	2017	0,70%	2,192%	
LLS-ENS380 W	2015		1,644%	
	2016		2,192%	
	2017	0,67%	29,863%	
LLS-ENS380 Z	2015	0,08%	1,096%	
	2016	2,80%	3,014%	
	2017	9,52%	30,411%	
MBT-EHV380 Z	2016	0,06%		
MBT-SDF380 Z	2015	0,91%	0,274%	
	2016	0,17%	1,370%	
	2017	2,40%	3,288%	
MEE-DIL380 W	2015	0,06%	0,274%	
	2016		8,219%	
	2017	0,01%	15,342%	
MEE-DIL380 Z	2015	1,95%	0,274%	
	2016	0,60%	3,562%	
	2017	1,32%	15,068%	
VYK-MBT380 W	2015	0,03%		
VYK-MBT380 Z	2015	0,01%		

	2017		0,822%	
ZL-HGL380 W	2017	0,08%	1,096%	
ZL-MEE380 W	2017	0,01%	0,274%	
ZL-MEE380 Z	2017	0,01%		
CST-KIJ380 W	2017		0,274%	
CST-KIJ380 Z	2017		0,274%	
DOD-DTC380 W	2017		0,548%	
ENS-ZL380 W	2017		0,822%	
GNA-HGL380 Z	2017		0,274%	
GT-BSL380 Z	2015		0,274%	
MBT-RMK380 W	2017		0,822%	
NL_import	2015	1,67%		
	2016	0,61%		
	2017	0,88%		
GT-KIJ380	2016			n/a
LLS-ENS380	2017			n/a

21. Norway

Grid element	Year	CCDA	D-1	Realtime
-	-	n/a	n/a	n/a

22. Poland

Grid element	Year	CCDA	D-1	Realtime
220-kV-Kopanina - Liskovec	2015	38,68%	0,40%	
	2016	8,23%	0,10%	
	2017	2,68%		
220-kV-Krajnik - Vierraden	2015	56,02%	32,00%	2,98%
	2016	27,52%	14,60%	0,59%
220-kV-Mikulowa - Swiebodzice	2015		n/a	0,09%
	2016	0,82%	n/a	0,24%
	2017	0,96%	n/a	0,05%
220-kV-Milosna - Ostroleka	2016	4,04%		0,01%
	2017	2,84%		
220-kV-Pila Krzewina - Plewiska	2016	1,26%		
	2017	0,70%		
220-kV-Wielopole - Liskovec	2016	1,94%		
220-kV-Wloclawek - Torun Elana	2016	0,01%		
	2017	0,51%		
400-kV-Dobrzen - Pasikowice	2015	8,48%		

	2016	1,20%		
400-kV-Krosno Iskrzynia - Lemiesany	2015	9,03%		
	2016	3,01%		
	2017	6,87%		
400-kV-Krosno Iskrzynia - Rzeszow	2016	8,22%		
	2017	9,84%		
400-kV-Mikulowa - Czarna	2015	49,11%	8,70%	0,59%
	2016	19,57%	2,70%	0,17%
	2017	3,86%	2,60%	0,42%
400-kV-Mikulowa - Hagenwerder	2015		1,60%	0,09%
	2016	24,17%	0,10%	0,14%
	2017		0,30%	0,03%
400-kV-Wielopole - Nosovice	2015	6,28%	0,10%	
	2016	0,56%		
	2017	9,98%		
AT Gdansk2	2016	0,06%		
AT Mikulowa	2015	37,33%	14,40%	0,27%
	2016	26,39%	8,40%	1,30%
	2017	2,77%	5,30%	1,23%
AT Morzyczyn	2015		n/a	
	2016		n/a	
	2017	0,41%		
AT Ostroleka	2016	0,08%		
PL-LT	2016	13,1%		
	2017	25,0%		
PL-SE4	2015	50,0%		
	2016	38,4%		
	2017	46,1%		
220-kV-Mikulowa - Polkowice	2015		5,80%	0,30%
	2016		3,40%	0,37%
	2017		0,50%	0,06%
PST Mikulowa	2017		1,80%	
220-kV-Adamow - Konin	2015			0,02%
220-kV-Byczyna - Siersza	2015		n/a	
	2016		n/a	0,06%
	2017		n/a	0,06%
220-kV-Dunowo - Zydowo	2015			0,05%
220-kV-Joachimow - Aniolow	2015			0,16%
	2016			0,02%
	2017			0,16%
220-kV-Joachimow - Kielce	2015			0,16%
	2016			0,02%
	2017			0,16%
220-kV-Joachimow - Lagisza	2015			0,16%

	2016			0,02%
	2017			0,16%
220-kV-Joachimow - Losnice	2015			0,16%
	2016			0,02%
	2017			0,16%
220-kV-Joachimow - Wrzosowa	2015			0,16%
	2016			0,02%
	2017			0,16%
220-kV-Kozienice - Mory	2016			0,11%
220-kV-Kozienice - Piaseczno	2016			0,11%
220-kV-Kozienice - Pulawy	2015		n/a	
	2016		n/a	0,10%
	2017		n/a	
220-kV-Kozienice - Rozki	2015		n/a	
	2016		n/a	0,10%
	2017		n/a	
220-kV-Mikulowa - Cieplice	2015		n/a	0,18%
	2016		n/a	0,24%
	2017		n/a	0,05%
220-kV-Mikulowa - Lesniow	2015			0,05%
	2016			0,24%
	2017			0,05%
220-kV-Patnow - Konin	2015			0,02%
220-kV Patnow - Wloclawek	2015		n/a	
	2016		n/a	
	2017		n/a	0,03%
220-kV-Plewiska - Konin	2016			1,61%
220-kV-Polaniec - Chmielow	2015		n/a	
	2016		n/a	0,61%
	2017		n/a	0,16%
220-kV-Rogowiec - Janow	2015		n/a	
	2016		n/a	0,22%
	2017		n/a	0,11%
220-kV-Rogowiec - Joachimow	2015			0,26%
	2016			0,15%
	2017			0,21%
220-kV-Rogowiec - Pabianice	2015		n/a	0,01%
	2016		n/a	0,13%
	2017		n/a	0,11%
220-kV-Rogowiec - Piotrkow	2015		n/a	0,01%
	2016		n/a	0,13%
	2017		n/a	0,11%
220-kV-Zydowo - Gdansk	2015			0,07%
400-kV-Krajnik - Plewiska	2015			0,05%

400-kV-Polaniec - Tarnow	2016			0,03%
AT Krajnik	2017			0,02%
AT Polaniec	2016			0,17%
AT Poznan Poludnie	2017			0,13%
Dobrzen 110kV lines	2015		n/a	0,22%
	2016		n/a	
	2017		n/a	
220-kV-Patnow - Jasiniec	2015		n/a	
	2016		n/a	
	2017		n/a	
220-kV-Krajnik - Morzyczyn	2015		n/a	
	2016		n/a	
Kozienice 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Polaniec 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Stalowa Wola 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Siersza 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Lagisza 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Wielopole 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Kopanina 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Adamow 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	
Krajnik 110kV lines	2015		n/a	
	2016		n/a	
	2017		n/a	

23. Portugal

Grid element	Year	CCDA	D-1	Realtime
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220 KV POCINHO-ARMAMAR 1	2016	0,10%		0,62%
220/150 kV Zêzere Transformer	2016	0,08%		4,57%
	2017			0,89%
400 KV ALTO LINDOSO-CARTELLE 1	2015	0,92%		
	2016	0,19%		
	2017	1,99%		0,09%
400 KV FALAGUEIRA-CEDILLO	2016	0,10%		
400 KV LAGOAÇA-ALDEA D'AVILLA 1	2017	0,07%		
400 kV Tavira - Puentes Garcia	2016	0,02%		
150 kV Riba d'Ave - Oleiros	2016			14,21%
	2017			2,42%
400 KV BATALHA-RIBATEJO	2016		3,20%	
400 KV RIBA D'AVE-RECAREI 1	2016			0,73%
	2016			0,75%
	2017			0,02%
400 KV RIO MAIOR-ALTO MIRA	2016		3,20%	
	2017		1,00%	2,59%
150 kV Bouçã - Zêzere	2017			6,58%
150 kV Caniçada - Riba d'Ave/Frades	2016			15,71%
150 kV Ferreira - Ourique	2017			0,09%
150 kV Zêzere - Falagueira	2017			0,57%
220 KV CARREGADO-RIO MAIOR 1	2016			0,64%
	2017			2,47%
220 KV ESTARREJA-MOURISCA	2016			0,18%
220 KV PICOTE-MOGADOURO	2016			1,39%
220 KV POCINHO-CHAFARIZ 1	2016			0,37%
Portuguese Generation	2015	1,31%		
	2016	1,06%		
	2017	0,18%		
Generation	2015		0,19%	
	2016		0,02%	
	2017		0,06%	
South of Portugal	2015		1,00%	

24. Romania

Grid element	Year	CCDA	D-1	Realtime
110 kV Salonta-Chisinau Cris	2015	1%		
	2016	1%		
	2017	1%		
220 kV Baru Mare-Hasdat	2015	1%		
	2016	1%		
	2017	1%		
220 kV Paroseni-Baru Mare	2015	1%		

	2016	1%		
	2017	1%		
220 kV Paroseni-Targu Jiu Nord	2015	2%		
	2016	2%		
	2017	2%		
220 kV Portile de Fier - Resita, circ.1	2015	10%	4,10%	
	2016	10%	4,10%	
	2017	10%	4,10%	
220 kV Portile de Fier - Resita, circ.2	2015	10%	4,10%	
	2016	10%	4,10%	
	2017	10%	4,10%	
220 kV Resita - Timisoara, circ.1	2015	3%		
	2016	3%		
	2017	3%		
220 kV Resita - Timisoara, circ.2	2015	3%		
	2016	3%		
	2017	3%		
220 kV Urechesti-Targu Jiu Nord	2015	2%		
	2016	2%		
	2017	2%		
400 kV Portile de Fier - Djerdap	2015	20%		
	2016	20%		
	2017	20%		
400/220 kV transformer Arad	2015	1%		
	2016	1%		
	2017	1%		
400/220 kV transformer Rosiori	2015	10%		
	2016	10%		
	2017	10%		

25. Slovakia

Grid elements	Year	CCDA	D-1	Realtime
SK1	2015	60,96%	11,05%	16,71%
	2016	45,97%	7,97%	15,07%
	2017	74,18%	2,92%	15,62%
SK2	2015	0,13%	0,42%	1,10%
	2016	0,45%	0,74%	0,55%
	2017	4,04%	1,43%	2,19%
SK3	2015		0,40%	
	2016		0,02%	
	2017	0,13%	0,76%	

SK4	2015		2,07%	1,64%
	2016		0,11%	0,27%
	2017		0,23%	0,55%
SK5	2015		0,62%	1,10%
	2016		0,18%	0,27%
	2017		0,27%	0,27%
SK6	2015		0,01%	
SK7	2015		0,08%	
	2016		0,07%	
	2017		0,18%	
SK8	2015		0,05%	
	2017		0,23%	
SK9	2015		0,10%	

26. Slovenia

Grid elements	Year	CCDA	D-1	Realtime
220-kV-Divaca-Padriciano	2016	4,4%		
	2017	0,9%		
220 kV Divaca-Pehlin	2015			0,01%
	2016	1,0%		2,45%
220-kV-Klece-Divaca	2016	0,3%		1,26%
	2017	1,0%		
400-kV-Divaca-Bericevo	2017	0,1%		
400-kV-PST Divaca	2016	24,4%		
	2017	15,3%		
220 kV Podlog-Obersielach	2015		14,80%	
	2016		3,00%	0,68%
	2017		2,60%	
220 kV Beričevo-Kleče	2016			0,17%

27. Spain

Grid element	Year	CCDA	D-1	Realtime
220-kV-ES_L1	2017	0,61%		
220-kV- ES_L2	2015		16,39%	0,79%
	2016		34,16%	0,38%
	2017	0,29%	51,92%	0,35%
220-kV- ES_L3	2016	0,30%		
	2017	1,02%		
220-kV- ES_L4	2016	0,03%		
220-kV- ES_L5	2015		0,06%	0,05%

	2016	1,73%		0,02%
	2017	2,99%		
220-kV- ES_L6	2015	6,99%		
	2016	6,74%		
220-kV- ES_L7	2017	0,08%		
220-kV- ES_L8	2015	0,66%		
220-kV- ES_L9	2015	0,01%	16,39%	0,79%
	2016	2,08%	34,16%	0,38%
	2017		51,92%	0,35%
220-kV- ES_L10	2015	0,02%	1,10%	
	2016	0,10%	1,66%	
	2017		2,22%	
220-kV- ES_L11	2015		0,90%	0,02%
	2016	0,11%	1,19%	0,13%
	2017	3,69%	1,48%	0,02%
220-kV- ES_L12	2015	0,01%	16,08%	0,06%
	2016	1,13%	4,91%	0,33%
220-kV- ES_L13	2016	0,01%		
	2017		0,35%	
220-kV- ES_L14	2016	1,21%		
	2017	0,14%		
220-kV- ES_L15	2015	0,05%		
220-kV- ES_L16	2016		2,81%	
	2017	0,13%	4,41%	
220-kV- ES_L17	2015	0,74%		
	2016	3,11%		
	2017	0,86%		
220-kV- ES_L18	2016	1,57%		
	2017	0,07%		
220-kV- ES_L19	2015	0,09%		
220-kV- ES_L20	2015	0,62%		
220-kV- ES_L21	2015	14,68%	6,27%	
	2016	19,01%	9,19%	
	2017	21,39%	12,11%	
380-kV- ES_L22	2017	0,97%		
400/220-kV- ES_L23	2015	0,18%		
400/220-kV- ES_L24	2015	0,95%		
400/220-kV- ES_25	2016	1,84%		
400-kV- ES_L26	2017	0,22%		
400-kV- ES_L27	2016	1,15%		
	2017		0,76%	
400-kV- ES_L28	2017	0,61%		
400-kV- ES_L29	2015		28,60%	0,80%
	2016	0,80%	15,70%	1,21%

	2017		2,81%	0,70%
400-kV- ES_L30	2017	0,32%		
400-kV- ES_L31	2016	0,43%		
	2017	0,80%		
400-kV- ES_L32	2015	1,67%		
	2017	0,31%		0,02%
400-kV- ES_L33	2017	0,05%		
400-kV- ES_L34	2016	0,66%		
	2017	1,55%		
400-kV- ES_L35	2015		28,60%	0,80%
	2016	3,40%	4,40%	1,21%
	2017	0,33%	9,54%	0,70%
400-kV- ES_L36	2015	0,48%		
400-kV- ES_L37	2015	26,15%	1,02%	1,10%
	2016	9,22%	0,44%	0,23%
	2017	1,44%		0,07%
PORTUGUESE GENERATION	2015	0,33%		
	2016	0,23%		
	2017	0,22%		
220-kV- ES_L38	2017		0,39%	
220-kV- ES_L39	2016		0,28%	
	2017		1,58%	
220-kV- ES_L40	2015		0,68%	
	2016		0,53%	0,57%
	2017		0,37%	0,22%
220-kV- ES_L41	2017		0,12%	
220-kV- ES_L42	2015		5,30%	
	2016		13,93%	0,08%
	2017		22,56%	0,02%
220-kV- ES_L43	2015		0,48%	
	2017		7,77%	
220-kV- ES_L44	2016		2,54%	
	2017		2,91%	
220-kV- ES_L45	2015		2,17%	0,02%
	2016			0,08%
	2017			0,02%
220-kV- ES_L46	2015		14,47%	0,17%
	2016		7,24%	0,18%
	2017			0,09%
220-kV- ES_L47	2017		0,25%	
220-kV- ES_L48	2017		0,10%	
220-kV- ES_L49	2015		0,91%	
	2016		4,65%	
	2017		8,38%	

220-kV- ES_L50	2015		2,59%	
	2016		1,30%	
	2017		0,52%	
220-kV- ES_L51	2015		7,33%	
	2016		3,66%	
220-kV- ES_L52	2016		1,67%	
	2017		8,80%	
220-kV- ES_L53	2017		0,39%	
220-kV- ES_L54	2015		2,76%	0,05%
	2016		3,69%	0,03%
	2017		4,61%	0,01%
220-kV- ES_L55	2015		0,01%	0,01%
	2016			0,06%
	2017		0,25%	
220-kV- ES_L56	2017		0,35%	
220-kV- ES_L57	2017		2,00%	
220-kV- ES_L58	2015		0,90%	
	2016		0,45%	
220-kV- ES_L59	2017		0,20%	
220-kV- ES_L60	2015		1,06%	0,35%
	2016		1,00%	
	2017		0,94%	
220-kV- ES_L61	2015		0,74%	
	2016		0,37%	
220-kV- ES_L62	2017		1,80%	
220-kV- ES_L63	2015		0,14%	
220-kV- ES_L64	2015		2,97%	0,04%
	2016		1,56%	0,19%
	2017		0,15%	0,18%
220-kV- ES_L65	2016		0,52%	
	2017		1,04%	
220-kV- ES_L66	2017		0,35%	
220-kV- ES_L67	2015		15,43%	0,41%
	2016		19,90%	0,02%
	2017		24,36%	0,07%
220-kV- ES_L68	2015		0,13%	
220-kV- ES_L69	2015		0,31%	
220-kV- ES_L70	2015		2,09%	
220-kV- ES_L71	2015		2,37%	
	2016		5,51%	
	2017		8,65%	
220-kV- ES_L72	2017		0,27%	
220-kV- ES_L73	2015		1,62%	0,21%
220-kV- ES_L74	2016		1,00%	

	2017		5,25%	
220-kV- ES_L75	2015		1,20%	0,23%
	2016		0,60%	0,03%
	2017			0,08%
220-kV- ES_L76	2017		1,63%	
220-kV- ES_L77	2015		2,72%	
	2016		1,36%	
220-kV- ES_L78	2015		0,18%	
220-kV- ES_L79	2015		11,59%	
	2016		5,79%	
220-kV- ES_L80	2015		15,43%	0,41%
	2016		19,90%	0,02%
	2017		24,36%	0,07%
220-kV- ES_L81	2015		2,58%	0,03%
	2016		2,19%	
220-kV- ES_L82	2017		0,59%	
400/220- ES_L83	2017		0,25%	
400/220- ES_L84	2015		2,37%	
400/220-kV-ES_L85	2015		0,65%	
	2016		0,33%	
400-kV- ES_L86	2015		0,23%	
400-kV- ES_L87	2017		0,30%	
400-kV- ES_L88	2015		0,06%	0,09%
400-kV- ES_L89	2015		0,99%	0,08%
	2016		3,54%	0,08%
	2017		5,62%	
400-kV- ES_L90	2015		5,30%	
	2016		2,65%	
400-kV- ES_L91	2017		0,07%	
400-kV- ES_L92	2015		0,73%	
	2016		0,37%	
400-kV- ES_L93	2015		2,56%	
	2016		1,28%	
400-kV- ES_L94	2017		2,37%	
400-kV- ES_L95	2015		12,76%	
	2016		6,94%	
	2017		1,11%	
400-kV- ES_L96	2016		31,69%	
	2017		63,39%	0,50%
400-kV- ES_L97	2015		1,28%	
	2016		1,07%	
	2017		3,28%	
400-kV- ES_L98	2015		1,46%	
400-kV- ES_L99	2017		0,39%	

400-kV- ES_L100	2015		2,20%	0,09%
	2016		1,10%	0,02%
400-kV- ES_L101	2017		0,59%	
400-kV- ES_L102	2017		0,37%	
400-kV- ES_L103	2016		3,07%	
	2017		6,09%	
220-kV- ES_L104	2015			0,06%
220-kV- ES_L105	2016			0,01%
220-kV- ES_L106	2016			0,01%
220-kV- ES_L107	2016			0,01%
220-kV- ES_L108	2016			0,01%

28. Sweden

Grid elements	Year	CCDA	D-1	Realtime
-		n/a	n/a	n/a

29. Switzerland

Grid elements	Year	CCDA	D-1	Realtime
-		n/a	n/a	n/a